



K. D. PAWAR SHIKSHAN MAHAVIDYALAYA

AANGEWADA, NAGPUR ROAD, SAONER DIST- NAGPUR-441107

(Recognized by N.C.T.E. & R.T.M. Nagpur University, Nagpur)

Mob. No. 9822697899

N.C.T.E. Code: APW03501/1234513

RTM Nagpur University College Code: 348

Ref: NAAC 2024/MLD/Cr-2.3.4

Date-07/05/2024

Criteria: 2.3.4	ICT support is used by students in various learning situations such as <ol style="list-style-type: none">1. Understanding theory courses2. Practice teaching3. Internship4. Out of class room activities5. Biomechanical and Kinesiological activities6. Field sports
Findings of DVV	Lesson plan /activity plan/activity report to substantiate the use of ICT by students in various learning situations. Geo-tagged photographs wherever applicable. Link of resources used
Response/ Clarification	<ol style="list-style-type: none">1. Lesson plan, school internship timetable, list of students in different school and completion certificates of above activities showing the various learning situation as mentioned in the metric. (Appendix I)



**K.D.Pawar Shikshan
Mahavidyalaya
Saoner, Dist. Nagpur**

Appendix I

के. डी. पवार शिक्षण महाविद्यालय सावनेर, जि. नागपूर

**K. D. PAWAR SHIKSHAN MAHAVIDYALAYA,
SAONER**

शैक्षणिक सत्र 2021 - 2023
(Session)



सराव पाठ नियोजन पुस्तिका (Practice Teaching Planning Book)

छात्र अध्यापकाचे नांव : Shalini L. Medau
(Student-Teacher's Name)

क्रमांक
(Roll No.)

अध्यापन पद्धती
(Methods)

१) Chemistry

२) Math's

अनुक्रमणिका (Index)

क्रमांक (Sr.No.)	दिनांक (Date)	Topic	वर्ग (Class)	विषय (Subject)	पर्यवेक्षकाची सही (Sign. of Supervisor)
①	13/9/22	Heat and Heat Exchange	9 th	Chemistry	✓ Good Completed Bingvi
②	19/9/22	Carbon and Hydrocarbon	10 th	Chemistry	
③	27/9/22	Matter and State of Matter	9 th	Chemistry	
④	6/10/22	Atoms and Molecule.	9 th	Chemistry	
⑤	10/10/22	Metal and Non-Metal.	10 th	Chemistry	
⑥	18/10/22	Physical change and chemical change.	9 th	Chemistry	
⑦	27/10/22	Thermal conductivity.	9 th	Chemistry	
⑧	1/11/22	Isomerism	9 th	Chemistry	
⑨	7/11/22	Combustion and Flame.	8 th	Chemistry	
⑩	11/11/22	Force and Pressure	8 th	Chemistry	
⑪	21/11/22	Chemical effect of electric current.	8 th	Chemistry	
⑫	29/11/22	Fraction	8 th	Chemistry	

अनुक्रमणिका (Index)

क्रमांक (Sr.No.)	दिनांक (Date)	शाळा (School)	वर्ग (Class)	विषय (Subject)	पर्यवेक्षकाची सही (Sign. of Supervisor)
⑬	5/12/22	Atomic structure	8 th	Chemistry	Completed Bingvi
⑭	13/12/22	Acid and Base	9 th	Chemistry	
⑮	19/12/22	Neutralization	9 th	Chemistry	
⑯	26/12/22	Fossil fuel coal.	8 th	Chemistry	
⑰	3/01/23	Petroleum oil.	8 th	Chemistry	
⑱	6/01/23	Natural Gas.	8 th	Chemistry	
⑲	8/01/23	Chemical Bonding	9 th	Chemistry	
⑳	10/01/23	Chemical Reaction	8 th	Chemistry	
㉑	14/01/23	Language of chemistry	8 th	Chemistry	
		Blue Print with test → Atom and Molecule			

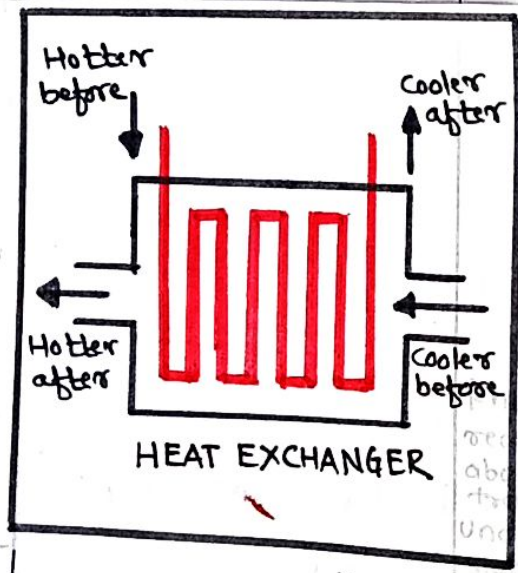
पाठ क्रमांक (Lesson No.): 1 विषय (Subject): Science Chemistry दिनांक (Date): _____

विद्यालयाचे नांव: Nagar Parishad High School Samner विषयांश: Heat and Heat Exchange उपविषयांश: ① Heat इयत्ता (Class): 10th

पाठ साहित्य: Model, duster, chalk, black board, Pointer etc. पूर्वज्ञान: ② Heat Exchange तासिका: 1st वेळ: 90 min
(Teaching Aids) (Previous Knowledge) (Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> ① To arise previous knowledge. ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the importance of the topic. ⑤ To develop scientific attitude. 	<p>Teacher asks some questions based on previous knowledge.</p> <ol style="list-style-type: none"> ① Where do Houses lose heat? ② What will absorb heat? ③ Can heat travel down? ④ What is true warm air? ⑤ How does the heat travel in air? 	<p>Students give expected answer.</p> <p>→ Around windows and doors and about 10% of heat will disappear through the floor.</p> <p>→ Steel spoon, iron griddle, water, soil and wax will absorb heat.</p> <p>→ Heat can move up & down and side ways, depending on the situation.</p> <p>→ Warm air is lighter.</p> <p>→ Heat is transferred in to air through the atmosphere.</p>
हेतूकथन : (Statement of Aim)	So today we are	going to learn	about "Heat and Heat	Exchange."
विषय प्रतिपादन : (Presentation)	<p>HEAT TRANSFER</p>		<p>Teacher explains about Heat.</p> <p>The amount of heat energy absorbed at constant temperature by unit mass of a solid to convert into liquid phase is called the Specific Latent heat of fusion.</p> <p>During transition of solid</p>	Students listen carefully.

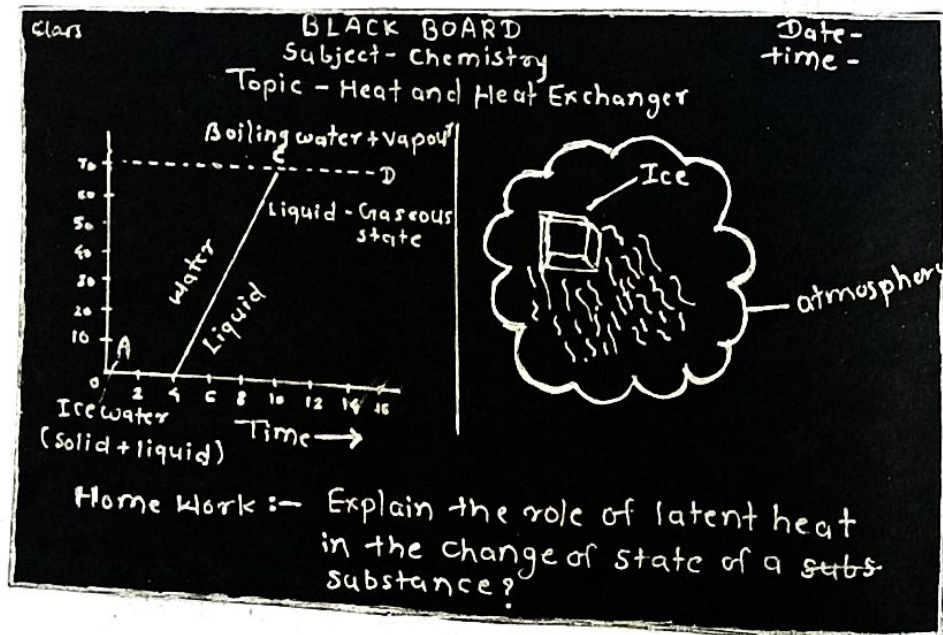
पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
		<p>Knowledge - Student recognize & tells about heat.</p> <p>understanding - student tells difference between Heat and temperature.</p>	<p>Phase to liquid the object absorbs heat energy, but its temperature does not increase. This heat energy is utilised for weakening the bonds between the atoms or molecules in the solid and transform it into liquid phase. Teacher asks some question.</p> <p>① what do liquids expand with heat?</p> <p>② what is the difference between Heat and temperature.</p>	<p>Students give answers.</p> <p>→ All three states of matter solid, liquid and gas expand when heated.</p> <p>→ Heat - it is a type of energy that causes a person's body to feel hot or cold. Temperature of a body is the parameter which indicates how hot or cold it is.</p>
	Heat Exchange		<p>Teacher explains Heat Exchange.</p> <p>The heat exchange between two objects is proportional to the difference of their temperatures. a heat exchanger is a system used to transfer heat between a source and a working fluid. Heat exchangers are used in both cooling and heating process. Heat exchangers regulate fluid temp. Teacher ask some question.</p> <p>① Heat is transferred from where to where?</p> <p>② what is an example of heat exchange?</p>	<p>Students listen carefully.</p> <p>Students give answers.</p> <p>→ Two objects is proportional to the difference of their temperatures.</p> <p>→ Refrigeration, heating and air conditioning systems, power plants etc.</p>



Knowledge - Student recognize & tells about heat is transferred. understanding - student give different examples on heat exchange.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To Strengthen acquired knowledge. ② To revise the topic ③ To recall the prior knowledge. ④ To test student knowledge. 	<p>Teacher summarizes the topic and ask some question on it.</p> <ol style="list-style-type: none"> ① Why is heat exchanger important in chemical industry? ② What are sources of heat? 	<p>Students give answer.</p> <p>→ A heat exchanger is a device used to efficiently transfer energy from one fluid into another fluid.</p> <p>→ Natural gas, propane (LP), oil, coal, wood, electricity, heat pump, ground source heat pump and solar energy.</p>
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home. 	<p>Teacher write Home-work on the black board.</p> <ol style="list-style-type: none"> ① Explain the role of latent heat in the change of state of a substance? 	<p>Students Note down their Home-work in Notebook.</p>

फलक - लेखन (Black-Board Writing)



अभिप्राय (Remarks)

Lesson was good.
Presentation was proper.

Bigu
पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): Chemistry दिनांक (Date): _____

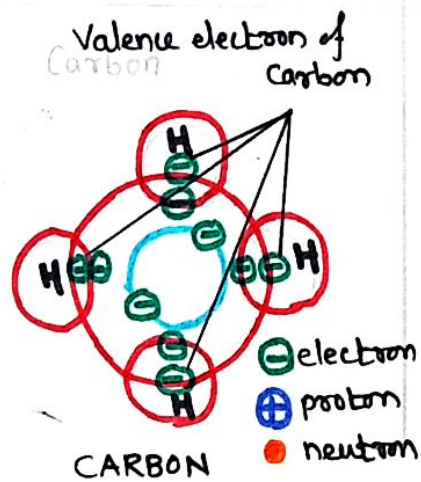
विद्यालयाचे नांव: Nagar Parishad High School, Saoner. विषयांश: Carbon and Hydrocarbon इयत्ता (Class): 10th

पाठ साहित्य: Model, duster, chalk, black, board, Pointer etc. उपविषयांश: ① Carbon तासिका: 1st वेळ: 90 min

(Teaching Aids) (Previous Knowledge) ② Hydrocarbon (Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> ① To arise previous knowledge. ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the importance of the topic. ⑤ To develop scientific attitude. 	<p>Teacher ask some questions based on previous knowledge.</p> <ol style="list-style-type: none"> ① Did you observed that there are different kind of component present in surrounding tell me few Name? ② What is compound? ③ What is Example of compound? ④ What are the type of compound? 	<p>Students give expected answer.</p> <p>→ Fibers, paper, medicines wood, fuels are made of various compounds.</p> <p>→ A compound is a substance made up of two or more different chemical elements combined in fixed ratio.</p> <p>→ Water H_2O = Hydrogen + Oxygen</p> <p>→ Two types of compound. Molecular compound and salts.</p>
हेतूकथन : (Statement of Aim)	So today we are going	to learn about	"A Carbon and Hydrocarbon."	


विषय प्रतिपादन :
(Presentation)

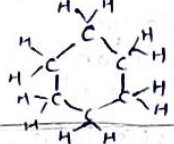


Teacher explains about carbon.

Carbon is from Latin word carbo "Coal" is a chemical element with the symbol C and atomic number is 6. It is non metallic and tetravalent its atom making four electrons available to form covalent chemical bonds. It belongs to group 14 of the Periodic table. The uses of carbon and its compound

Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
		knowledge - Student recognize and tells about carbon and bonds of carbon.	<p>are extremely varied. It can form alloys with iron, of which the most common is carbon steel.</p> <p>Teacher ask some question.</p> <p>① How is carbon used today?</p> <p>② How many bonds can carbon form?</p>	<p>Students give Answers.</p> <p>→ Carbon is used in some way in most every industry in the form of coal, methane gas, and crude oil.</p> <p>→ Four bonds can carbon form.</p>
	Hydrocarbons	knowledge - Student recognize and tells the name of structure.	<p>Teacher explains about Hydrocarbons.</p> <p>The element hydrogen is present to a smaller or large extent in majority of carbon compounds. The compounds which contain carbon and hydrogen as the only two elements are called Hydrocarbons. Hydrocarbons are the simplest and the fundamental organic compound. The smallest hydrocarbon is methane (CH_4) formed by combination of one carbon atom and four hydrogen atoms.</p> <p>Teacher draw structure formula on the black board.</p> <p>Teacher ask some question.</p> <p>① $\begin{array}{c} \text{H} & \text{H} \\ & \\ \text{H} - \text{C} - & \text{C} - \text{H} \\ & \\ \text{H} & \text{H} \end{array}$ Name of this alkane.</p> <p>②  What is the name of the adjacent of hydrocarbon?</p>	<p>Students listen carefully.</p> <p>Students give Answer.</p> <p>→ Ethane</p> <p>→ Cyclohexane</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge ② To revise the topic ③ To recall the gain knowledge ④ To test student ⑤ To summarise the given topic 	शिक्षक कृती (Teacher Activity) Teacher summarizes the topic and ask some question. ① Why is carbon the backbone of life? ② What is carbon used for? ③  Give the name of the structural formula.	विद्यार्थी कृती (Pupil Activity) Students give answers. → The reason is carbon's ability to form stable bonds with many elements, including itself. → It is used for fuel in the form of coal, methane gas, and crude oil. → Cyclohexene.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study ② To develop writing skill and implementation of student. ③ To use leisure time at home. 	शिक्षक कृती (Teacher Activity) Teacher write homework on the black board. ① $\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \text{CH} - \text{CH}_3$ Name of the compound.	विद्यार्थी कृती (Pupil Activity) Students notedown their Home work in Notebook.

फलक - लेखन (Black-Board Writing)

Class - 10th

BLACK BOARD

Subject - Chemistry

Topic :- Carbon and Hydrocarbon

Date :-

Time :-

Atomic number: 6

Symbol: C

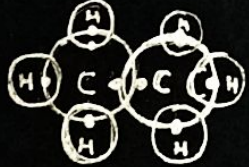
Electron Configuration: $[\text{He}] 2s^2 2p^2$

Name: carbon

acid-base properties: weakly acidic

crystal structure: hexagonal

Physical state at 20°C (68°F): Solid



Structure of ethane

□ other nonmetals

⬡ Hexagonal

Home Work :- Name the compound $\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \text{CH} - \text{CH}_3$

अभिप्राय (Remarks)

Don't accept wrong answers.
 Good class control otherwise.
 Students were attentive.

Bingra

पर्यवेक्षकाची सही
 (Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): Chemistry दिनांक (Date): _____

विद्यालयाचे नांव: Nagar Parishad High School, Samner. विषयांश: Matter & States of Matter उपविषयांश: ① Matter इयत्ता (Class): 9th

पाठ साहित्य: Model, duster, chalk, black, board, Pointer, etc. पूर्वज्ञान: ② States of Matter. तासिका: 2 वेळ: 30 min




(Teaching Aids) (Previous Knowledge) (Period) (Time)

अध्ययनानुभव (Learning Experience)	
पाठाच्या पायऱ्या (Steps of Lesson)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना: (Introduction)	<p>Teacher ask some question based on previous knowledge to the student.</p> <p>① What are objects made of?</p> <p>② Give some examples?</p> <p>③ Why are objects made of different materials?</p> <p>④ What do you think objects around us are made up of?</p> <p>Students give expected answer.</p> <p>→ All the objects are made up of one or more materials.</p> <p>→ Table is made of wood and Nails are made of iron so wood iron is material</p> <p>→ Objects and every day structure are made up of different materials.</p> <p>→ Everything we see around us is made up of matter.</p>
हेतूकथन: (Statement of Aim)	<p>So today we are going to learn about "Matter and States of Matter."</p>
विषय प्रतिपादन: (Presentation)	<p>Matter</p> <p>Teacher explains about Matter.</p> <p>Matter is a substance made up of various types of particles that occupies physical space and has inertia. Matter occupies space. Two objects cannot occupy the same space at the same time. The mass is a physical quantity which expresses the amount of</p> <p>Students listen carefully.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
		<p>Knowledge-Students recognize and tells about Matter.</p> <p>Understanding-Students gives examples on Matter.</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>matter in a body. The space inside the constaines that is occupied by matter is it's volume.</p> <p>Teacher ask some question.</p> <p>① khat is Matter?</p> <p>② khat is Give matter Examples?</p>	<p>Students give answers.</p> <p>→ Matter is anything that takes up space and an be weight.</p> <p>→ Examples pen, pencil ,tooth-brush water, milk car etc.</p>

States of Matter.	
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SOLID	LIQUID	GAS
 <ul style="list-style-type: none"> ● Rigid ● fixed shape ● fixed volume 	 <ul style="list-style-type: none"> ● Not Rigid ● no fixed shape ● fixed volume 	 <ul style="list-style-type: none"> ● Not Rigid ● No fixed shape ● No fixed Volume
STATE OF MATTER		

<p>Teacher explains about States of Matter.</p> <p>classify into three States Solid, Jiquids, Grases.</p> <p>Solid - Matters which have fixed volume and Shape are called Solid.</p> <p>Liquid - Matters which have fixed volume but indefinite Shap are called Jiquids.</p> <p>Grases - Matters which have indefinite shape and volume are et called gases.</p> <p>Teacher ask some question.</p> <p>① khat is Jiquid?</p> <p>② Difference between Solid and liquid.</p>	<p>Students listen carefully</p> <p>Students given answers.</p> <p>→ A liquid is a sample of matte that conforms to the shape ofc container in which it is held and which acquires a defined surface in the presence of gravity.</p> <p>→ Liquid are close together with no regular arrangement and solid are tightly packed usually in a regular pattern.</p>
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पाठाच्या पायऱ्या (Spets of Lesson)	अद्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge ② To revise the topic ③ To recall the gain knowledge. ④ To test Student knowledge ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study ② To develop writing skill and implementation of student. ③ To use leisure time at home.

फलक - लेखन (Black-Board Writing)

Date _____ Class - 9th
Subject - Chemistry Time - _____
Topic - Matter & States of Matter

↑ Getting hotter

gas

↓ condensing

liquid

↓ freezing

solid

↑ melting

↑ evaporation

↓ Getting cooler

State of Matter

Solid	Liquids	Gases
• Rubber	• Water	• Carbon
• Plastic	• Milk	• Hydrogen
• Sugar	• Oil	• Oxygen
• Brick	• Juice	• Helium
• Iron	• Honey	• Ozone

Homework :- Show the composition of Matter?

अध्ययनानुभव (Learning Experience)

शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher Summarises the topic and ask some questions ① What is matter made of? ② How many types of Matter? ③ What is non matter?	Students gives Answers. → Solid, liquid & gas are made of tiny particles called atoms and molecules. → Three types of Matter. Solid, Liquid and gas. → Non matter includes the light from a torch, the heat from a fire and the sound of a police siren.
Teacher write Home work on black board. ① Show the composition of Matter?	Students Note down their Home work in Note Book.

अभिप्राय (Remarks)

Introduction was good.
B.B. work was good according to the criteria.

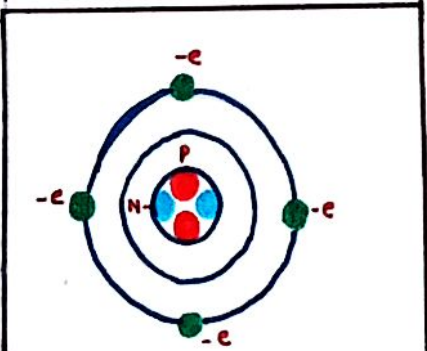
पर्यवेक्षकाची सही
(Sign. of Supervisor)

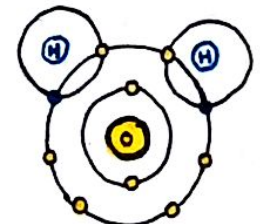
पाठ क्रमांक (Lesson No.): _____
 विद्यालयाचे नांव : Nagar Parishad High School Saoner.
 पाठ साहित्य : Model, duster, chalk, black board, pointer etc.
 (Teaching Aids)

विषय (Subject) : _____
 विषयांश : Atoms and Molecule
 (Topic)
 पूर्वज्ञान : _____
 (Previous Knowledge)

Chemistry

दिनांक (Date) : _____
 इयत्ता (Class) : 9th
 तासिका : 3 वेळ : 80 Min
 (Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> 1 To arise previous knowledge. 2 To Create an atmosphere in class 3 To correlate previous knowledge to present topic 4 To let the student know the importance of the topic. 5 To develop scientific attitude. 	<p>Teacher asks some questions based on previous knowledge</p> <ol style="list-style-type: none"> 1 Name the things that are present in our surrounding? 1 What is the scientific term Scientist used for them? 3 The table, chair all these are matter. So what is the matter made up of? 4 If we go on dividing particles, a stage will come when particles obtained cannot be divided further what we called that individual particle? 	<p>Students give expected answer.</p> <p>→ Table, chair, Book, Pencil, etc are present in our surrounding</p> <p>→ Scientist's has given a specific terms 'Matter' for there.</p> <p>→ Matter is made up of particles.</p> <p>→ Individual particle is called as atom.</p>
हेतुकथन : (Statement of Aim)	So today we are going to	learn about	"Atoms and Molecule"	
विषय प्रतिपादन : (Presentation)	<ol style="list-style-type: none"> 1 Atom  <p><u>Structure of Atom</u></p>		<p>Teacher explains about Atom.</p> <p>Have you ever observe a building, It has collection of rooms and rooms are formed by walls. What is the smallest unit of these buildings? Wall is the smallest unit of buildings. Similarly the smallest building of all matters is atoms. Atoms are very small, they are smaller than anything that we can imagine or</p>	Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	<p data-bbox="358 678 582 718">② Molecule.</p> <div data-bbox="347 774 728 1228">  <p data-bbox="414 1093 582 1125">Water (H_2O)</p> <p data-bbox="392 1149 694 1189"><u>Structure of Molecule</u></p> </div>	<p data-bbox="795 399 1075 526">knowledge-Student recognize and tells about atom.</p> <p data-bbox="795 1244 1075 1484">knowledge-Student recognizes and tells about molecule and example of molecule.</p>	<p data-bbox="1108 215 1612 351">More than millions of atoms when stacked, they would make a layer, barely as thick as this sheet of paper.</p> <p data-bbox="1108 351 1612 391">Teacher ask some question.</p> <p data-bbox="1108 391 1612 430">① What we inhale?</p> <p data-bbox="1108 510 1612 590">② What is the definition of atom.</p> <p data-bbox="1131 670 1601 734">Teacher explains about of molecule.</p> <p data-bbox="1131 734 1612 901">In general, a molecule is a group of two or more atoms that are chemically bound together, tightly hold together by attraction forces.</p> <p data-bbox="1131 901 1612 1037">Atoms of all same elements or different elements are join together to form a molecule.</p> <p data-bbox="1131 1037 1612 1173">Such as a molecule of oxygen consist of atoms of oxygen. Hence it know as diatomic molecule.</p> <p data-bbox="1131 1181 1612 1220">Teacher ask some question</p> <p data-bbox="1131 1220 1612 1300">① What is the definition of Molecule?</p> <p data-bbox="1131 1372 1612 1452">② Give the example of Molecule?</p>	<p data-bbox="1646 343 2038 383">Students give answer.</p> <p data-bbox="1624 383 2206 534">→ The oxygen we inhale is formed from oxygen atom, the water we drink, the things we use everything is made up of atom.</p> <p data-bbox="1624 534 2206 670">→ An atom is the smallest unit of an element. In an atom, subatomic particles like protons and neutrons.</p> <p data-bbox="1657 813 2116 853">Students listen carefully.</p> <p data-bbox="1657 1197 2195 1236">Students lister give answers.</p> <p data-bbox="1624 1236 2206 1388">→ The smallest particle of a substance that has all of the physical and chemical properties of that substance</p> <p data-bbox="1624 1396 2206 1564">→ Example of Molecule H_2O (Water), N_2 (Nitrogen) O_3 (Ozone), CaO (Calcium oxide).</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifications)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strength acquire knowledge. ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summerise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher summaries the topic and ask some question on it.	Students give answers.
① What is the charge of proton?	→ The charge of proton is +ve.
② Ozone is a molecule?	→ Yes. Ozone a molecule it made up of three oxygen atoms.
③ Which is the example of molecule compound?	→ Water (H_2O) is the molecule compound.
Teacher write Homework on the black board. Atoms of most elements are not able to exist independently. Name two atoms which exist as independent atom.	Students Note down their Home work in note book.

फलक - लेखन (Black-Board Writing)

Date. Class - 9th

BLACK BOARD
Subject - Chemistry
Topic - Atoms and Molecule

Atom

Molecule

Home Work :- Atoms of most elements are not able to exist independently name two atoms which exist as independent atom.

अभिप्राय (Remarks)

Examples were proper and related to the topic.
Good command on voice.

Bigni

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): _____
 विद्यालयाचे नांव : Nagar Parishad High विषयांश : Metal and
 (School Name) School, Samner. (Topic) Non metal
 पाठ साहित्य : Model, duster, chalk, black पूर्वज्ञान : _____
 (Teaching Aids) board, pointer etc. (Previous Knowledge)

Chemistry

दिनांक (Date): _____

उपविषयांश : ① Metal
 (Sub-Topic)

इयत्ता (Class): 10th

② Non Metal

तासिका : 4 वेळ : 30 Min
 (Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson) अध्यापन मुद्दे (Teaching Points) उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)

प्रस्तावना : (Introduction)

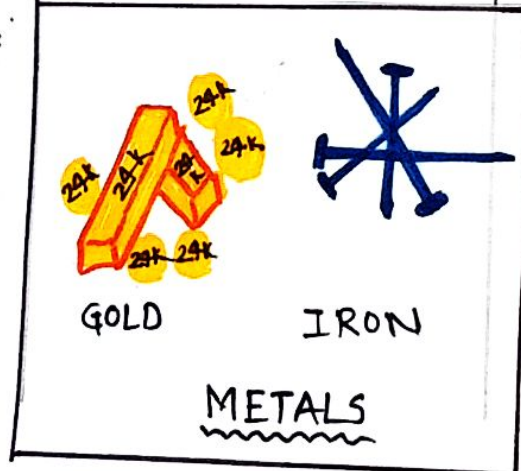
- ① To arise previous knowledge.
- ② To create an atmosphere in class.
- ③ To correlate previous knowledge to present topic.
- ④ To let the student know the importance of the topic.
- ⑤ To develop scientific attitude.

हेतूकथन : (Statement of Aim)

So today we are going to learn about.

विषय प्रतिपादन : (Presentation)

① Metal



अध्ययनानुभव (Learning Experience)

शिक्षक कृती (Teacher Activity)

विद्यार्थी कृती (Pupil Activity)

Teacher asks some question based on previous knowledge.

Students give expected answer.

① Did you observed that there are different kind of hard material around you?

→ Aluminium, iron, Steel etc. gold, silver etc.

② Did you observed that few of the conductors of electricity.

→ Iron, Aluminium etc.

③ Did you observed that many object are lustures?

→ Gold, Silver, Aluminium etc.

④ Did you observed that many solid molecules?

→ dry ice, frozen carbondioxide, rocks, bricks, most metals etc.

"Metal and Non Metal."

Teacher explains about the index to 'Metal'.

Metal exist mainly in solid state the metals namely, mercury and gallium exist in liquid state at room temperature. Metals possess luster. The metallic luster goes on decreasing due to exposure to atmospheric oxygen and moisture and also in presence of some reactive gases. Metal have properties namely ductility

Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
		knowledge - Students recognize and tell about Metals and Examples of Metals.	<p>and malleability all metals are good conductors of heat and electricity. Metals are reactive. They lose electrons easily.</p> <p>Teacher ask some question.</p> <p>① What is Metals?</p> <p>② Give Example of Metals?</p>	<p>Students give answer.</p> <p>→ Metals are very good conductors of heat and electricity.</p> <p>→ Example of Metals iron, aluminium etc.</p>
	② Non Metal)		<p>Teacher explains about Non metals.</p> <p>Nonmetals are in solid state while some are in gaseous state. Exception is the non metal bromine which exist in liquid state. Nonmetals do not passes luster, but iodine is the exception as its crystals are shiny not hard. Diamond which is an allotrope of carbon is the exception nonmetals have low melting and boiling point. Nonmetals are bad conductors of electricity.</p> <p>Teacher ask some question</p> <p>① What is nonmetals?</p> <p>② Which is the hardest nonmetal?</p>	<p>Students listen carefully.</p> <p>Students given answer.</p> <p>→ Nonmetals are the elements that do not conduct electricity and are neither malleable nor ductile.</p> <p>→ Silicon carbide is the hardest Nonmetal.</p>



CARBON



BOOK

NON- METALS

knowledge - Students recognize and tell about ~~Meta~~ non metals and hardest non-metal.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To Strengthen acquired knowledge ② To revise the topic ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study ② To develop writing skill and implemen. tation of student ③ To use leisure time at home.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Teacher summarises the topic and ask some question.</p> <ol style="list-style-type: none"> ① How are metals useful ? ② Why non metals are called electronegative elements. 	<p>Students give answer.</p> <p>→ Metals are also good conductors of electricity and heat, which makes them useful for electric and cooking pans.</p> <p>→ Non metals form negatively charge ions by accepting electron because it called electronegative.</p>
<p>Teacher write Home work on the black board.</p> <ol style="list-style-type: none"> ① Do experiment Reaction of metals with dilute acid. 	<p>Students Notedown their home work in note book.</p>

फलक - लेखन (Black-Board Writing)

Date _____ BLACK BOARD Class - _____
Subject - Chemistry Time - _____
Topic - Metal and Non Metal

Metals

- ↑ Conductivity
- ↑ Sonorous
- ↑ Malleable
- ↑ Lustrous
- ↑ Mechanical strength
- ↑ Ductile

Non Metals

- ↑ Poor conductivity
- ↑ Non-sonorous
- ↑ Non-malleable
- ↑ Non-lustrous
- ↑ Brittle
- ↑ Non-ductile

Home Work :- Do experiment Reaction of metals with dilute acid.

अभिप्राय (Remarks)

Lesson was good.
 Nice presentation.
 B.B. work was good.
 Overall lesson was good.

Bingui

पर्यवेक्षकाची सही
 (Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): Chemistry

विद्यालयाचे नांव : Nagar Parishad High School Saoner.

पाठ साहित्य : Model, duster, chalk, black board, Pointer etc.

विषयांश : Physical & chemical changes

पूर्वज्ञान : (Previous Knowledge)

उपविषयांश : 1) Physical Changes

2) Chemical Changes

दिनांक (Date): _____

इयत्ता (Class): 9th

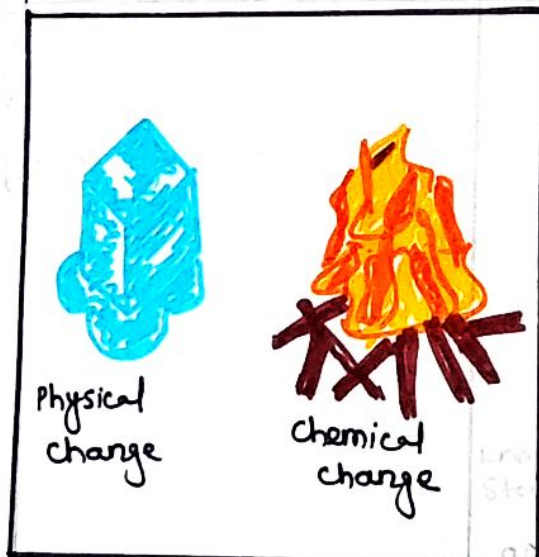
तासिका : 2 वेळ : 30 Min.
(Period) (Time)

अध्ययनानुभव (Learning Experience)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> 1) To arise previous knowledge. 2) Create an atmosphere in class. 3) To correlate previous knowledge to present knowledge. 4) To let the student know the importance of the topic. 5) To develop scientific attitude. 	<p>Teacher ask some question based on previous knowledge of the student.</p> <ol style="list-style-type: none"> 1) What is water made of? 2) Is water a Mixture? 3) Is milk a mixture? 	<p>Students give expected answer.</p> <p>→ A water molecule has three atoms two hydrogen (H) atoms and one oxygen (O) atom. That's why water is sometimes referred to as H₂O.</p> <p>→ Water H₂O is a pure substance a compound made of hydrogen and oxygen.</p> <p>→ The main compounds of milk are lactose and casein and it is also called a colloidal Mixture. Therefore milk is Mixture.</p>
हेतूकथन : (Statement of Aim)	So today we are going	to learn about	"Physical changes and	Chemical changes."
विषय प्रतिपादन : (Presentation)	① Physical Changes		<p>Teacher explains about Physical changes.</p> <p>Physical changes are changes affecting the form of a chemical substance, but not its chemical composition. Physical changes are used to separate mixtures into their component compounds, but can not usually be used to separate compounds into chemical elements or simpler compounds. Physical change</p>	Students listen carefully

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
		Knowledge- Student recognize and tells about Physical change and Example of Physical change.

② Chemical Changes



Physical change

Chemical change

Knowledge - Student recognize and tells about chemical changes.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>occur when objects or substance undergo a change that does not change their chemical composition. This contrasts with the concept of physical change involves a change in physical properties.</p> <p>Teacher ask some question.</p> <p>① What is the physical change?</p> <p>② Examples of Physical Change?</p>	<p>Students give answer.</p> <p>→ Physical change, the material involved in the change is structurally the same before and after the change.</p> <p>→ Examples of Physical changes melting, freezing, condensing, breaking, crushing etc.</p>
<p>Teacher explains about Chemical changes when a substance combines with another to form a new substance called chemical synthesis or alternatively, chemical decomposition into two or more different substance. These processes are called Chemical reactions and in general are not reversible except by further chemical reactions. Some reactions produce heat and are called exothermic reactions.</p> <p>Teacher ask some question.</p> <p>① What is chemical change?</p> <p>② Example of chemical changes?</p>	<p>Students listen carefully.</p> <p>Students give answer.</p> <p>→ a change of materials into another, new materials with different properties and one or more than one new substances are formed.</p> <p>→ Chemical changes Example are color change, formation of a precipitate, formation of a gas, odor change, temperature change.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge. ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Teacher summarises the topic and ask some question.</p> <p>① Why do we water crops?</p> <p>② Can humans create water?</p> <p>Teacher write Home work on Black board.</p> <p>How is plant air important?</p>	<p>Students give Answer.</p> <p>Plants need water to grow. Plants are about 80-95% water and need water for multiple reasons as they grow including for photosynthesis, for cooling and to transport minerals and nutrients from the soil.</p> <p>→ Humans create water, but it would be an extremely dangerous process to create water oxygen and hydrogen atom.</p> <p>Students Note down their Home work in Book.</p>

फलक - लेखन (Black-Board Writing)

Date	BLACK BOARD	Class-Time-
	Subject - Chemistry	
	Topic - Physical Change and Chemical change	
	<div> <u>Physical Change</u> <ul style="list-style-type: none"> - easily reversible - no new product. - Often just a State change. - eg. ice melting. </div> <div> <u>Chemical change</u> <ul style="list-style-type: none"> - not easily reversed - new product(s) formed. - reactant used up - Often heat / light / sound / fizzing occurs. - electricity may be produced - a precipitate may form - eg. wood burning. </div>	
	Home work - How is plant air important?	

अभिप्राय (Remarks)

Lesson was taken
Recapitulation was proper.

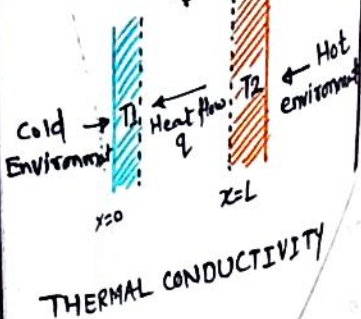
Signature

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): _____ दिनांक (Date): _____

विद्यालयाचे नांव : _____ विषयांश : Thermal
(School Name) (Topic) Conductivity उपविषयांश : ① Thermal Conductivity इयत्ता (Class): 9th.
(Sub-Topic)
पाठ साहित्य : Model, cluster, chalk, black पूर्वज्ञान : _____ तासिका : 3rd वेळ : 45 min
(Teaching Aids) board, etc. (Previous Knowledge) (Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		① To arise previous knowledge. ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the importance of the topic. ⑤ To develop scientific attitude.	Teacher ask some question based on previous knowledge of the student. ① What is heat explain? ② What is the sources of heat? ③ How is heat produced? ④ What are the 3 types of heat?	Student give expected answer. → Heat is the transfer of kinetic energy from one medium or object to another, or from an energy source to a medium or object. → The sun, electrical appliances, burning wood, eating food and friction. → When a rise in temperature causes atoms and molecule to move faster and collide with each other. → 3 types of heat is conduction, radiation and convection.
हेतुकथन : (Statement of Aim)	So today we are going	to learn about	"Thermal conductivity and	
विषय प्रतिपादन : (Presentation)	① Thermal conductivity.		Teacher explains about thermal conductivity. The thermal conductivity of a material is a measure of its ability to a particular material conduct heat. It is commonly denoted by k . Heat transfer occurs at a lower rate in materials of low thermal conductivity than in materials of high thermal conductivity. The defining equation for thermal conductivity is	Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching n...)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specificatio...	अध्ययनानुभव (Learning Experience)	
	 <p>conducting solid</p> <p>Cold $\rightarrow T_1$ Environment $x=0$</p> <p>Heat flux q</p> <p>T_2 Hot environment $x=L$</p> <p>THERMAL CONDUCTIVITY</p>	<p>knowledge - Student recognized and tell about thermal conductivity. and Examples of thermal conductivity.</p>	<p>$q = -k \nabla T$, where q is the heat flux, k is the thermal conductivity, ∇T is the temperature gradient.</p> <p>Teacher ask some question,</p> <p>① What is thermal conductivity?</p> <p>② Give Example of thermal conductivity?</p>	<p>Students give answer.</p> <p>→ Thermal conductivity refers to the amount / speed of heat transmitted through a material.</p> <p>→ Example of thermal conductivity</p> <p>① Spoon getting hot when in contact with hot vessel.</p> <p>② Heat from liquid makes the cup hot.</p>
	<p>② Thermal Resistance.</p>	<p>knowledge - Student recognized and tells about thermal Resistance and Example of thermal Resistance.</p>	<p>Teacher explains about thermal Resistance.</p> <p>Thermal resistance is the inverse of thermal conductance. It is a convenient measure to use in multicomponent design since thermal resistances are additive when occurring in series.</p> <p>There is also a measure known as the heat transfer coefficient, the quantity of heat that passes per unit time through a unit area of a plate of particular thickness when its opposite faces differ in temperature by one kelvin.</p> <p>Teacher ask some question.</p> <p>① What does thermal resistance mean?</p> <p>② What is thermal resistance example?</p>	<p>Students listen carefully.</p> <p>Students give answer.</p> <p>→ The ratio of the temperature difference between the two faces of a material to the rate of heat flow per unit area.</p> <p>→ The thermal resistance is a characteristic of a heat sink.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifications)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> 1 To strengthen acquired knowledge. 2 To revise the topic. 3 To recall the gain knowledge. 4 To test student knowledge. 5 To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> 1 To develop the habit of self study. 2 To develop writing skill and implementation of student. 3 To use leisure time at home.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher Summarises the topic ① How does thermal conductivity depend on temperature?	Students give Answer. → Thermal conductivity is the property of a material to conduct heat. Heat transfer occurs at a lower rate across materials of low thermal conductivity than across materials of high thermal conductivity.
② How is thermal resistance measured?	→ By taking the thickness of a sample and dividing it by its thermal conductivity.
Teacher write Home work on black board. what is difference between thermal conductivity and thermal resistance.	Students Note down their Home work in Note Book.

फलक - लेखन (Black-Board Writing)

Date _____

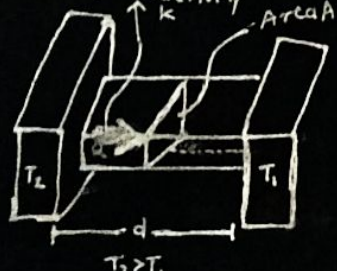
BLACK BOARD

Subject - Chemistry

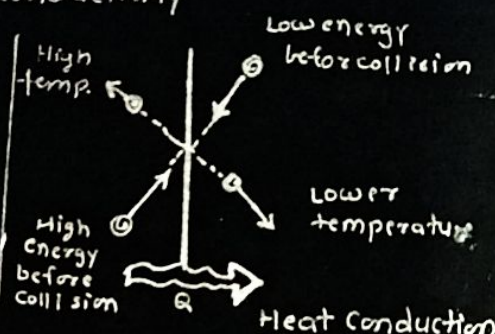
Class - Time -

Topic - Thermal Conductivity

Material having thermal conductivity k Area A



$T_2 > T_1$



Heat conduction

Home Work:- What is difference between thermal conductivity and thermal resistance.

अभिप्राय (Remarks)

Lesson was good.

Teaching aid was used.

Presentation was good.

Bingwi

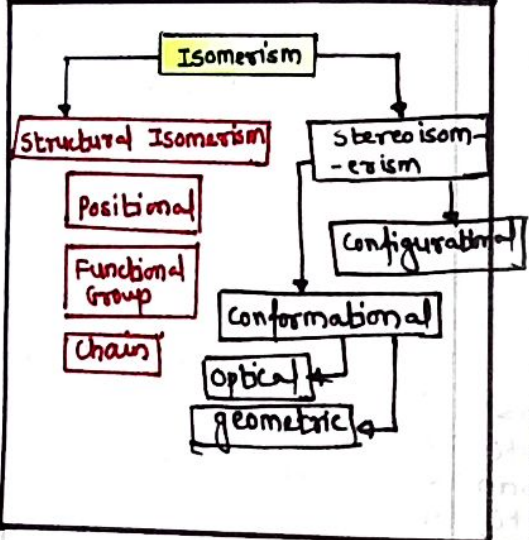
पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): _____
 विद्यालयाचे नांव : Nagar Parishad High विषयांश : Isomerism
 (School Name) School, Saoner. (Topic)
 पाठ साहित्य : Model, duster, chalk, black पूर्वज्ञान : _____
 (Teaching Aids) board, Pointer etc. (Previous Knowledge)

Chemistry दिनांक (Date): _____
 उपविषयांश : a). Structural isomerism इयत्ता (Class): 9th
 (Sub-Topic) b). Stereochemistry. तासिका : 2h वेळ : 50 min
 (Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> ① To arise previous knowledge. ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the importance of the topic. ⑤ To develop scientific attitude.
हेतूकथन : (Statement of Aim)	So today we are going	to learn about.
विषय प्रतिपादन : (Presentation)	Isomerism	

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Teacher ask some question based on previous knowledge of the student.</p> <ol style="list-style-type: none"> ① What is an atom? ② Give example of atom? ③ What is a molecule? ④ What are example of molecules? 	<p>Students give expected answer.</p> <p>→ An atom consists of a central nucleus that is surrounded by one or more negatively charged electrons.</p> <p>→ Example of atom is hydrogen (H) and neon (Ne)</p> <p>→ The smallest particle of a substance that has all of the physical and chemical properties of that substance.</p> <p>→ Example of molecules - H_2O, N_2, O_3, CaO, $C_6H_{12}O_6$, $NaCl$.</p>
" Isomerism."	
<p>Teacher explains about Isomerism and the phenomenon that two or more different chemical compounds have the same molecular formula is called isomerism, from the Greek isos meaning "equal", and meros meaning "part" a concept and term introduced by the Swedish scientist in 1830. There are two types of isomerism.</p>	Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specifics)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	a). Structural isomerism	Knowledge - Student recognises and talks about Structural Isomerism and types of Structural Isomerism.	<p>Structural isomerism, also called constitutional isomerism, isomers differ from each other in that the constituent atoms are linked in different ways and sequences.</p> <p>Teacher ask some question.</p> <p>① What is structural isomerism?</p> <p>② What are the different types of Structural Isomerism?</p>	<p>Students give answer</p> <p>→ Isomerism in which the molecules have the same molecular formula but different structural formula is called structural isomerism.</p> <p>→ Chain, position, functional group are different types of Structural Isomerism.</p>
	b). Stereochemistry.	 <p>Knowledge - Student recognises and talks about Stereoisomers formed and importance of Stereoisomers</p>	<p>Teacher explains about Stereoisomerism or spatial Isomerism is a form of isomerism in which molecule have the same molecular formula and sequence of bonded atom (Constitution) but differ in the three-dimensional orientations of their atoms in space.</p> <p>Teacher ask some question.</p> <p>① How are Stereoisomers formed?</p> <p>② Why are Stereoisomers important?</p>	<p>Students listen carefully.</p> <p>Students give answer.</p> <p>→ The simplest forms of Stereoisomers are cis and trans isomers, both of which are created by the restricted rotation about a double bond or ring system.</p> <p>→ The importance of Stereochemistry is pharmaceutical production and the breakdown of drugs in the body.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specificatio
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study ② To develop writing skill and implementation of student ③ To use leisure time at home.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher Summarise the topic ① What is the example of isomerism? ② What is Stereoisomerism and example?	Students give answer. → Example of Isomers - Ethyl alcohol and dimethyl ether are isomers of each other as both the compound have the same molecular formula - C_2H_6O while different structural formula. → Stereoisomers are isomers that have the same composition but that differ in the orientation of those part in space
Teacher write Home work on black board. ① How do you identify Stereoisomers?	Students Note down their Home work in Note Book.

फलक - लेखन (Black-Board Writing)

Date _____ Class - _____
 Subject - Chemistry
 Topic - Isomerism

* Isomers.

→ Structural or constitutional isomers.

$$\begin{array}{c} H & H & H \\ | & | & | \\ H - C - C - C - OH \\ | & | & | \\ H & H & H \end{array}$$
 Propanol

* Stereoisomers

→ geometric isomers

$$\begin{array}{c} H_3C & & CH_3 \\ & \backslash & / \\ & C = C \\ & / & \backslash \\ H & & H \end{array}$$
 cis-2-butene

$$\begin{array}{c} H_3C & & H \\ & \backslash & / \\ & C = C \\ & / & \backslash \\ H & & CH_3 \end{array}$$
 Trans 2-butene

→ Optical Isomers.

$$\begin{array}{c} Br \\ | \\ H - C - Cl \\ | \\ F \end{array} \quad \text{Mirror} \quad \begin{array}{c} Br \\ | \\ Cl - C - H \\ | \\ F \end{array}$$

Home Work - How do you identify Stereoisomers?

अभिप्राय (Remarks)

Lesson was good.
 objectives were gained.

Bingru

पर्यवेक्षकाची सही
 (Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): _____
 विद्यालयाचे नांव : Nagar Parishad high विषयांश : Combustion
 (School Name) Sechool Saoner. (Topic) and flame
 पाठ साहित्य : Model, duster, chalk, black पूर्वज्ञान : _____
 (Teaching Aids) board, pointer etc. (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> 1) To arise previous knowledge. 2) To create an atmosphere in class. 3) To correlate previous knowledge to present topic. 4) To let the student know the importance of the topic. 5) To develop scientific attitude.
हेतूकथन : (Statement of Aim)	So today we are going to	learn about
विषय प्रतिपादन : (Presentation)	Combustion	

Chemistry

दिनांक (Date): _____

उपविषयांश : ① Combustion
(Sub-Topic)

इयत्ता (Class): 8th

② Flame

तासिका : 4th वेळ : 45 min
(Period) (Time)

अध्ययनानुभव (Learning Experience)

शिक्षक कृती (Teacher Activity)

विद्यार्थी कृती (Pupil Activity)

Teacher ask some question based on previous knowledge of the student.

Students give expected answer.

① What is Heat?

→ Heat is the transfer of kinetic energy from one medium or object to another, or from an energy source to a medium or object.

② How is heat made?

→ It is the motion of particles that creates a form of energy called heat energy that is present in all matter.

③ What is heat examples?

→ The temperature of a cup of coffee may feel hot if you put your hand around it. It is hot because heat from the coffee is transferred to the cup.

"Combustion and flame."

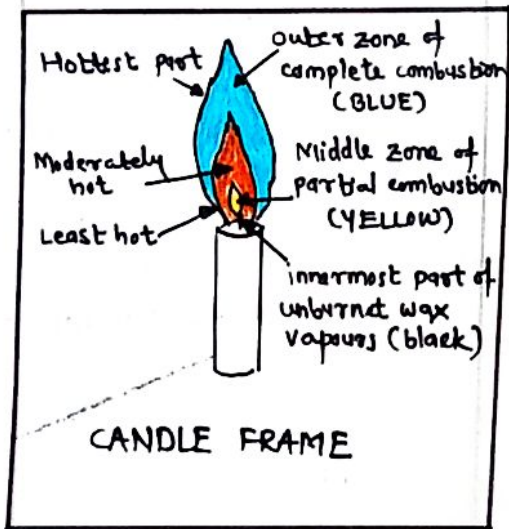
Teacher explains about Combustion.
 Combustion is a redox chemical reaction that takes place between fuel and an oxidant to give a mixture of gases and heat and light. Combustion does not always give rise to fire. But when it does, the flames are an indicator of the reaction. Incomplete combustion, the reactants get oxidized or burn in oxygen to give a limited number of byproducts.

Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specificat)
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Knowledge -
Student recogn-
ized and tell
about combustion

Flame



Knowledge -
Student recogn-
ized and tell
about flame
and example
of flame.

अध्ययनानुभव (Learning Experience)

शिक्षक कृती (Teacher Activity)

विद्यार्थी कृती (Pupil Activity)

Substance that easily catch fire are combustible substance. Example- paper, coal, wood etc. Substance that do not catch fire easily are non-combustible substances. Example water, glass, sand etc.

Teacher ask some question.
① Define combustion.

② What name is given to the substances which can burn easily?

Teacher explains about Flame - A flame can be defined as a region where gaseous elements burn, generating heat and light. All combustible materials, whether liquid or gaseous, emit flames as they burn. Both the combustible substance and the combustion supporter must be gases in order for combustion to result in a flame.

Teacher ask some question.

① What is the definition of flame?

② Give two examples of inflammable substances.

Students give answer.

→ Combustion is the process of burning of substances to give heat and light.

→ combustible substances.

Students listen carefully.

Students give answer.

→ A flame is a region where gaseous component burn, releasing heat and light in the process.

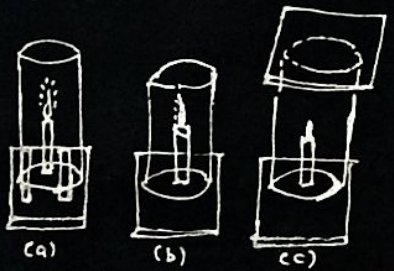
→ Example of inflammable substances is Petrol and LPG.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specificity)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge ② To revise the topic ③ To recall the gain knowledge ④ To test student knowledge ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study ② To develop writing skill and implementation of student ③ To use leisure time at home

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher summarizes the topic combustion and flame.	Students give answer.
① When does a substance start burning?	→ A substance starts burning when its ignition temperature is reached.
② When does a fire brigade arrive?	→ When the building catches fire, a fire brigade is called to put off the fire.
③ Give two examples of the combustible substances.	→ Examples of the combustible substances are kerosene oil and wood.
Teacher write Homework on black Board. When fuels burn what do they produce?	Students Note down their Home work in Note Book.

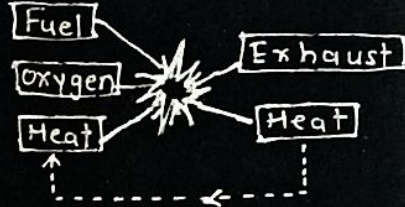
फलक - लेखन (Black-Board Writing)

Date _____ Class - _____
Subject - Chemistry Time - _____
Topic - Combustion and Flame



(a) (b) (c)

Air is essential for burning



Fuel
Oxygen
Heat

Exhaust
Heat

Home Work - When fuels burn what do they produce?

अभिप्राय (Remarks)

All examples given was good and proper.

B.B. work was good.
Explain nicely

Bingui



पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): _____
 विद्यालयाचे नांव : Nagar Parishad High School Saoner. विषयांश : Force and Pressure
 (School Name) (Topic) Pressure
 पाठ साहित्य : Model, duster, chalk, black board, Pointer etc. पूर्वज्ञान : _____
 (Teaching Aids) (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifications)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> ① To arise previous knowledge. ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the importance of the topic. ⑤ To develop scientific attitude.
हेतूकथन : (Statement of Aim)	So today we are going to learn	
विषय प्रतिपादन : (Presentation)	Force	

Chemistry दिनांक (Date): _____
 उपविषयांश : ① Force इयत्ता (Class): 8th
 (Sub-Topic) ② Pressure. तासिका : 2nd वेळ : 45 min
 (Period) (Time)

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Teacher ask some question based on previous knowledge of the student.</p> <ol style="list-style-type: none"> ① Define atmosphere? ② Name the force due to which planets revolve around the sun. ③ What is meant by force of gravitation? ④ When does a force come into play? 	<p>Students give expected answer.</p> <p>→ The air surrounding us is known as atmosphere.</p> <p>→ Gravitational force.</p> <p>→ The force of attraction exerted by the earth on all objects is called the force of gravitation.</p> <p>→ An object's interaction with another object results in a force between the two objects.</p>
about "Force and Pressure."	
<p>Teacher explains about Force</p> <p>When an object is displaced or tends to displace from its original position, it requires an external agent which is called force. It is of two types push force and pull force. Force is a vector quantity as it has both magnitude and direction.</p> <p>It can change the state of the motion. It can</p>	<p>Students listen carefully.</p>

पाराच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Point)	उद्दिष्टे व स्पष्टीकरण Objectives with Specificity
	 <p>A ball at rest begins to move when a force is applied on it.</p>	<p>Knowledge - Student recognize and tells about force and give example of force.</p>
	<p>② Pressure</p>  <p>A Liquid exerts pressure on the walls of the container.</p>	<p>Knowledge - Student recognize and tells about Pressure and unit of pressure.</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Can change the direction of an object. It can change the shape of an object.</p> <p>Teacher ask some question.</p> <p>① What is force?</p> <p>② Give example of force?</p>	<p>Students give answer.</p> <p>→ Force is defined as the physical quantity which has the capability to change the shape and speed of the body.</p> <p>→ Pushing a box at rest on the table brings the box in motion.</p>
<p>Teacher explains about Pressure.</p> <p>Pressure on an object is defined as the force acting on its square unit surface.</p> <p>Pressure = Force / Area of Surface. Its unit is newton/m². The pressure of the air around us is known as atmospheric pressure. both liquid and gases exert pressure on the surface. It can be understood with an example. If we filled a balloon with water or air, then after a certain amount of time it will burst.</p> <p>Teacher ask some question.</p> <p>① What is pressure?</p> <p>② What is the unit of pressure?</p>	<p>Students listen carefully.</p> <p>Students give Answer</p> <p>→ The amount of force exerted on surface per unit area is defined as pressure.</p> <p>→ The SI unit of pressure is pascal (represented as Pa) which is equal to one newton per square metre. (N/m² or kg m⁻¹ s⁻²).</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifics)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge. ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home.

फलक - लेखन (Black-Board Writing)

Date -	<u>BLACK BOARD</u>	Class -
	Subject - Chemistry	Time -
	Topic - Force and Pressure	
FORCE <ul style="list-style-type: none"> • Force is the push and pull of an object. • Its SI unit is 'Newton' denoted by N. • It is measured by Spring balance or dynamo-meter. • It is a vector quantity. • It applies to faces, vertices and edges. 		PRESSURE <ul style="list-style-type: none"> • Pressure the force applying per unit area. • It's SI unit is Pascal, denoted by 'Pa'. • It is measured by Mono meter. • It is a scalar quantity. • It applies to faces only. • Its velocity cannot be changed.
Home work - Using a monometer how can you show that the liquid pressure remains same at the same depth?		

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher summarizes the topic. ① What happens to the speed of a body when a force is applied? ② What is meant by contact force? ③ Give an example to show that force can change the shape of an object.	Students give answer. → The speed of a body can be increased or decreased by applying force. → A force which is applied only when it is in contact with an object is called contact force. → Pressing a rubber ball with the hand changes its shape.
Teacher write Home work on black board. Using a manometer how can you show that the liquid pressure remains same at the same depth?	Students Note down their Home work in Note book.

अभिप्राय (Remarks)

Lesson plan was good.
 Lesson was good.
 Good command on teaching

Pingvi

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): _____
 विद्यालयाचे नांव : Nagar Parishad High विषयांश : Friction
 (School Name) School saoner. (Topic)
 पाठ साहित्य : Model, duster, chalk, black पूर्वज्ञान :
 (Teaching Aids) board, pointer etc. (Previous Knowledge)

Chemistry

दिनांक (Date): _____

उपविषयांश : ① Friction
 (Sub-Topic)

इयत्ता (Class): 8th

② Causes of Friction

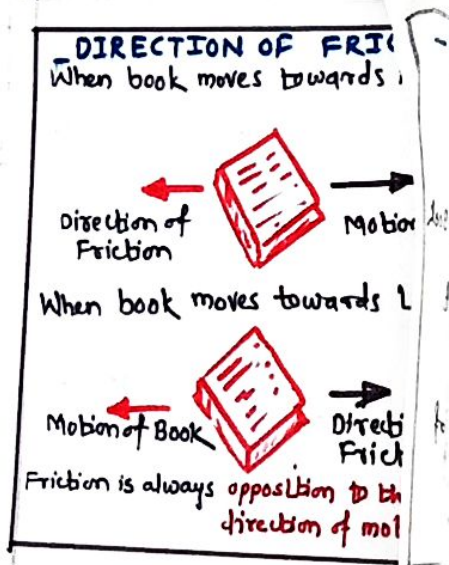
तासिका : 5th वेळ : 8th min
 (Period) (Time)

अध्ययनानुभव (Learning Experience)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifications)	शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		① To arise previous knowledge. ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the importance of the topic. ⑤ To develop scientific attitude.	Teacher ask some question based on previous knowledge ① What is force ? ② What is motion ? ③ What is direction ? ④ What is heat ?	Students give expected answer. → A force is a push or pull on an object that is caused by an interaction with another object. → When an object or a body changes its position with respect to time then the body is said to be in motion. → A direction is the general line that someone or something is moving or pointing in. → The flow of energy from a warm to a cooler object.
हेतुकथन : (Statement of Aim)	So today we are going	to learn	about "Friction."	
विषय प्रतिपादन : (Presentation)	Friction		Teacher explains about Friction. It is a force which opposes motion of one object over another object in contact with it. In easy language, it is a force which makes moving object stop. Friction always acts in the opposite direction of motion. If we push a book on table from left to right Force of friction moves in opposite direction from right to left.	Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifics)
		knowledge- Student recognize and tell about friction and example of friction.

Causes of friction



Knowledge-
Student recognized and tells about causes of friction and main source of friction.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Similarly, if we push a book on table from right to left force of friction moves in opposite direction from left to right.</p> <p>Teacher ask some question.</p> <p>① What is friction?</p> <p>② Give example of friction?</p>	<p>Students give answer.</p> <p>→ Friction is a force that opposes motion between any surfaces that are touching. Friction can work for or against us.</p> <p>→ Example: putting sand on an icy sidewalk increases friction so you are less likely to slip. On the other hand, too much friction between moving parts in a car engine.</p>
<p>Teacher explains about causes of friction.</p> <p>If we take a microscope and zoom in the surface of two objects. we see that both the surface have some irregularities. When we try to move the object, the irregularities gets interlocked. This causes friction. So, rougher the surface, more the irregularities. Hence, more friction. Smoother the surface, less the irregularities. Hence less friction.</p> <p>Teacher ask some question.</p> <p>① What is cause of friction?</p> <p>② What is the main source of friction?</p>	<p>Students listen carefully.</p> <p>Students give answer.</p> <p>→ Friction is caused due to the irregularities on the two surfaces in contact.</p> <p>→ The causes of resistive force are molecular adhesion, surface roughness and deformations.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specific)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge. ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home.

फलक - लेखन (Black-Board Writing)

Date _____

BLACK BOARD.

Subject - Chemistry


Topic - Fraction

Class _____

Time _____

FRACTION



① Proper Fractions:-
Numerator is smaller than the denominator.



 $\frac{5}{6}$

② Improper Fractions:-
Numerator is equal or greater than the denominator.

M.W :- Four children were asked to arrange force due to rolling static and sliding frictions in a decreasing order.

③ Mixed Fraction :- Consists of a whole number and a proper fraction.

  $\frac{8}{6}$

  $1\frac{2}{6}$

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Teacher Summarises the topic and ask some question.</p> <ol style="list-style-type: none"> ① What are effects of friction? ② What are the type of friction? 	<p>Students give answer.</p> <p>→ It produces heat, that helps in heating parts of any object or to warm ourselves.</p> <p>→ There are three kinds of friction. rolling friction, starting friction, and sliding friction.</p>
<p>Teacher write Home work on black Board.</p> <ol style="list-style-type: none"> ① Four children were asked to arrange force due to rolling static and sliding frictions in a decreasing order. 	<p>Student Note down their Home work in Note book.</p>

अभिप्राय (Remarks)

Nicely tackle with students.
Explanation was proper.
Teaching aid was used.

Bingui

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): Lesson-14
 विद्यालयाचे नांव : Nagor Parishad High School, Saneer.
 पाठ साहित्य : Model, duster, chalk, black board, pointer etc.
 (Teaching Aids)

विषय (Subject) :
 विषयांश :
 (Topic)
 पूर्वज्ञान :
 (Previous Knowledge)

Chemistry

दिनांक (Date) : _____

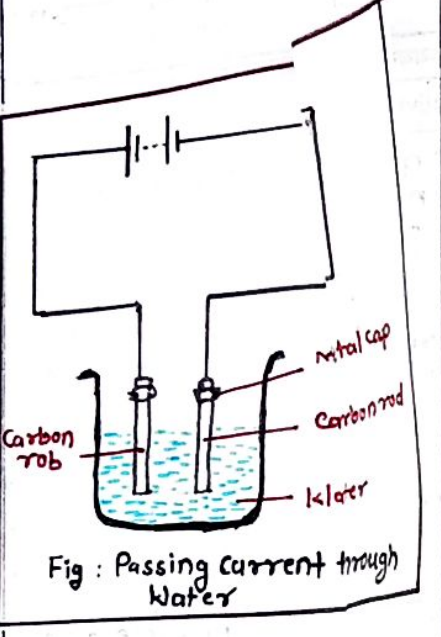
उपविषयांश : Activity on
 (Sub-Topic)

इयत्ता (Class) : 8th

Passing current through water.

तासिका : 5th वेळ : 30 min
 (Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifics)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> ① To arise previous knowledge. ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the importance of the topic. ⑤ To develop Scientific attitude. 	Teacher asks some question based on previous knowledge. ① What is current? ② What is an electrode? ③ What is solution?	Students give expected answer. → Electric current is the flow of electric charges (electrons) in an electric circuit. → An electrode is a conductor of electricity that can carry electric current into non-metals and other poor conductors of electricity. → A solution is a homogeneous mixture of two or more components in which the particle size is smaller than 1 nm.
हेतुकथन : (Statement of Aim)	So today we are going	to learn	about, "Chemical effect of	Electric current."
विषय प्रतिपादन : (Presentation)	Activity		Teacher explains about passing current through water. Take out carbon rods carefully from two discarded cells. Clean their metal caps with sand paper. Wrap copper wires around the metal caps of the carbon rods and join them to a battery. We call these two rods electrodes. (Instead of carbon rods you may take two iron nails about 6cm long) Pour a cupful of	Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifications)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	 <p>Fig : Passing current through Water</p>	<p>Knowledge - Student recognized and tells about electric current and example of it.</p> <p>Application - Student tell application of chemical effect.</p>	<p>water in a glass / plastic bowl. Add a teaspoonful of salt or a few drops of lemon juice to water to make it more conducting. Now immerse the electrodes in this solution. Make sure that the metal caps of carbon rods are outside the water. Wait for 3-4 minutes. Observe the electrodes carefully. Do you notice any gas bubbles near the electrodes? Can we call the change taking place in the solution a chemical change? When an electric current is passed through a conducting solution, some chemical reaction takes place in the solution. This is among the chemical effect of electric current.</p> <p>Teacher ask some question.</p> <ol style="list-style-type: none"> ① What are the chemical effects of electric current give example? ② What are the uses of chemical effect? ③ What is the application of chemical effect? 	<p>Students listen carefully.</p> <p>Students give answer.</p> <ul style="list-style-type: none"> → When an electric current is passed through water, then water dissociates into hydrogen and oxygen. → Parts of a bicycle and motor bike are chrome plated through electroplating. → Electroplating and electrolysis are the applications of chemical effect of electric current.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifics)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge. ② To revise the topic. ③ To recall the given knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self-study. ② To develop writing skill and implementation of student. ③ To use leisure time at home.

फलक - लेखन (Black-Board Writing)

BLACK BOARD

Date _____ Class - _____

Subject - Chemistry Time - _____

Topic - Effects of Electric Current

Effect of Electric current

Magnetic effect of Electric current.

Homework - Test the conduction of electricity through various fruits and vegetables. Display your result in a tabular form.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher summarizes the topic and ask some question. ① What are the types of current? ② What are the chemical effects of current?	Students give answer. → There are two kinds of current electricity - direct current (DC) and alternating current (AC). → When an electric current flows through a conducting solution, within the solution some chemical reactions take place.
Teacher write Homework on black board. ① Test the conduction of electricity through various fruits and vegetables. Display your result in a tabular form.	Students Note down their Home work in Note book.

अभिप्राय (Remarks)

Lesson was good.
Presentation was good,
time managed properly

Signature

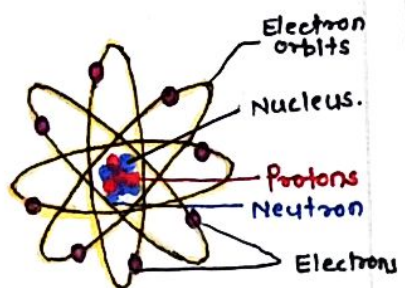
पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 2
विद्यालयाचे नांव : Nagar Parishad High School Saoner.
पाठ साहित्य : model, duster, chalk, black board, Pointer etc.
विषय (Subject): Chemistry
विषयांश : Atomic Structure
पूर्वज्ञान :

दिनांक (Date):
उपविषयांश : ① Subatomic particles
इयत्ता (Class): 8th
तारिका : २nd वेळ : ३० min
(Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson)	अद्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifications)
प्रस्तावना : (Introduction)		① To arise previous knowledge. ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the importance of the topic. ⑤ To develop scientific attitude.
हेतूकथन : (Statement of Aim)	So today we are going to learn	
विषय प्रतिपादन : (Presentation)	Subatomic Particles	

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher asks some question based on previous knowledge ① What is atom? ② What is electrons and protons? ③ What is nucleus of a cell? ④ What is electron?	Students give expected answer. → An atom is a particle of matter that uniquely defines a chemical element. → Electrons are negatively charged particles with negligible mass. → Nucleus is generally spherical body and located in the centre of the cell. → An electron is a negatively charged subatomic particle that can be either bound to an atom or free.
about "Atomic Structure"	
Teacher explains about subatomic particles. Atomic structure refers to the structure of an atom comprising a nucleus in which the protons (positive) and neutrons (neutral) are present. The negatively charged particles called electrons revolve around the centre of the nucleus. The advances in atomic structure and quantum mechanics have led to the discovery	Students listen carefully

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
		<p>knowledge Student recog- nize and tells about subatomic particles</p>
	Atomic Structure	
	 <p>Fig- The Structure of ATOM</p>	<p>knowledge— Student recog- nize and tells about atomic structure.</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>of other fundamental particles. The discovery of subatomic particles has been the base for many other discoveries and inventions. Teacher ask some question.</p> <p>① What are subatomic particles?</p> <p>② Which subatomic particles are electrically charged?</p>	<p>Students give answer.</p> <p>→ Subatomic particles are the particles that constitute an atom. Generally this term refers to protons, electrons, and neutrons.</p> <p>→ Protons and electrons are the only two subatomic particles with electrical charges.</p>
<p>Teacher explains about Atomic Structure. The atomic structure of matter is made up of protons, electrons and neutrons. The protons and neutrons make up the nucleus of the atom, which is surrounded by the electrons belonging to the atom. The atomic number of protons in its nucleus. Neutral atoms have equal numbers of protons and electrons. However atoms may gain or lose electrons. in order to increase their stability and the resulting charged entity is called as ion. Teacher ask some question.</p> <p>① What is atomic structure?</p>	<p>Students listen carefull.</p> <p>Students give answer.</p> <p>→ Atoms consist of an extremely small, positively charged nucleus surrounded by a cloud of negatively charged electrons.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge. ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the give topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implem-entation of student. ③ To use leisure time at home.

फलक - लेखन (Black-Board Writing)

Date

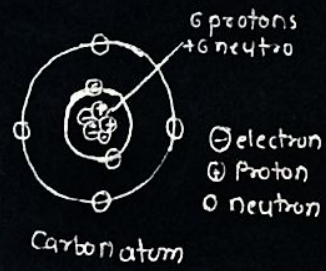
BLACK BOARD

Subject - Chemistry.

Topic - ATOMIC STRUCTURE

Class -

Time -



SUBATOMIC PARTICLES

- Protons with a positive charge found in the nucleus of an atom.
- Neutrons with a neutral charge also found in the nucleus of an atom.
- Electrons with a negative charge found outside of the nucleus in the electron cloud.

Home Work:- Draw a sketch of Bohr's Model of an atom with three shells.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher summarizes the topic and ask some question. ① How do you make an atomic structure? ② What is subatomic level?	Students give answer. → The basic structure of an atom involves a nucleus and the orbiting electrons. → The subatomic scale is the domain of physical size that encompasses objects smaller than an atom.
Teacher write Home work on black Board. ① Draw a sketch of Bohr's model of an atom with three shells.	Students Note down their Home work in Notebook.

अभिप्राय (Remarks)

Attractive beging was there.
 Students were attentive & listen carefully.

Pingui
 पर्यवेक्षकाची सही
 (Sign. of Supervisor)

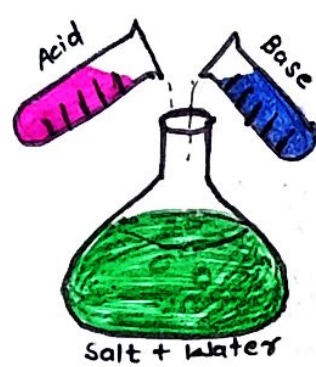
पाठ क्रमांक (Lesson No.): 5
विद्यालयाचे नांव: Nagar Parishad High School, Saoner.
पाठ साहित्य: Model, duster, chalk, black board, Pointer, etc.
विषय (Subject): Chemistry
विषयांश: Acid and Base
पूर्वज्ञान: (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना: (Introduction)		<ol style="list-style-type: none"> To arise previous knowledge. To create an atmosphere in class. To correlate previous knowledge to present topic. To let the student know the importance of the topic. To develop scientific attitude.
हेतूकथन: (Statement of Aim)	So today we are going	to learn
विषय प्रतिपादन: (Presentation)	Acids and Bases	

Chemistry

दिनांक (Date):
उपविषयांश: ① Acid and Base
(Sub-Topic)
इयत्ता (Class): 9th.
② Properties of Acid and Base.
तासिका: 1st वेळ: 40 min.
(Period) (Time)

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Teacher ask some question based on previous knowledge</p> <ol style="list-style-type: none"> ① Do you test lemon? How it is? ② Is lemon juice sour? ③ What is called compound? ④ What is compound in Example? 	<p>Students give expected answer.</p> <p>→ Yes, it is sour.</p> <p>→ Sour taste is usually found in fruits like orange, grapes, lemon etc.</p> <p>→ A compound is a substance made up of two or more different chemical elements combined.</p> <p>→ A compound is a material composed of two or more components. Water, Carbon dioxide and table salt.</p>
about "Acids and Bases."	
<p>Teacher explains about Acids.</p> <p>It is defined as a chemical compound with a sour taste and a pH value less than 7</p> <p>Examples of organic acids are acetic acid (vinegar), citric acid (lemon juice), lactic acid (Milk) and organic acids are hydrochloric acid (HCl), sulphuric acid (H₂SO₄)</p>	Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
		knowledge Student recognize and tells about what is acid.
	Properties of Acids and Base.	
		knowledge Student recognize and tells about How to react acid.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>nitric acid HNO_3.</p> <p>Base It is defined as a chemical compound which has a bitter taste and a pH value more than 7. Example are Sodium hydroxide (NaOH), Calcium hydroxide (Ca(OH)_2), Potassium hydroxide (KOH)</p> <p>Teacher ask some question.</p> <p>① What is acid?</p>	<p>Students give answer.</p> <p>→ An acid is any hydrogen containing substance that is capable of donating a proton (hydrogen ion) to another substance.</p>
<p>Teacher explains about chemical properties of Acids and Bases.</p> <p>"Natural Indicators are litmus, Turmeric and Red cabbage, petals of flowers like Petunia and Geranium; Litmus is a natural, most common indicator used to determine the pH value of any substance. Acids change the colour of blue litmus to red while Bases change the colour of red litmus paper to blue.</p> <p>Synthetic Indicator are Methyl orange and Phenolphthalein synthesized in lab to test acids and bases.</p> <p>Teacher ask some question</p> <p>① What is called ea acid?</p>	<p>Students listen carefully</p> <p>Students give answer.</p> <p>→ An acid is any substance that in water solution tastes sour, changes blue litmus paper to red, reacts with some metals to liberate hydrogen, reacts with bases to form salts, and promotes chemical reaction.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge. ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and imple. mentation of student. ③ To use leisure time at home

फलक - लेखन (Black-Board Writing)

Class - 9 th Time - 45 min	BLACK BOARD Date -
Topic :- Acids and Bases	
ACID	BASE
→ Sour in taste	→ Bitter in taste
→ Change the blue litmus to red.	→ Change red litmus to blue.
→ eg. Hydrochloric Acid HCl	→ eg. Sodium hydroxide NaOH
→ Sulphuric Acid H_2SO_4	→ Potassium hydroxide KOH
→ Nitric Acid HNO_3	→ Calcium hydroxide $Ca(OH)_2$
→ Acetic Acid CH_3COOH	→ Ammonium hydroxide NH_4OH
Home Work :- How do you identify acids and bases?	

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher summarizes the topic and ask some question on it. ① What is base?	Students give answer. → A base is a molecule or ion able to accept a hydrogen ion from an acid.
② What is acid Example?	→ The word acid comes from the Latin words acidus or acere, which mean 'sour', since one of the characteristics of acids in water is sour taste. vinegar.
Teacher write Home work on the black board. How do you identify acids and bases?	Students note down their Home work in Note book.

अभिप्राय (Remarks)

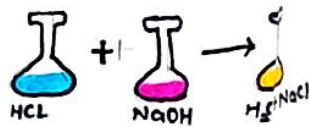
B.B. work was good.
Teaching aid was used.

Bingai

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.):	विषय (Subject):	
विद्यालयाचे नांव : Nagor Parishad High School Saoner.	विषयांश : Neutralization (Topic)	
पाठ साहित्य : Model duster, chalk, black board, Pointer etc.	पूर्वज्ञान : (Previous Knowledge)	
पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> 1 To arise previous knowledge. 2 To create an atmosphere in class. 3 To correlate previous knowledge to present topic. 4 To let the student know the important of the topic. 5 To develop scientific attitude.
हेतूकथन : (Statement of Aim)	So, today we are going to learn	
विषय प्रतिपादन : (Presentation)	① Neutralization	

Chemistry		दिनांक (Date):
उपविषयांश : ① Neutralization (Sub-Topic)	इयत्ता (Class): 9th	तासिका : 2nd (Period)
② Neutralization reaction.	वेळ : 50 min (Time)	
अध्ययनानुभव (Learning Experience)		
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)	
<p>Teacher asks some question based on previous knowledge</p> <ol style="list-style-type: none"> ① What is acid? ② What is base? ③ What is the function of electron proton and neutron? ④ What is Neutralize solution? 	<p>Students give expected answer.</p> <p>→ An acid is any substance that in water solution tastes sour, changes blue litmus paper to red.</p> <p>→ A base is a substance that can neutralize the acid by reacting with hydrogen ions.</p> <p>→ The proton forms the nucleus, while the electron orbits around it.</p> <p>→ A chemical reaction where an acid and a base react with each other quantitatively</p>	
about " Neutralization Reaction"		
<p>Teacher explains about Neutralization.</p> <p>A neutralization reaction can be defined as a chemical reaction in which an acid and base quantitatively react together to form a salt and water as products. In a neutralization reaction, there is a combination of H^+ ions and OH^- ions which form water.</p>	Students listen carefully.	

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
		knowledge Student recog- nize and tells about neutralization.
	Neutralisation Reaction	
	<p>acid + base (alkali) \rightarrow salt + water</p>  <p>ACID + BASE \rightarrow H⁺OH⁻ + SALT</p> <p>Fig - Neutralization Reaction Equation</p>	knowledge Student recog- nize and tells reaction and type of reaction is neutralization.

अध्ययनानुभव (Learning Experience)	शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	<p>A neutralisation reaction is generally an acid-base neutralization reaction.</p> <p>Teacher ask some question.</p> <p>① What is called neutralization?</p> <p>Teacher explains about Neutralization reaction. The neutralisation reaction is best represented as.</p> <p>Acid + Base \rightarrow Salt + Water.</p> <p>When a strong acid reacts with a strong base the resultant salt is neither acidic nor basic in nature.</p> <p>Examp when HCl (Hydrochloric acid) a strong acid, reacts with NaOH, a strong base, the resulting salt is sodium chloride water.</p> <p>$\text{HCl} + \text{NaOH} \rightarrow \text{NaCl} + \text{H}_2\text{O}$</p> <p>When a strong acid reacts with weak base the resultant salt is acidic in nature.</p> <p>$3\text{HNO}_3 + \text{Fe}(\text{OH})_3 \rightarrow \text{Fe}(\text{NO}_3)_3 + 3\text{H}_2\text{O}$</p> <p>Teacher ask some Question.</p> <p>① How to neutralise NaOH with HCl?</p> <p>② What type of reaction is neutralization?</p>	<p>Students give answer.</p> <p>\rightarrow Neutralization is a type of chemical reaction in which an acid reacts with a base to form salt and water.</p> <p>Students listen carefully.</p> <p>Students give answer.</p> <p>$\rightarrow \text{HCl}(\text{aq}) + \text{NaOH}(\text{aq}) \rightarrow \text{NaCl}(\text{aq}) + \text{H}_2\text{O}(\text{l})$ heat</p> <p>\rightarrow A reaction between an acid and base is called a neutralization and these can be considered to be a type of displacement reaction.</p>

पाठ्याया पायन्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		① To strengthen acquired knowledge ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home.

फलक - लेखन (Black-Board Writing)

Date

BLACK BOARD

class -

Subject - Chemistry

Time -

Topic - Neutralization.

NEUTRALIZATION

$$\text{H}_3\text{O}^+ + \text{OH}^- \rightarrow 2\text{H}_2\text{O}$$

$\begin{array}{c} \text{H} \quad \text{O} \\ | \quad / \\ \text{H} \end{array}$

$\begin{array}{c} \text{O} \\ / \quad \backslash \\ \text{H} \quad \text{H} \end{array}$

Neutralization Reaction

Acid + base (alkali) → Salt + Water

Acids and bases pH of the products varies.

Strength of Acid	Strength of base	Resultant pH
Strong	Strong	7
Strong	Weak	< 7
Weak	Strong	> 7
Weak	Weak	if $K_a > K_b > 7\text{pH}$ if $K_a < K_b < 7\text{pH}$ if $K_a = K_b = 7\text{pH}$

Home work:- What is the pH value of Strong acid and base during neutralisation?

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher Summarises the topic and ask some question. ① What is Neutralisation given example? ② What is the neutralization reaction used in daily life?	Students gives Answers → Example - When Sodium Hydroxide (NaOH), a base, reacts with Hydrochloric acid it forms the salt, sodium chloride and water. → To treat wasp stings that are alkaline in nature, vinegar is used. To treat bee stings and bites that are acidic in nature.
Teacher write Home work on black board. What is the pH value of strong acid and base during neutralisation?	Students Note down their Home work in Note Book.

अभिप्राय (Remarks)

Class control was there.
Concept was teach properly.
Good lesson.

Binghi

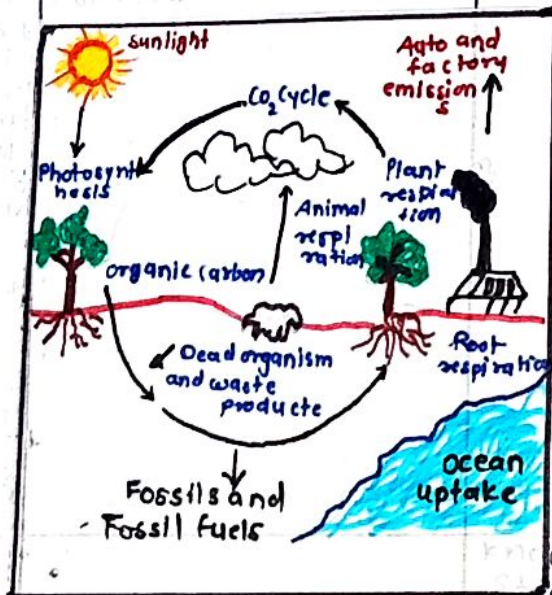
पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.):	विषय (Subject):	
विद्यालयाचे नांव : <u>Nagar Parishad High School Samner.</u>	विषयांश : <u>Fossil fuel.</u>	
पाठ साहित्य : <u>Model durner, chalk, black board, pointer, etc.</u>	(Topic) <u>Coal</u>	
पाठ साहित्य : <u>Model durner, chalk, black board, pointer, etc.</u>	पूर्वज्ञान : <u></u>	
पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> 1 To arise previous knowledge. 2 To create an atmosphere in class. 3 To correlate previous knowledge to present topic. 4 To let the student know the importance of the topic. 5 To develop scientific attitude.
हेतूकथन : (Statement of Aim)	So, today we are going	to learn
विषय प्रतिपादन : (Presentation)	Fossil	

Chemistry	
उपविषयांश : (Sub-Topic)	दिनांक (Date):
① Fossil	
② Coal and carbonization process	इयत्ता (Class): 8th
	तासिका : 5th
	वेळ : 45 min
अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask some question based on previous knowledge of the student.	Students give expected answer.
① Resources like Air, Sunlight, water, minerals, Soil are called as ?	→ Air, water, sunlight, minerals are called as "Natural Resources".
② What is meaning of Resource ?	→ Resource means anything in world available that exists in equilibrium and can be used by living organisms.
③ How are Natural Resources classified ?	→ They are classified as, 1) Renewable Natural Resource. 2) Non-Renewable.
④ Resources like Plastic, resins, Paints, fibres, explosives, drugs are called as ?	→ Plastic, Paints, fibre, explosive, drugs, etc are called Man-made Resources.
about "A fossil fuel coal."	
Teacher explains about Fossil :- Fossil are formed where dead animals and plants which died millions of years ago, were buried deep in earth and got covered with sediments like Sand, stones, away from reach of air. Due to high and external pressure inside earth converted into fossils. Natural fuel formed from the remains of dead organisms buried deep inside earth long ago fossilized.	Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
		<p>Knowledge -</p> <p>Student recall meaning of Fossils.</p> <p>Understanding Student tells the types of fossil fuel.</p>

Coal and carbonization.
Process.



Knowledge -

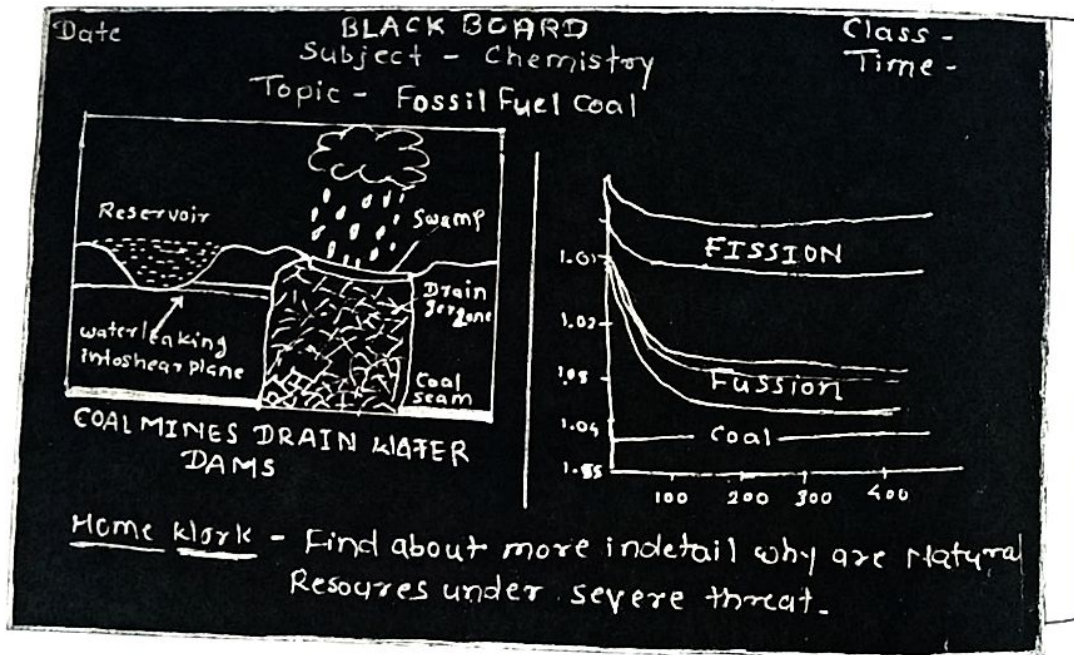
Student recognize and tells the def about coal.

Understanding Student understand how is coal formed.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>due to external pressure and temperature are fossil fuels. They are three types ① coal ② Petroleum ③ Natural Gas.</p> <p>Teacher ask question.</p> <p>① State meaning of word "Fossil"?</p> <p>② What are types of fossil fuel?</p>	<p>Students give answer.</p> <p>→ Fossils are sediments formed from remains of dead organisms deep inside earth.</p> <p>→ Coal, Petrol, Diesel, Crude Natural Gas etc are types of Fossil fuel.</p>
<p>Teacher explains about coal and carbonization.</p> <p>Coal is hard, black, combustible mineral that consists mainly of carbon. Carbon is an element found in earths crust found heavily in all living organisms. The slow process by which dead plants and organisms buried deep in earths crust converted into black rock sediment called coal.</p> $C + O_2 \rightarrow CO_2 + \text{Heat (energy)}$ <p>Coal is also used to make coke, coal tar, coal gas, etc.</p> <p>Teacher ask some question.</p> <p>① Define Coal.</p> <p>② What elements is coal made up of?</p> <p>③ How is coal formed by which process?</p>	<p>Students listen carefully.</p> <p>Students give answer.</p> <p>→ Coal is a dark hard combustible mineral.</p> <p>→ Carbon is present in coal.</p> <p>→ Carbonization is process for coal formation.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge. ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home.

फलक - लेखन (Black-Board Writing)



अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher summarizes the topic and ask some question on it.	Students give answer.
① What is real source of energy for coal?	→ Solar energy is real source of energy for coal.
② Where is coal found in India?	→
③ Approx how many year was coal formed?	→ 300 millions years ago coal was formed.
Teacher write Home-work on the black board. Find about more in detail why are Natural Resources under severe threat.	Students Note down their home work in note book.

अभिप्राय (Remarks)

Nice presentation of topic

Good command on subject.

Teaching aid used properly.

Binghi

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): _____
 विद्यालयाचे नांव : Nagar Parishad High School Saoner. विषयांश : Petroleum oil
 (School Name) (Topic)
 पाठ साहित्य : Model, duster, chalk, black board, pointer etc. पूर्वज्ञान :
 (Teaching Aids) (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		① To arise previous knowledge. ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the important of the topic. ⑤ To develop scientific attitude.
हेतूकथन : (Statement of Aim)	So, today we are going to learn	
विषय प्रतिपादन : (Presentation)	Petroleum oil	

Chemistry

दिनांक (Date): _____

उपविषयांश ① Petroleum oil
(Sub-Topic)

इयत्ता (Class): 8th

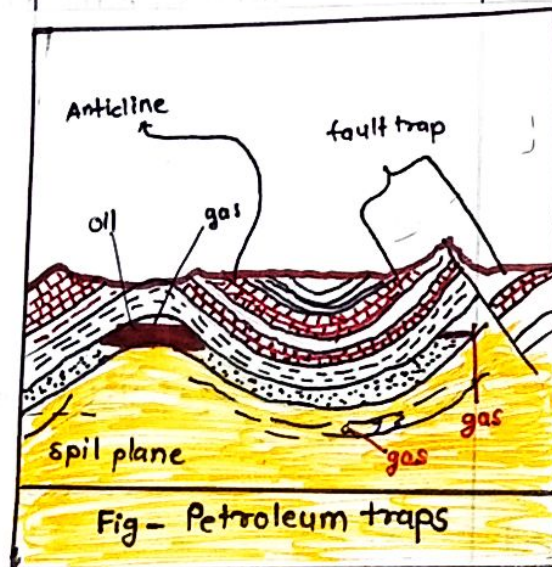
② Refining of Petroleum oil

तासिका : २५व वेळ : ९० मिन
(Period) (Time)

अध्ययनानुभव (Learning Experience)

शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask some question based on previous knowledge of the student. ① What is a liquid fuel used on light automobile? ② What is a liquid fuel used in heavy automobile? ③ Which gas is used in name to cook food? ④ Name a liquid which is used in stoves and Lantens?	Students give expected answer. → Petrol is used in light and small automobile. → Diesel is used in heavy automobile. → Petroleum Gas or Li gas is used in home to cook food. → kerosene is used in Stoves and Lantens.
about " Petroleum oil "	
Teacher explains about Petroleum oil. It is dark coloured, thick crude oil found deep below the ground in certain areas. It is a complex mixture of compounds known as hydrocarbons. Just like coal, Petroleum is also a fossil-fuel. Petroleum oil was formed by the decomposition of the remains of plants and animal buried under the sea millions years	Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
		Understanding Student are able to explain process of formation of petroleum oil in own words.
	Refining of Petroleum oil	

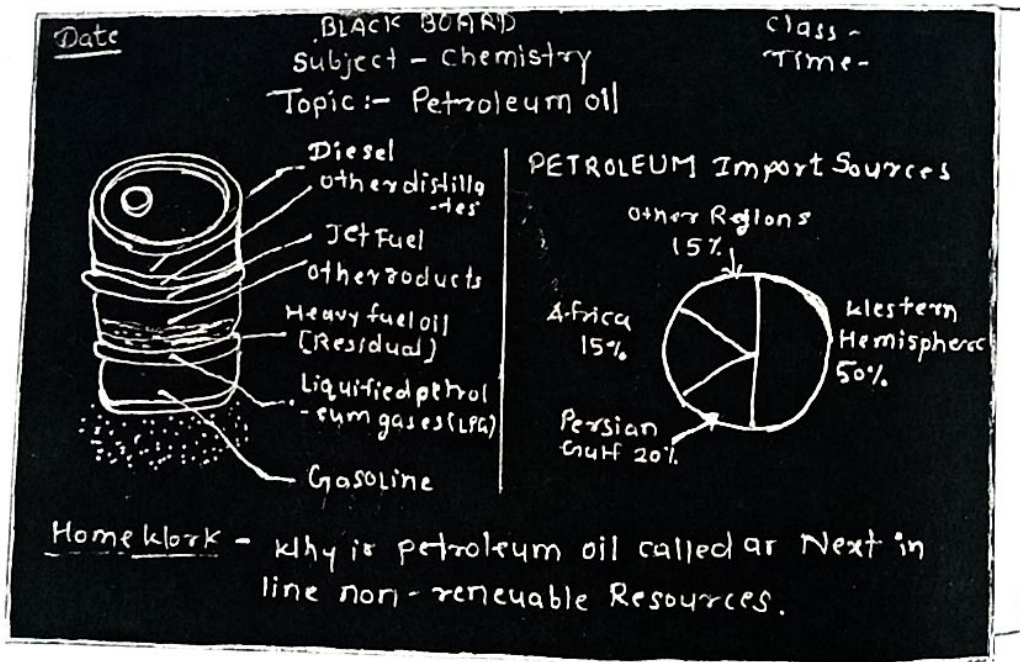


Knowledge -
Identify
recognize
and tell about
Refining of
Petroleum

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
ago Due to high pressure and temperature, action of bacteria, absence of air the dead remains slowly converted into petroleum. Teacher ask some question ① Petroleum is a non-renewable Resource? ② What is petroleum in nature?	Students give answer. → Non-Renewable Resources are once which once used up takes million time to form. And Petroleum oil is our such resource which is limited in origin. → Petroleum is a hydrocarbon it is dark coloured and density is less than water.
Teacher explains about Refining of Petroleum oil. The process of separating crude petroleum oil into more useful reactions is called Refining. The refining of petroleum into different product is based on fact that different products have different boiling points. Refining is carried out in oil Refinery, and various products obtained Petrol - LPG - Diesel. Kerosene - Lubricating oil. Teacher ask some question. ① Where is petroleum Refining carried out? ② Give example of various Petroleum components?	Students listen carefully. Students give answer. → In oil Refining with Fractional Distillation. → Petrol, Diesel, Kerosene, LPG are various components of liquid oil.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strength acquired knowledge ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home

फलक - लेखन (Black-Board Writing)



अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Teacher Summarises the topic and ask some question on it.</p> <ol style="list-style-type: none"> ① What is Petroleum Refining? ② How is Petroleum oil formed in nature? 	<p>Students give answer.</p> <p>→ The process by which petroleum oil is separated into various components.</p> <p>→ Petroleum oil is formed due to extreme conditions being subjected on dead buried plants and animals deep in earth.</p>
<p>Teacher write Home-work on the black board.</p> <ol style="list-style-type: none"> ① Why is Petroleum oil called as Next in line Non-renewable Resources. 	<p>Students Note down their home work in Note Book.</p>

अभिप्राय (Remarks)

Lesson was so Good.
Good Question answer skill
nice lesson.

Pingiri

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): _____
 विद्यालयाचे नांव : Nagar Pratschal High School, Samner. विषयांश : Natural gas
 (School Name) (Topic)
 पाठ साहित्य : Model, duster, chalk, black board, pointer etc. पूर्वज्ञान : _____
 (Teaching Aids) (Previous Knowledge)

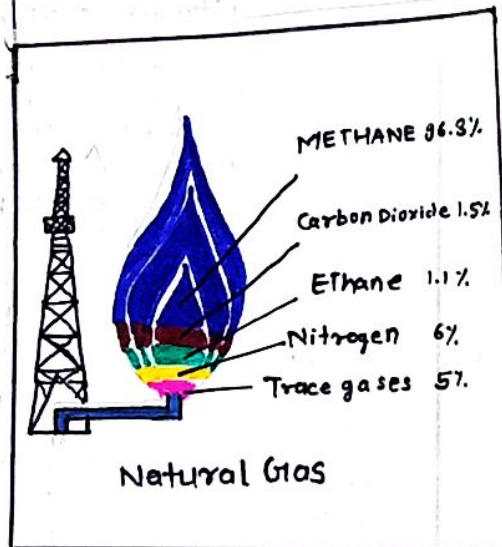
पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		① To arise previous knowledge ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the important of the topic. ⑤ To develop scientific attitude.
हेतुकथन : (Statement of Aim)	So today we are going to learn	
विषय प्रतिपादन : (Presentation)	① Natural gas	

Chemistry
 उपविषयांश : ① Natural gas दिनांक (Date): _____
 (Sub-Topic) इयत्ता (Class): 8th
 ② Type of Natural gas. तारिका : _____
 (Period) 2nd वेळ : 5:30 PM
 (Time)

शिक्षक कृती (Teacher Activity)	अध्ययनानुभव (Learning Experience)
Teacher ask some questions based on previous knowledge of the student. ① What is gas? ② Give example of gas? ③ What is an example of a gas at home?	विद्यार्थी कृती (Pupil Activity) Students give expected answer. → Matters which have indefinite shape and volume are called gases. → Example - air, oxygen, hydrogen, nitrogen, carbon-dioxide etc. → Gas used in homes is either propane, butane or a mixture of the two. The other type of gas used in homes is natural gas or CNG, both of which are methane.
about "Natural gas,"	
Teacher explains about Natural gas. Natural gas is a fossil fuel. It consist of mainly methane with small quantities of ethane and propane. Methane is usually in amount. Occurance - Natural gas is found deep in earth's crust either above or along with oil above petroleum deposits. Thus, some wells dug into earth	Students listen carefully.

पाठ्याया पायन्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
		knowledge - Student recognize and tells about Natural gas.

② Type of Natural Gas.



Understanding -
Student are able
to explain How
natural gas is
produced and
uses of natural
gas.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>and Natural gas. It is formed above decomposition of vegetables matter lying under water.</p> <p>Teacher ask some question</p> <p>① What is Natural gas?</p> <p>② What is Natural gas made up of?</p> <p>Teacher explains about Types of Natural Gas. Natural gas that is economical to extract and easily accessible is considered, "conventional". Conventional gas is trapped in permeable material beneath impermeable rock. Natural gas found in other geological setting is not always so easy or practical to extract. This gas is called "unconventional". New technologies and processes are always being developed to make this unconventional gas more accessible and economically viable.</p> <p>Teacher ask some question</p> <p>① How natural gas is produced?</p> <p>② What are the 3 biggest uses of natural gas?</p>	<p>Students give answer.</p> <p>→ It is a fossil fuel found deep in earth's crust.</p> <p>→ 95% methane and 5% propane ethane makes Natural gas.</p> <p>Students listen carefully.</p> <p>Students give answer.</p> <p>→ Natural gas is extracted from subsurface rock formations via drilling.</p> <p>→ There are 3 uses of natural gas which are much more significant than the other: Heating Electricity generation Industrial use.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge. ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and imple-mentation of student. ③ To use leisure time at home.

फलक - लेखन (Black-Board Writing)

Date	BLACK BOARD	Class -
	Subject - Chemistry	Time -
	Topic - Natural Gas	
Properties of Natural Gas <ul style="list-style-type: none"> • Equations and properties use in course. • Real gas law, z-factor, density and FVF. • Corresponding states • Viscosity of natural gas • Heat capacity and heat capacity ratio. 		
Home work :- Where is natural gas found?		
Natural gas is 96% Methane gas - CH_4 Also contains small percentage of: <ul style="list-style-type: none"> Ethane 2.1 % Propane <1% Butane <1% Pentane <1% Hexane <1% Heptane <1% 		

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher summarizes the topic and ask some question on it ① Why is it called natural gas? ② What is natural gas examples?	Students give answer. → A naturally occurring flammable gas that can be used as a fuel or source of energy for a wide range of purpose like cooking heating, transportation, and power generation. → Natural gas examples are Methane, ethane, butane and propane.
Teacher write Homework on the Black board. ① Where is natural gas found?	Students Note down their home work in Note book.

अभिप्राय (Remarks)

presentation was good.
 Introduction was proper.
 Body language was good.

Bigini

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): _____

विद्यालयाचे नांव : Nagar Parishad High School Saoner. विषयांश : Chemical bonding
(School Name) (Topic)

पाठ साहित्य : Model, cluster, chalk, black board, pointer, etc. पूर्वज्ञान : _____
(Teaching Aids) (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> ① To arise previous knowledge ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the importance of the topic. ⑤ To develop scientific attitude.
हेतूकथन : (Statement of Aim)	So today we are going to learn	
विषय प्रतिपादन : (Presentation)	chemical bonding	

Chemistry

उपविषयांश : ① Chemical bonding दिनांक (Date): _____
(Sub-Topic) इयत्ता (Class): 8th
तासिका : 2nd वेळ : 45 min
(Period) (Time)

अध्ययनानुभव (Learning Experience)	शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	<p>Teacher ask some question based on previous knowledge of the student.</p> <ol style="list-style-type: none"> ① What is bond? ② Bond can be form by? ③ When the bond can be form? ④ Atoms Shows the presence of ? 	<p>Students give expected answer.</p> <ul style="list-style-type: none"> → Bond between any two things are interconnected with each other. → Bond can be form by sharing of electron betⁿ two atom. → When the valance electrons are present in an atom the bond can be form. → Show the presence presence of proton, neutron & electron.
	about " Chemical bonding".	
	<p>Teacher explains about chemical bonding & chemical bond formed between atoms of non-metal. They do not form loos when bonding Happens with valance electrons only.</p> <p>Properties.</p> <ol style="list-style-type: none"> ① Exists as solid, liquid and gaseous. 	Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
	<p>Chemical Bonding</p> <p>Ionic Covalent</p> <p> $\text{Na}^\bullet : \ddot{\text{Cl}} :$ $\text{H} \text{---} \text{H}$ $\text{Na}^+ : \ddot{\text{Cl}}^- :$ </p>	<p>Understand - student give the example of Ionic bond and at tel) knowledge - student recognize and tel about chemical bond.</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>② Bad conductor & insulable in polar solvent.</p> <p>③ Low melting & boiling point.</p> <p>④ Create ions an charged particles...</p> <p>chemical bond is of two type - Ionic bond & covalent bond.</p> <p>It is force of attraction or bond formed due to transfer of electron. It Shows cation & anion. Cation is chemical species that carries positive charge. Ex Na^+, Al^{3+}, K^+, Mg^{2+}. Anion is chemical species that carries -ve charge eg Cl^-, Br^-.</p> <p>Teacher ask some question.</p> <p>① Give an example of Ionic bond</p> <p>② Give one choos acter of chemical bond.</p> <p>③ chemical bond can be form in which states?</p>	<p>Students listen carefully.</p> <p>Students give answer</p> <p>→ NaCl is the example of Ionic bond [$\text{NaCl} \rightarrow \text{Na}^+ \text{Cl}^-$]</p> <p>→ Chemical bond is bad conductor & insulable in polar solvent.</p> <p>→ It can be form in solid, liquid & gases state.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge. ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home.

फलक - लेखन (Black-Board Writing)

Date _____

BLACK BOARD

Subject-Chemistry

Topic - Chemical bonding

Class - _____

Time - _____

Type of Chemical Bonds

① Ionic Bond

Metal atom loses electron(s) to nonmetal atom

$\text{Na} \cdot \text{Cl} \cdot \rightarrow \text{Na}^+ : \text{Cl}^-$

Sodium Chlorine Sodium Chloride.

② Covalent Bond

Two nonmetal atoms share electron.

$\text{O} \cdot \text{O} \cdot \rightarrow \text{O} : \text{O}$

Oxygen atoms oxygen molecule

Home Work - Collect & write information about chemical bond formation, types and its example.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher summarizes the topic and ask some question on it. ① What are covalent bond?	Students give answer. → A covalent bond consists of mutual sharing of one or more pair of electrons between two atoms.
② Physical properties of covalent bond is?	→ Sodium It have generally low melting & boiling point.
Teacher write Home-work on the black board. ① Collect & write information about chemical bond formation, types & example.	Students Note down their home work in Note Book.

अभिप्राय (Remarks)

student's response was proper.

Explanation was good

Lesson was good

Bingui

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 3 विषय (Subject): Chemistry
 विद्यालयाचे नांव: Nagan Parishad High School Samner. विषयानुसार: Chemical Reaction.
 पाठ साहित्य: Model, cluster, chalk, black board, pointer etc. पूर्वज्ञान: Student
 (Teaching Aids) (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> 1) To arise previous knowledge. 2) To create an atmosphere in class. 3) To correct the previous knowledge to present topic. 4) To let the student know the important of the topic. 5) To develop scientific attitude.
हेतूकथन : (Statement of Aim)	So today we are going	to learn
विषय प्रतिपादन : (Presentation)	<ol style="list-style-type: none"> 1) Chemical Reaction. <p>Type of chemical Reactions.</p> <p>a) Combination Reaction</p>	

Chemistry
 उपविषयानुसार: 1) Chemical Reaction
 (Sub-Topic) 2) Type of Reaction
 ज्ञानाचा आढावा: knowledge about valency and balancing the chemical
 शिक्षक कृती (Teacher Activity) अध्ययनानुभव (Learning Experience)
 दिनांक (Date): _____
 इयत्ता (Class): 8th
 तारिका (Period): 2nd वेळ: 30 min
 (Time)

शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask some question based on previous knowledge of the student.	Students give expected answer.
1) What is the symbol of magnesium, oxygen and carbon?	→ Symbols of magnesium, oxygen and carbon are Mg, O, C respectively.
2) Write the valency of magnesium, oxygen and carbon.	→ Valency of magnesium, oxygen and carbon are 2, 2, 4 respectively.
3) What do you mean by Reactant and product?	→ The substance which take part in a chemical reaction are called reactant and the substances formed due to the chemical reaction are called product.
about " Chemical Reaction "	

Teacher explains about Chemical Reaction.
 Chemical Reaction is the process which transform one or more substance into new substance with new properties.

Type of Chemical Reaction

1) Combination Reaction -
 The reaction in which two or more substance combine to form a single substance under suitable condition are called combination

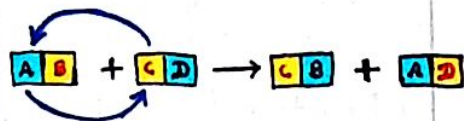
Students listen carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
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b) Decomposition Reaction

Knowledge - Student recognize and tells about chemical Reaction.
Understanding - Student clear the reaction of combination and decomposition.

c). Displacement & Double Displacement Reaction.



A and c are cations (Positive Ions)
B and D are Anions (Negative Ions)

DOUBLE DISPLACEMENT REACTION

Knowledge - Student recognize about chemical Reaction.
Understanding - Student clear the reaction of displacement and Double displacement reaction.

अध्ययनानुभव (Learning Experience)

शिक्षक कृती (Teacher Activity)

- ① Decomposition Reaction
The reaction in which a single substance decomposes into two or more simple substance under suitable condition are called decomposition Reaction.
Teacher ask some question.
① Can You give an example of combination Reaction?
② Can You give an example of Decomposition Reaction?

Teacher explain about Type of chemical reaction.
Displacement Reaction:- The chemical Reaction in which one element of a reactant takes the place of another element present in another reactant is called displacement Reaction.
Double Displacement Reaction:- A chemical reaction in which one component each of both the reacting molecule get exchanged to form new product is called double displacement reaction.

- Teacher ask some question
- ① Give example of Displacement reaction?
 - ② Give example of Double displacement reaction?

विद्यार्थी कृती (Pupil Activity)

Students give answer.
→ Example of combination Reaction.
 $Mg + O_2 \rightarrow 2MgO$
→ Example of decomposition Reaction is
 $2KClO_3 \rightarrow 2KCl + 3O_2$

Students listen carefully.

Students give answer.
→ Example of Displacement Reaction $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$
→ Example of Double displacement Reaction
 $AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home

फलक - लेखन (Black-Board Writing)

Date _____ Class - 8th
 Subject - Chemistry Time - 45 min
 Topic - Chemical Reaction.

Types of Chemical Reaction

① Combination Reaction $A + B \rightarrow AB$	④ Double Displacement Reaction. $AB + CD \rightarrow AD + CB$
② Decomposition Reaction $AB \rightarrow A + B$	⑤ Oxidation & Reduction reaction. $ \begin{array}{c} \text{oxidation} \\ \downarrow \\ CuO + H_2 \rightarrow Cu + H_2O \\ \uparrow \\ \text{Reduction} \end{array} $
③ Displacement Reaction $AL + x \rightarrow Ax + L$	

H.W :- Classify the following reaction as combination Displacement reaction.

① $C_2H_4 + H_2 \rightarrow C_2H_6$ ② $NH_4Cl \xrightarrow{\Delta} NH_3 + HCl$

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher summarizes the topic and ask question on it. ① What is chemical Reaction? ② Give the Reaction of combination.	Students give answer. → A process in which one or more substances, also called reactants, are converted to one or more different substance known as products. → Combination Reaction Example. $2SO_2 + O_2 \rightarrow 2SO_3$
Teacher write Home-work on the black board. Classify the following reaction as combination, Displacement or Decomposition Reaction. ① $C_2H_4 + H_2 \rightarrow C_2H_6$ $NH_4Cl \xrightarrow{\Delta} NH_3 + HCl$	Students Note down their home work in Note book.

अभिप्राय (Remarks)

lesson was good.
 objectives were gained.

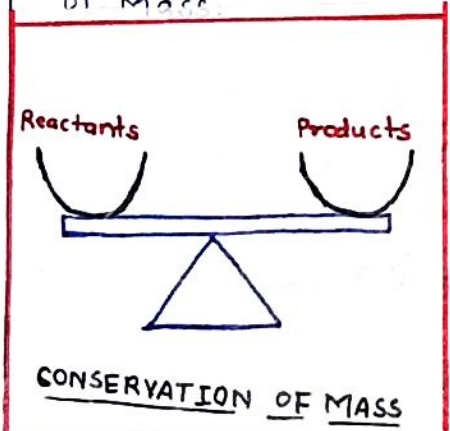
[Signature]
 पर्यवेक्षकाची सही
 (Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 9 विषय (Subject): Chemistry
 विद्यालयाचे नांव: Nagar Parishad High School Samner. विषयांश (Topic): Language of Chemistry
 पाठ साहित्य: Periodic table, black board, chalk etc. पूर्वज्ञान: Students
 (Teaching Aids) (Previous Knowledge)


विषयांश: Balancing a chemical equation. दिनांक (Date): _____
 (Sub-Topic) (Class): 8th.
 तासिका: 3rd वेळ: 30 min.
 (Period) (Time)

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask some questions based on previous knowledge of the student. ① What are the symbols of copper, Oxygen & calcium? ② Can you tell me the valency of copper & oxygen? ③ Can you all find the formula of copper oxide?	Students give expected answers. → Symbols of copper, Oxygen & calcium are Cu, O, Ca. → Valency of copper & oxygen are +2 and -2 respectively. → Formula of copper oxide is Cu_2O .
about "Language of Chemistry".	

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना: (Introduction)		① To arise previous knowledge. ② To create an atmosphere in class. ③ To correlate previous knowledge to present topic. ④ To let the student know the importance of the topic. ⑤ To develop scientific attitude.
हेतुकथन: (Statement of Aim)	So today we are going to learn	

विषय प्रतिपादन: (Presentation)	① Law of Conservation of Mass 	
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Teacher explains about Law of Conservation of Mass: - Mass can be neither be created nor destroyed. In a chemical reaction the total mass of the product is always equal to the sum of masses of all the reactants. Exa. $\begin{matrix} \text{H} & \text{H} \\ & \\ \text{H}-\text{H} & + & \text{O} \\ & & \\ \text{H} & & \text{O} \end{matrix} \rightarrow \begin{matrix} \text{H} & \text{O} & \text{H} \\ & & \\ \text{H}-\text{O} & - & \text{O}-\text{H} \\ & & \\ \text{H} & & \text{H} \end{matrix}$	Students listen carefully.
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पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
		Knowledge - Student recognize and tells Mass can neither be created nor destroyed. Understanding - student clear the Reaction.
	<p>② Step for balancing the equation.</p> <div style="border: 1px solid black; padding: 10px; text-align: center;">  <p>BALANCING EQUATION</p> </div>	<p>Knowledge - Student recognize and tells about How to balance equation.</p> <p>Understanding - Student clearly understand . Balance Reaction.</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Teacher ask some question</p> <p>① What can neither be created nor destroyed?</p> <p>② children you all solve this</p> $\text{C} + \text{O} \rightarrow$	<p>Students give answer.</p> <p>→ Mass can neither be created nor destroyed.</p> <p>→ Reaction</p> $\text{C} + \text{O} \rightarrow \text{CO}$
<p>Teacher explain about Step for balancing the equation</p> <p>We start by balancing Fe, Since it has a high molecular mass atom and only appears once on the reactant & the product side. we see that there are three Fe atoms on the product side. so we can balance Fe by adding a coefficient '3' to Fe on the reactant side.</p> <p>Having balanced Fe, we can then turn to Oxygen Since it Occure with Fe in Fe_3O_4. and we have already balanced Fe. There are four atom of oxygen on the product side so we can balance oxygen by placing coefficient of '4' in front of H_2O on the reactant side.</p> <p>Teacher ask some que.</p> <p>① Equation will be</p> $3\text{Fe} + \text{H}_2\text{O} \rightarrow$ <p>② $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow$</p>	<p>Students listen carefully.</p> <p>Students give answer.</p> <p>→ $3\text{Fe} + \text{H}_2\text{O} \rightarrow 1\text{Fe}_3\text{O}_4 + \text{H}_2$</p> <p>$3\text{Fe} + 4\text{H}_2\text{O} \rightarrow 1\text{Fe}_3\text{O}_4 + \text{H}_2$</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ol style="list-style-type: none"> ① To strengthen acquired knowledge. ② To revise the topic. ③ To recall the gain knowledge. ④ To test student knowledge. ⑤ To summarise the given topic.
गृहपाठ : (Home-Work)		<ol style="list-style-type: none"> ① To develop the habit of self study. ② To develop writing skill and implementation of student. ③ To use leisure time at home.

फलक - लेखन (Black-Board Writing)

Date

BLACK BOARD

Subject - Chemistry

Topic - Language of chemistry

Class - 8th

Time - 45 min

* Law of Conservation of Mass.

$\text{C} + \text{O} \rightarrow \text{CO}$

Steps:-

$$\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$$

Adding 3 to Fe in the left side.

Home Work:-

- ① What is a balanced chemical equation?
- ② Balancing the following equation.

$$\text{Zn} + \text{NaOH} \rightarrow \text{Na}_2\text{ZnO}_3 + \text{H}_2$$

$$3\text{Fe} + \text{H}_2\text{O} \rightarrow 1\text{Fe}_3\text{O}_4 + \text{H}_2$$

Adding 4 to H₂O in reactant

Adding 4 to oxygen on the product side.

$$3\text{Fe} + 4\text{H}_2\text{O} \rightarrow 1\text{Fe}_3\text{O}_4 + \text{H}_2$$

Adding 8 hydrogen on right side in product.

$$3\text{Fe} + 4\text{H}_2\text{O} \rightarrow 1\text{Fe}_3\text{O}_4 + 4\text{H}_2$$

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Teacher summarizes the topic and ask some question on it.</p> <ol style="list-style-type: none"> ① Why should chemical equation be balanced? ② What is the balanced equation for $\text{CO}_2, \text{H}_2\text{O}$ and $\text{C}_6\text{H}_{12}\text{O}_6, \text{O}_2$? 	<p>Students give answer.</p> <p>→ The law of conservation of mass states that the mass can neither be created nor be destroyed.</p> <p>→ The balance chemical equation is</p> $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
<p>Teacher write Homework on the Black Board.</p> <ol style="list-style-type: none"> ① What is a balanced chemical equation? <p>Balancing the following equation.</p> $\text{Zn} + \text{NaOH} \rightarrow \text{Na}_2\text{ZnO}_3 + \text{H}_2$	<p>Students Notedown their Home work in Note Book.</p>

अभिप्राय (Remarks)

Lesson was good.

Evaluate students properly.

recapitulation was proper

B. Singh

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): _____ विषय (Subject): Chemistry
विद्यालयाचे नांव : Nagar Parishad High School Samner विषयांश : Atom
(School Name) (Topic)
पाठ साहित्य : _____ पूर्वज्ञान : _____
(Teaching Aids) (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ol style="list-style-type: none"> To arise previous knowledge. To create an atmosphere in class. To correlate previous knowledge to present topic. To let the student know the importance of the topic. To develop scientific attitude.
हेतुकथन : (Statement of Aim)		So today we are going to learn about "Atom and Molecule."
विषय प्रतिपादन : (Presentation)		

संविधान तक्ता (Blue Print)

(Blue Print)

क्र. सं. (Sl. No.)	उपघटक (Sub Unit)	उद्दिष्ट (Objectives)									एकूण गुण (Total Marks)
		ज्ञान (Knowledge)			आकलन (Understanding)			उपयोजन (Application)			
		वस्तुनिष्ठ (Objective Type)	लघुत्तरी (Short Type)	दिर्घोत्तरी (Essay Type)	वस्तुनिष्ठ (Objective Type)	लघुत्तरी (Short Type)	दिर्घोत्तरी (Essay Type)	वस्तुनिष्ठ (Objective Type)	लघुत्तरी (Short Type)	दिर्घोत्तरी (Essay Type)	
	Atom	1(2)				1(2)				4(1)	8
	Subatomic Particle	1(2)				2(2)					6
	Molecule	1(3)				2(2)				4(1)	11
	एकूण गुण (Total Marks)	7				10				8	25

Sr. No.	Subunit	Marks	%
①	Atom	8	32%
②	Subatom	6	24%
③	Molecule	11	44%
	Total Mark	25	100%

Sr. No.	Objective	Marks	%
①	Knowledge	7	28%
②	Understanding	10	40%
③	Application	8	32%
	Total Mark	25	100%

Sr. No.	Type of Que.	Marks	%
①	Objective type / Tike	7	28%
②	Short Ans.	10	40%
③	Essay type	8	32%
	Total Mark	25	100%

घटक चाचणी संविधान तक्ता
(Unit Test with Blue Print)

Time - 35 min Subject - Chemistry Total Mark - 25
Topic - Atoms and Molecule.

Que 1) Fill in the blanks:- [4 Marks]

- ① Electron posse ----- charge.
- ② ----- and ----- are found in the center of an atom.
- ③ Mass of Proton is -----.
- ④ Atom have some number of ----- and -----.

Que 2) Tick the correct Answer. [3 Marks]

- ① What is the charge of proton?
a) Positive b) Negative
c) Both d) Neutral
- ② Ozone is a ----- molecule.
a) Diatomic b) Triatomic
c) Monatomic d) None of these
- ③ Which is the example of molecular compound.
a) O_2 b) Cl_2
c) H_2O d) O_3

Que 3)

Give the correct answer of the Question in 30 words. [10 Marks]

- ① What do you mean by atom?
- ② What are sub-atomic particle?
- ③ Who discovered neutron?
- ④ What is molecule?
- ⑤ How molecule of compound is different from molecule?

Que 4)

Give the correct answer of the Question in 100 words. [8 Marks]

- ① Describe sub-atomic particle?
 - ② Define Molecule and Molecule of compound with example?
-
-

Pragati

के. डी. पवार शिक्षण महाविद्यालय
सावनेर, जि. नागपूर

K. D. PAWAR SHIKSHAN MAHAVIDYALAYA,
SAONER

शैक्षणिक सत्र 2021 - 2023
(Session)



सराव पाठ नियोजन पुस्तिका
(Practice Teaching Planning Book)

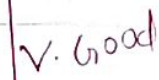
छात्र अध्यापकाचे नांव : _____
(Student-Teacher's Name) PALAK CHAUHAN

क्रमांक : _____
(Roll No.)

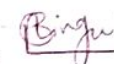
अध्यापन पद्धती : १) _____
(Methods) BIOLOGY

२) _____
CHEMISTRY

अनुक्रमणिका (Index)

क्रमांक (Sr.No.)	दिनांक (Date)	शाळा (School)	वर्ग (Class)	विषय (Subject)	पर्यवेक्षकाची सही (Sign. of Supervisor)
1.	14/09/22	water pollution.	9th	Biology	 V. Good Completed Bingui
2.	20/09/22	Nutrients in food	9th	Biology	
3.	29/09/22	Types of joint	8th	Biology	
4.	7/10/22	Types of habitats	8th	Biology	
5.	14/10/22	classification of animals.	8th	Biology	
6.	20/10/22	Types of teeth	8th	Biology	
7.	28/10/22	Steps of digestion	8th	Biology	
8.	2/11/22	Mode of Nutrition in plants	8th	Biology	
9.	10/11/22	Blood	9th	Biology	
10.	17/11/22	Digestion in Amoeba	8th	Biology	
11.	25/11/22	Different sources of water.	9th	Biology	
12.	30/11/22	Parts of Plant	8th	Biology	
13.	6/11/22	Breathing	10th	Biology	
14.	14/12/22	How do we breathe?	10th	Biology	

अनुक्रमणिका (Index)

क्रमांक (Sr.No.)	दिनांक (Date)	शाळा (School)	वर्ग (Class)	विषय (Subject)	पर्यवेक्षकाची सही (Sign. of Supervisor)
15.	20/12/22	classification of plants.	9th	Biology	 Bingui
16.	27/12/22	Types of fibers.	8th	Biology	
17.	04/01/23	Friendly micro-organisms.	8th	Biology	
18.	09/01/23	Harmful micro-organisms.	8th	Biology	
19.	13/01/23	Human excretory system.	8th	Biology	
20.	14/01/23	Aerobic and Anaerobic respiration	10th	Biology	

पाठ क्रमांक (Lesson No.): 01 विषय (Subject): Biology

विद्यालयाचे नांव: Sunflower विषयांश (Topic): Natural Resources

पाठ साहित्य: Chart paper, Paper cutouts पूर्वज्ञान (Previous Knowledge):

दिनांक (Date): 14/09/22

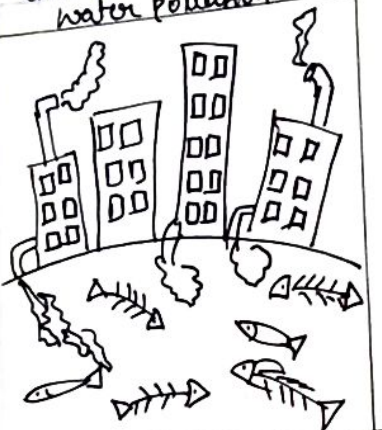
इयत्ता (Class): 9th

उपविषयांश (Sub-Topic): water pollution

तारिका (Period): 4th वेळ (Time): 11:30 am

अध्ययनानुभव (Learning Experience)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → To arouse previous knowledge. → Attracting beginning. → To developing Scientific attitude. → To link previous knowledge to present knowledge. 	<p>Teacher ask questions on previous knowledge:</p> <ol style="list-style-type: none"> (Q1) what are the basic needs of humans? (Q2) How we get water? (Q3) which water is not suitable for drinking? (Q4) How water gets polluted? (Q5) which type of pollution it causes? 	<p>Students give expected answers:-</p> <p>Basic needs of humans are air, water, food, shelter etc.</p> <p>We get water from Rain, lakes, ponds etc.</p> <p>Polluted water is not suitable for drinking.</p> <p>Due to peoples activity.</p> <p>It will cause air water pollution.</p>
हेतुकथन : (Statement of Aim)	So, today we are going to learn		about, "water pollution".	
विषय प्रतिपादन : (Presentation)			<p>Teacher explains about the topic by showing a model:-</p> <p>- Whenever harmful substances such as garbage toxic chemicals mixed with water, water becomes polluted.</p>	Students listening carefully.

पाठ्याच्या पायऱ्या (Spets of Lesson)	अद्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specification)
	<p>GANGA PROJECT <i>water pollution</i></p> 	घ
	<p>Water pollution</p> <ul style="list-style-type: none"> → organic pollutants → micro-organism → Nutrient → suspended solids and sediments → Inorganic pollution → Thermal pollution → Radioactive pollution 	<p><u>Knowledge</u> Student recall and give answer.</p> <p><u>Understanding</u> Student explain how water affect</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>A study by the world wide fund for nature (WWF) found that Ganga is one of the 10 most endangered rivers in the world.</p> <p>An ambitious plan to save the river called - 'the Ganga Action plan' was launched in 1985. It aimed to reduce the pollution level of river.</p> <p>There are some ways for purifying water:-</p> <p>① Many households use boiling as a method for obtaining safe, drinking, water. Boiling kills the germs present in water.</p> <p>② Chlorination is a commonly used chemical method for purifying water.</p> <p>Teacher ask question on topic:-</p> <p>(1) What makes water polluted?</p> <p>(2) How does water get polluted?</p> <p>(3) Does polluted water affect living beings?</p>	<p>Contamination in water makes water polluted.</p> <p>Many industries release harmful chemicals into river. People wash cloth & throw garbage into the river.</p> <p>yes it affect both animals and</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> → To fix the gain knowledge. → summing up the taught topic. → Recalling what is taught. → To evaluate the students.
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> → To develop self-study habit. → To use the lesson time. → To fix the gain knowledge.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>In order to revise topic teacher ask some questions:-</p> <p>(a) What are the different ways in which water gets contaminated?</p> <p>(b) At an individual level, how can you help reduce water pollution?</p> <p>Teacher gives homework on taught topic.</p> <p>(a) Make a list of measures that would help your town to ensure the supply of clean water.</p>	<p>Water get contaminated by washing clothes & utensils in River. By throwing garbage in rivers.</p> <p>(a) Laws should be strictly implemented. (b) We should save water at our level.</p> <p>Students writing down the homework.</p>

फलक - लेखन (Black-Board Writing)

अभिप्राय (Remarks)

Sub - Biology
Class: 9th

Date: 14/09/22

Water Pollution

Water pollution is the contamination of water bodies
e.g. = lakes, rivers, oceans.

* Water pollution Causes by:

- Marine Dumping
- Industrial waste
- mainly from households
- Nuclear waste

→ oil pollution
→ underground storage leaks.

* Water pollution Effects:

Diseases like Cholera, Malaria, Typhoid.

Aquatic life gets destroyed due to water pollution

Homework: Make a list of measures that would help your town to ensure the supply of clean water.

lesson was taken

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 02
विद्यालयाचे नांव : Sunflower School
पाठ साहित्य : Chart paper
विषय (Subject):
विषयांश : Importance of food
(Topic) of food
पूर्वज्ञान :
(Prior Knowledge)

Biology
दिनांक (Date): 20/09/22
उपविषयांश : Nutrients in food
(Sub-Topic) Nutrients
इयत्ता (Class): 9th
तासिका : 4th
वेळ : 11:30 am
(Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson)	अद्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> To arouse previous knowledge. To developing scientific attitude. To link previous knowledge to present knowledge. To motivate the students. 	<p>Teacher ask questions on previous knowledge:</p> <ol style="list-style-type: none"> (1) What is important for us to live? (2) How do we get food? (3) Why food is important for us? (4) What is essential for our growth? (5) Do all the nutrients are necessary for our body? <p>Students give expected answers:</p> <p>Food, Air, water are important to live.</p> <p>We get food from plants and animals.</p> <p>Food is important to get energy and growth.</p> <p>Nutrients are essential for our growth.</p> <p>Yes all the nutrients are very necessary for our body.</p>
हेतूकथन : (Statement of Aim)	So, today we are	going to learn	about "Nutrients in Food".
विषय प्रतिपादन : (Presentation)	Nutrients		<p>Teacher explains the topic by showing chart paper.</p> <p>We know that each and every food item are made up of different ingredient. Components that are needed by our body are called 'Nutrients'.</p> <p>Examples: Fat, vitamin, protein, carbohydrate, mineral.</p> <p>Students listening carefully.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अद्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
	<u>Carbohydrate</u> <u>Fats</u> <div data-bbox="398 464 786 831" data-label="Diagram"> </div> <u>Minerals</u>	<p><u>Knowledge</u>: Students recall what is nutrient.</p> <p><u>Understanding</u>: Students describe the energy giving food.</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>① <u>Carbohydrate</u> :- provide energy to our body.</p> <p>② <u>Fats</u> :- provide energy to our body. so, carbohydrate and fat are called "Energy giving food". Ex: wheat, maize, sweet potatoes.</p> <p>③ <u>Proteins</u> :- required for grow. In and repair of our body. so, they are called "body building food". Ex: meat, eggs, fish.</p> <p>④ <u>Vitamins</u> :- they are called protective food. Ex: fruits and vegetables.</p> <p>⑤ <u>Minerals</u> :- they maintain our health.</p> <p>Teacher ask some Questions:-</p> <p>Q1) Which type of food is good for us?</p> <p>Q2) What is nutrient?</p> <p>Q3) What are energy giving food?</p> <p>Q4) Give examples of body-building food?</p>	<p>Nutrition over food is good for us.</p> <p>A substance that is needed to keep a living thing alive and help to grow.</p> <p>Carbohydrate and fat are energy giving food.</p> <p>eggs and milk are body-building food.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> → To fix the gain knowledge → Summing up the taught topic → Recalling what is taught → To evaluate the students
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> → To fix the gain knowledge → To develop creativity → To use the lesson learnt → To develop self study attitude

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>In order to recall, Teacher ask some question on what is taught!</p> <p>(1) What are nutrients?</p> <p>(2) What is the function of vitamins.</p> <p>(3) Give some examples of vitamins.</p> <p>Teacher give homework on taught topic</p> <p>(4) Make a list of food we eat daily and mention the nutrient present in it.</p>	<p>Students answer the questions!</p> <p>components that are needed by our body to keep healthy.</p> <p>To protect our body.</p> <p>Vitamin A, Vitamin B, Vitamins, Vitamin D, E, K & B complex.</p> <p>Student writing down the homework</p>

फलक - लेखन (Black-Board Writing)

अभिप्राय (Remarks)

Sub- Biology class - 9th	Date = 20/09/22
<u>Nutrients in food</u>	
<p>① Carbohydrate rich food:</p> <p>→ Rice, potatoes, Bread, Pasta.</p> <p>② Source of Fats:</p> <p>→ Butter, Nuts, Avacadoes.</p> <p>③ Proteins:</p> <p>→ Egg, Meat, Dairy.</p>	<p>Seafood.</p> <p>④ Vitamins:</p> <p>fruits, vegetables, Greens, cereal, soyabean</p> <p>⑤ Minerals:</p> <p>→ Red meat, Milk, Seafood.</p>
<p><u>U.W</u> → Make a list of food we eat and mention the nutrients present in it.</p>	

Lesson was good

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 03
विद्यालयाचे नांव : Sunflower school
पाठ साहित्य : Chart Paper, 3D Model.
विषय (Subject):
विषयांश : Body movement
(Topic)
पूर्वज्ञान :
(Prior Knowledge)

दिनांक (Date): 29/09/22
इयत्ता (Class): 8th
तासिका : 2nd
वेळ : 8:30 am
उपविषयांश : Types of Joint
(Sub-Topic)
Student know about types of joint.

पाठ साहित्य (Teaching Aids)		अध्ययनानुभव (Learning Experience)	
पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)
प्रस्तावना : (Introduction)			
		<ul style="list-style-type: none">To revise previous knowledgeAttractive beginningTo develop scientific attitudeTo link previous knowledge to present knowledgeTo motivate students	<p>Teacher ask questions on previous knowledge?</p> <p>1) when you run which part of the body move fast?</p> <p>2) when you write which part of the body moves?</p> <p>3) why our stomach does not show any movement?</p>
हेतूकथन : (Statement of Aim)	so, today we are going to learn about "Types of Joints".		
विषय प्रतिपादन : (Presentation)	<u>Bones</u>	<p>Teacher write definition on the blackboard and explain about bones and joints.</p> <p><u>Bones</u> : Bones are the rigid organs that constitute an important part of endoskeleton of vertebrate. They support and protect the various organs of the body.</p>	<p>Students give expected answer</p> <p>Feet is the part of body which make move fast.</p> <p>Hands moves when we write.</p> <p>because there are no joints in stomach.</p> <p>Students listening carefully</p>

[illegible]

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> → To fix the gain knowledge → Summing up the taught topic → Recalling what is taught → To evaluate student
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> → To fix the gain knowledge → To develop self-study ability → To use the lesson time

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>In order to recall the topic teacher ask some questions:</p> <p>1) The joint between the upper jaw and rest of the head is known as ?</p> <p>2) How bones are move ?</p> <p>3) which type of joint is elbow joint ?</p> <p>Teacher give home-work to students:</p> <p>iii) Make a chart paper on the "types of joints".</p>	<p>Students trying to give answers:</p> <p>It is known as fixed joint.</p> <p>By alternate coordination and relaxation of two sets of muscles.</p> <p>Hinge joint is elbow joint.</p> <p>Students writing down the homework</p>

फलक - लेखन (Black-Board Writing)

अभिप्राय (Remarks)

Sub-Biology class - 8th	Date = 29/09/14
<u>Types of Joints :-</u>	
<p>① <u>Ball & socket Joints</u></p> <p>→ It is like a ball in a socket it is rounded end of one bone fits into the hollow</p>	<p>③ <u>Synovial joint</u></p> <p>→ bound between bones that moves against each other, such as the joints of the limbs. Ex:- (hip, knee)</p>
<p>② <u>Pivot joint</u></p> <p>→ It is freely movable joint that allows only rotary movement around a single axis.</p>	<p>④ <u>Hinge joint</u></p> <p>→ a type of joint that exist in the body and allows to allow motion primarily in one plane.</p>
[H.W] = Make a chart on "types of joint"	







Introduction was good

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 04
विद्यालयाचे नांव : Sunflower School
पाठ साहित्य : Chisel paper
विषय (Subject): Biology
विषयांश : Living Organism and their Surroundings
(Topic) and their Surroundings
(Subject)
पूर्वज्ञान : (Previous Knowledge)

दिनांक (Date): 7/10/22
इयत्ता (Class): 8th
तासिका : end वेळ : 9:30 am
(Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson)	अद्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → To assess previous knowledge. → Attractive beginning. → To develop scientific attitude. → To link previous knowledge to present knowledge. 	<p>Teacher ask questions on previous knowledge:-</p> <ol style="list-style-type: none"> 1) Name some places with cold weather? 2) Name animals found there? 3) Name a place with mostly hot and dry weather? 4) Name some animals found there?
हेतूकथन : (Statement of Aim)	So, today we are	going to learn about, "types of habitats".	Students trying to give expected answers:- Jammu, Shimla, Manali are places with cold weather. Polar bear, Yak are some animals live there. Desert is mostly hot and dry. Camels, goats are mostly found in desert.
विषय प्रतिपादन : (Presentation)	<u>Habitat</u>	<p>Teacher explains the topic in detail: <u>Habitat</u> :- The place where organism live is called habitat. It provide food, water, shelter & other needs to organisms. Several kinds of plants and animals live in the same habitat.</p>	Students listening carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specification)				
	<p><u>Terrestrial Habitat</u></p> <p><u>Aquatic Habitat</u></p>					
	<table><tr><th colspan="2">Habitat</th></tr><tr><td><p><u>Terrestrial Habitat</u></p><ul style="list-style-type: none">→ Desert→ Mountains→ Grassland</td><td><p><u>Aquatic Habitat</u></p><ul style="list-style-type: none">→ Ocean→ Ponds→ lakes</td></tr></table>	Habitat		<p><u>Terrestrial Habitat</u></p> <ul style="list-style-type: none">→ Desert→ Mountains→ Grassland	<p><u>Aquatic Habitat</u></p> <ul style="list-style-type: none">→ Ocean→ Ponds→ lakes	
Habitat						
<p><u>Terrestrial Habitat</u></p> <ul style="list-style-type: none">→ Desert→ Mountains→ Grassland	<p><u>Aquatic Habitat</u></p> <ul style="list-style-type: none">→ Ocean→ Ponds→ lakes					
	<table><tr><th colspan="2">Habitat</th></tr><tr><td><p>DESERT</p><p><u>Terrestrial Habitat.</u></p></td><td><p><u>Aquatic Habitat</u></p></td></tr></table>	Habitat		 <p>DESERT</p> <p><u>Terrestrial Habitat.</u></p>	 <p><u>Aquatic Habitat</u></p>	<p><u>Knowledge</u> Student recall about habitat</p> <p><u>Understanding</u> Student explain about the biotic</p>
Habitat						
 <p>DESERT</p> <p><u>Terrestrial Habitat.</u></p>	 <p><u>Aquatic Habitat</u></p>					

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p><u>Terrestrial Habitat</u> :- plants and animals live on land are called terrestrial habitat. examples: forests, grasslands, deserts, coastal & mountain regions.</p> <p><u>Aquatic Habitat</u> :- plants and animals that live in water are called Aquatic habitats. examples: lakes, rivers, oceans.</p> <p><u>Biotic components of Habitat</u> :- organisms both plants and animals living in a habitat are called biotic components of the habitat.</p> <p><u>Abiotic components of Habitat</u> the non-living things such as rocks, soil, air and water in the habitat with their abiotic components.</p> <p>Teacher ask some questions!</p> <ol style="list-style-type: none"> 1) What is habitat? 2) Write two examples of biotic components of terrestrial habitat. 3) Examples of biotic component of aquatic habitat. 	<p>Students trying to understand the topic.</p> <p>Habitat is a place where organism lives. Examples are lion, deer are of terrestrial habitat. Examples are fish, whales.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
पुनरावलोकन : (Recapitulation)		→ To fix the gain knowledge. → To evaluate the students. → Summing up the taught topic. → Recalling what is taught.	In order to revise the topic teacher ask some questions:- 01) Name some examples of terrestrial habitat? 02) Name examples of Aquatic habitat? 03) Why there is less plants in desert areas.	Students trying to give answer. Examples are grassland, Desert, forest.
गृहपाठ : (Home-Work)		→ To develop self-study attitude. → To use the lesson time.	Teacher gives home-work on taught topic:- 01) List and picture biotic and abiotic components of terrestrial and aquatic habitats in your notebook.	sea, ocean, lakes are examples of aquatic habitat. Because of the scarcity of water. students writing down the home-work in notebook.

फलक - लेखन (Black-Board Writing)

अभिप्राय (Remarks)

B B work was satisfactory

Subject = Biology	Date = 7/10/22
<u>Types of Habitats</u>	
* <u>Habitat</u> :- The place where organism live is called habitat.	aquatic habitats.
* <u>Terrestrial Habitat</u> :-	* <u>Biotic components of Habitat</u>
The plants and animals live on land are called terrestrial habitat.	The organisms both plants and animals living in a habitat are called biotic components of the habitat.
* <u>Aquatic Habitat</u> :-	* <u>Abiotic component of Habitat</u>
The plants and animals that live in water are called	non-living things such as rocks, soil, air & water in habitat are abiotic components.
H.W. → list biotic & abiotic components of terrestrial & aquatic habitats.	

पर्यवेक्षकाची सही
(Sign. of Supervisor)




पाठ क्रमांक (Lesson No.): 05
विद्यालयाचे नांव : Sunflower.
पाठ साहित्य : Chart paper, flow chart
(Teaching Aids)

विषय (Subject):
विषयांश : Nutrition
(Topic) Animals
पूर्वज्ञान :
(Previous Knowledge)

दिनांक (Date): 14/10/22
इयत्ता (Class): 8th
तासिका : 2nd
(Period) वेळ : 9:30 am
(Time)

विषय : Biology.
उपविषयांश : Classification of animals
(Sub-Topic) Students know about the topic.

पाठाच्या पायऱ्या (Steps of Lesson)	अद्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → Attractive beginning → To arouse previous knowledge → To motivate students → To develop student attitude among students → To link previous knowledge with present knowledge 	Teacher ask some questions based on previous knowledge:- 01) Why do we eat food? 02) Where do we get our food from? 03) Name some food items that we get from animals? 04) Does all animals eat only plants product?	Students give expected answers: We eat food to get energy. We get our food from plants and animals. Milk, honey, meat are some food items we get from animals. No, all animals does not eat plant product only.
हेतूकथन : (Statement of Aim)	So, Today we are	going to learn about "classifications of animals".		
विषय प्रतिपादन : (Presentation)			Teacher explains the classification by showing a flow chart on black board:- there are three types of categories of animals:- ① Herbivores. ② Carnivores ③ Omnivores.	Students listening carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
	<u>Herbivores</u> <u>Classification of Animal</u> <u>HERBIVORE</u> =  (Cow) <u>Carnivore</u> =  (Lion) <u>Omnivore</u> =  (Human being) <u>Omnivorous</u> <u>Classification of animals</u> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <u>Herbivore</u> An animal that only eat plants </div> <div style="display: inline-block; vertical-align: top;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <u>Carnivore</u> Plants that eat only meat </div> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-left: 10px;"> <u>Omnivore</u> Animals eat only Plants & Meat </div> </div>	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<u>HERBIVORES</u> :- animals which eat only plants or plant products are called herbivores. Examples: Deer, Zebra, cow, elephant, goat, Panda etc. <u>CARNIVORES</u> :- the animals which eat other animals are called am Carnivores. Examples: Bears, Lion, Tiger, fox, wolf etc. <u>OMNIVORES</u> :- The animals which eat both plants and animals are called omnivores animals. examples: Squirrels, Dogs, Human beings. Teacher ask some questions:- Q1) In which category humans falls? Q2) Give examples of carnivores animals. Q3) Define omnivores	Human will fall in omnivores category. Tiger, Lion, fox are examples of carnivorous animals. Those animals which eat both plants and animals.

Knowledge

Student recall in which category human falls.

Understanding

Student describe Omnivore.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> To fix the gain knowledge. To evaluate the students. Summing up the taught topic. Recalling what is taught.
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> To develop self-study habit. To use leisure time. To develop creativity.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>In order to revise the topic teacher ask some questions:-</p> <p>01) List examples of herbivores, carnivores and omnivores.</p> <p>02) What what are the products we get from animals.</p> <p>Teacher gives home-work to students.</p> <p>01) Prepare a chart and paste picture of herbivores, carnivores & omnivores.</p>	<p>Students try to give answers:-</p> <p>Herbivores = cow, goat</p> <p>Carnivores = lion, tiger.</p> <p>Omnivores = Dog, human being.</p> <p>Milk, meat, eggs are products we get from animals.</p> <p>Students writing down the homework into their notebook.</p>

फलक - लेखन (Black-Board Writing)

अभिप्राय (Remarks)

Biology
Date = 14/10/24

Classification of animals.

① Herbivores:-
The animals which eat only plants or plant product are called herbivores.
Ex:- Deer, Zebra, cow, elephant.

② Carnivores:-
The animals which eat other animals are called Carni-
vores.
Examples:- Bear, Lion, Tiger, fox, wolf etc.

③ OMNIVORES:-
The animals which eat both plants and animals are called omnivores animals.
Ex:- Dog, Human being.

[H.W.] = Prepare a chart & paste pictures of herbivores, carnivores & omnivores.





Good Class Control -

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 06
 विद्यालयाचे नांव : Sunflower
 पाठ साहित्य : Chart paper, ppt.
 विषय (Subject):
 विषयांश : Nutrition
 (Topic): Animals
 पूर्वज्ञान : (Previous Knowledge)

दिनांक (Date): 20/10/22
 इयत्ता (Class): 8th
 तासिका : 2nd वेळ : 9:30 am
 (Period) (Time)
 उपविषयांश : Types of teeth
 (Sub-Topic)
 Student recognize about the topic

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifications)	अध्ययनानुभव (Learning Experience)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → To arise previous knowledge → Attractive suggestion → Developing scientific attitude → To motivate students → To link previous knowledge to present knowledge 	<p>Teacher ask questions on previous knowledge:-</p> <p>1) Which part of the mouth helps in chewing the food?</p> <p>2) How many teeth are there in an adult?</p> <p>3) Does all the teeth look same in shape and size?</p> <p>4) Why our teeth break after some times?</p>
हेतुकथन : (Statement of Aim)	so, today we are going	to learn about "Types of teeths".	
विषय प्रतिपादन : (Presentation)	MILK TEETH	<p>Teacher explains the term milk teeth and permanent teeth.</p> <p><u>MILK TEETH:-</u></p> <p>Babies are born without any tooth. They get their first teeth between the age of two and a half years, these teeth are called milk teeth.</p>	<p>Students give expected answers:-</p> <p>Teeth helps us in chewing the food.</p> <p>There are 32 teeth in an adult.</p> <p>No, teeth are different in shapes and size.</p> <p>because those teeth are not permanent teeth.</p> <p>Students listening carefully.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	<p><u>Permanent Teeth</u></p> <p>Types of teeth</p> <p><u>Types of Teeth.</u></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Canines</p> </div> <div style="text-align: center;">  <p>Molars</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Premolars</p> </div> <div style="text-align: center;">  <p>Incisors</p> </div> </div>	<p>उद्दिष्टे व स्पष्टीकरण (Objectives with Specification)</p>	<p><u>PERMANENT TEETH</u>:-</p> <p>1st teeth starts to fall out one by one from six to twelve years and new teeth grows in their place, known as permanent teeth.</p> <p><u>Types of teeth:-</u></p> <p><u>Incisors</u>:- Incisors are the sharpest teeth and have chisel like shape.</p> <p><u>premolars</u>:- They are called 'the spring teeth'. They are present on each side of the incisors. premolar are used for tearing teeth.</p> <p><u>Canines</u>:- Canines are called the crack teeth and are present next to canine teeth.</p> <p><u>Molars</u>:- Molars are grinding teeth. They are broader than premolars. They are present next to premolars.</p> <p>Teacher. ask the questions:-</p> <ol style="list-style-type: none"> 1) Name the teeth which comes after falling of milk teeth? 2) First teeth of new born baby is called? 3) What are canines called? 	<p>Students listening carefully.</p> <p>Students trying to understand the topic.</p> <p>permanent teeth comes after falling of milk teeth.</p> <p>milk teeth</p> <p>Canines are called the crack teeth.</p>
		<p><u>Knowledge</u></p> <p>Student recall the answer.</p> <p><u>Understanding</u></p> <p>Student describe Canines.</p>		

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specificity)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> → To fix the gain knowledge. → Summing up the taught topic. → Recalling what is taught. → To evaluate the students.
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> → To develop self study habit. → To use the lesson H.W. → To fix the gain knowledge.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>In order to recall the topic teacher ask following question:</p> <p>Q1) How many types of teeth are there?</p> <p>Q2) What is the use of premolars?</p> <p>Q3) What are milk teeth?</p> <p>Teacher gives home-work to students.</p> <p>Q1) Draw a well labelled diagram of various types of teeth.</p>	<p>Students gives expected answer.</p> <p>There are four types of teeth.</p> <p>The use of premolars is to ground the food.</p> <p>First teeth of newborn baby is called milk teeth.</p> <p>Students writing down in notebook.</p>

फलक - लेखन (Black-Board Writing)

<p>class = 8th Sub = Biology</p> <p><u>Types of teeth :-</u></p> <p>① <u>INCISORS</u> :-</p> <ul style="list-style-type: none"> → located at the front → used for cutting food <p>② <u>CANINES</u> :-</p> <ul style="list-style-type: none"> → located at the corners of the mouth. → used for tearing food. <p><u>H.W</u> ⇒ Draw well labelled diagram of various types of</p>	<p>Date = 20/10/22</p> <p>③ <u>PREMOLARS</u> :-</p> <ul style="list-style-type: none"> → located at the corners of the mouth. → used for crushing and tearing food. <p>④ <u>MOLARS</u> :-</p> <ul style="list-style-type: none"> → located adjacent to premolars. → used for crushing and grinding food.
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अभिप्राय (Remarks)

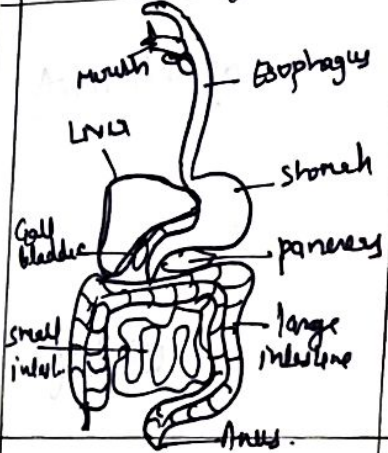
Teaching aid used properly

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 07
 विद्यालयाचे नांव : (School Name) Sunflower.
 पाठ साहित्य : (Teaching Aids) Chart paper
 विषय (Subject):
 विषयांश : (Topic) Life
 पूर्वज्ञान : (Previous Knowledge) Plants

दिनांक (Date): 28/10/22
 इयत्ता (Class): 8th
 तासिका : (Period) 2nd वेळ : (Time) 9:30am
 उपविषयांश : (Sub-Topic) Steps of digestion
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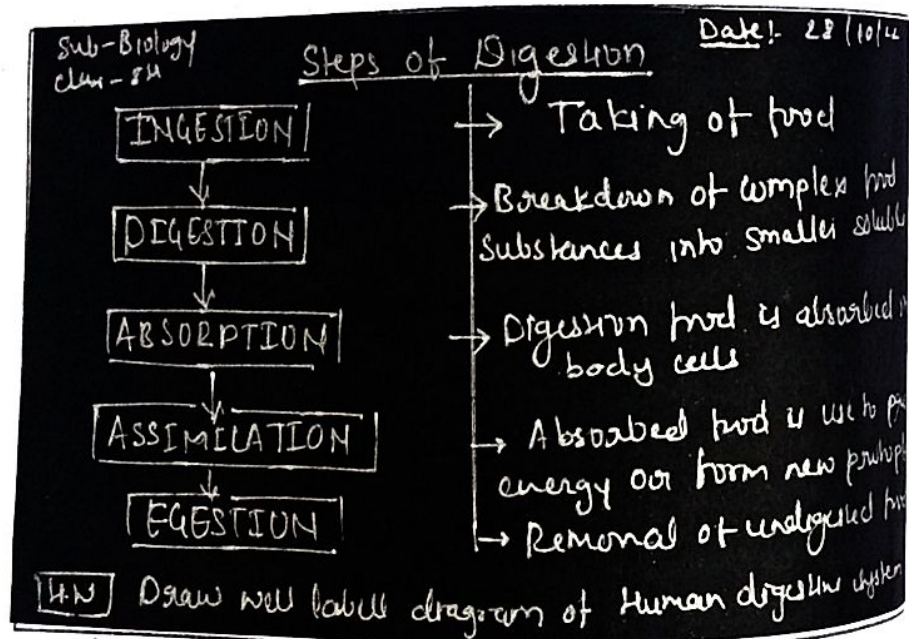
पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifications)	अध्ययनानुभव (Learning Experience)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → To arouse previous knowledge → Attractive beginning → Developing student attitude → To link previous knowledge to present knowledge 	<p>Teacher ask questions on previous knowledge:-</p> <ol style="list-style-type: none"> 1) Why do we need food? 2) Can animal prepare their own food? 3) How food get transported in body? 4) What is the system is called?
हेतुकथन : (Statement of Aim)		so, today we are going to learn about "Steps of Digestion"	Students gives expected answers: to get energy we need food. No animal cannot prepare their own food. Food is transported by a system. It is known as digestive system.
विषय प्रतिपादन : (Presentation)	INGESTION	<p>Teacher explaining the concept of digestion:-</p> <p><u>INGESTION</u>:-</p> <p>We take the food through mouth and the process of taking food into the body is called ingestion. Food is pushed down with the help of wall of the food pipe.</p>	Students listening carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specifics)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	<p><u>Absorption</u></p> <p><u>Human digestive system</u></p>  <p>* <u>STEPS OF DIGESTION</u></p> <p>Ingestion ↓ Digestion ↓ Absorption ↓ Assimilation ↓ Egestion</p>	<p><u>उद्दिष्टे व स्पष्टीकरण</u></p> <p>1. <u>Absorption</u>:- a process in which the digested food passes into the walls of small intestine is called absorption.</p> <p>2. <u>Assimilation</u>:- the absorbed substances are then transported to different organ of the body through blood vessels, it is called assimilation.</p> <p>3. <u>Egestion</u>:- large intestine absorb water and salts from the undigested food and the remaining waste passes to rectum the faecal matter is then removed through anus. this process of removal of undigested food or waste matter is called Egestion.</p> <p><u>Teacher ask following questions:-</u></p> <p>1) What do you mean by the term Ingestion.</p> <p>2) What happens in the process of Egestion.</p> <p>3) Food is digested in which organ.</p>	<p>1. <u>Absorption</u>:- a process in which the digested food passes into the walls of small intestine is called absorption.</p> <p>2. <u>Assimilation</u>:- the absorbed substances are then transported to different organ of the body through blood vessels, it is called assimilation.</p> <p>3. <u>Egestion</u>:- large intestine absorb water and salts from the undigested food and the remaining waste passes to rectum the faecal matter is then removed through anus. this process of removal of undigested food or waste matter is called Egestion.</p> <p><u>Teacher ask following questions:-</u></p> <p>1) What do you mean by the term Ingestion.</p> <p>2) What happens in the process of Egestion.</p> <p>3) Food is digested in which organ.</p>	<p>Student listening carefully</p> <p>Students are trying to understanding the topic.</p> <p>The process of taking food is called Ingestion.</p> <p>Removal of waste material is called Egestion.</p> <p>Food Food is digested in stomach.</p>

पाठाच्या पायन्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरण (Objectives with Specifics)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
पुनरावलोकन : (Recapitulation)		→ To fix the gain knowledge → To evaluate the student → Summing up the taught topic → Recalling what has been taught	In order to revise the topic teacher ask some questions:- 1) process of taking food into the mouth is called? 2) Food is pushed down with the help of which pipe? 3) Name all the steps involve in Digestion process?	students give expected answers: The process is called ingestion. Food is pushed down with the help of food pipe. The steps involve Ingestion, Digestion, Absorption, Assimilation, Egestion.
गृहपाठ : (Home-Work)		→ To develop self study attitude → To use the lesson time → To develop creativity	Teacher gives home-work on taught topics: (1) Draw a well labelled diagram of human digestive system on chart paper.	students writing down the home work.

फलक - लेखन (Black-Board Writing)

अभिप्राय (Remarks)



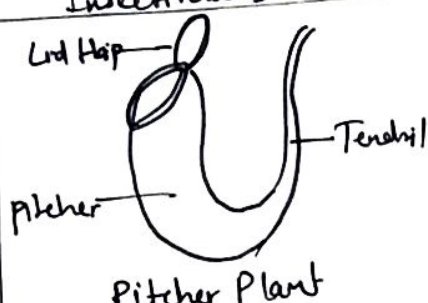
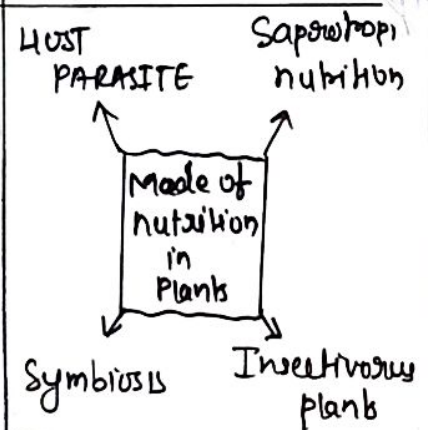
Lesson was taken.

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 08
विद्यालयाचे नांव : Sunflower
पाठ साहित्य : Chart paper.
विषय (Subject):
विषयांश : Nutrition
(Topic)
पूर्वज्ञान : Plants
(Prior Knowledge)

दिनांक (Date): 2/11/22
इयत्ता (Class): 8th
तासिका : 2nd
वेळ : 9:30 am
(Period) (Time)
अध्ययनानुभव (Learning Experience)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specifications)	शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → Attractive design → To arise previous knowledge. → To Develop scientific attitude. → To motivate students. → To link previous knowledge to present knowledge. 	<p>Teacher ask questions on previous knowledge:-</p> <ol style="list-style-type: none"> 1) Where do plants get their food from? 2) What substances plants need to perform photosynthesis? 3) Do all plants make their own food? 4) Then how will those plants survive? 	<p>Students give expected answers:-</p> <p>Plants prepare their own food by the process of photosynthesis. They need sunlight, CO₂ and water.</p> <p>No some plants does not perform photosynthesis. Their mode of nutrition is different.</p>
हेतूकथन : (Statement of Aim)	so today we are going	to learn about "mode of nutrition in plants".	Teacher explains the topic in detail.	Students listening carefully.
विषय प्रतिपादन : (Presentation)	<u>Host Parasite.</u>		<p><u>Host - Parasite :-</u></p> <p>plant called <u>Cuscuta</u> does not have chlorophyll. It takes ready-made food from the plant on which it is climbing. The plant in which it climb is called host. Since it deprives the host of valuable nutrients <u>Cuscuta</u> is called the parasite.</p>	

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
	<u>Insectivorous Plants</u> <u>Insectivorous Plant.</u>  <u>Pitcher Plant</u>	
	<u>Saprotrophic nutrition</u> <u>Symbiosis</u> 	<u>Knowledge</u> Student recall about Symbiosis and give example understanding <u>Student explains about</u>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<u>Insectivorous Plants:</u> The insects eating plants are called insectivorous plants. example:- The pitcher plant has a lid formed by apex of the leaf which opens and it closes when an insect lands on it. The insect is digested by digestive juices secreted by pitcher plant. <u>Saprotrophic Nutrition:-</u> The mode of nutrition in which organisms take in nutrients from dead and decaying matter is called saprotrophic nutrition. examples: fungus. <u>Symbiosis:-</u> Some organisms live together and share both shelter and nutrients. This relationship is called symbiosis. Teacher ask some questions:- Q1) What are insectivorous plant? Q2) Example of symbiosis? Q3) Example of insectivorous plant.	Plants which eat insects. In kitchens :- algae and fungi live together. Pitcher plant.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> To fix the gain knowledge To evaluate the students Recalling what is taught Summing up the whole topic
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> To use the leisure time To develop self-study habit To develop creativity

फलक - लेखन (Black-Board Writing)

Sub - Biology
class - 8th

mode of nutrition in plants

Date = 21/11/22

① HUST-PARASITE :-

→ One in which one organism, the parasite, lives off another organism, the host, harming it and possibly causing death.

② Insectivorous plants :-

Plants that eat insects or called insectivorous plant.
Ex:- Pitcher plant.

③ Saprotrophic nutrition

→ The mode of nutrition in which organism takes in nutrients from dead and decaying matter is called saprotrophic nutrition.

④ Symbiosis :- Some organisms live together and share both shelter & nutrients. This relationship is called symbiosis.

H.W. = Find out 5 examples of all types of mode of nutrition in plants.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>In order to evaluate the topic teach as some questions;</p> <p>Q1) Define host - parasite relation.</p> <p>Q2) What is saprotrophic nutrition?</p> <p>Q3) State an example of saprotrophic nutrition.</p> <p>Teacher gives home-work to students.</p> <p>Q4) Find out 5 examples of all types of mode of nutrition in plants.</p>	<p>Students gives expected answer:</p> <p>plant takes food from the other plant on which it climbing.</p> <p>In which organism takes nutrient from dead & decaying matter.</p> <p>Fungus is an ex. of saprotrophic nutrition.</p> <p>Students writing down into their notebook.</p>

अभिप्राय (Remarks)

Don't accept
colours answers.

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 09
विद्यालयाचे नांव : Sunflower School
पाठ साहित्य : Chart paper
विषय (Subject):
विषयांश : Transpor
(Topic) in Animal
पूर्वज्ञान :
(Previous Knowledge)

दिनांक (Date): 10/11/22
इयत्ता (Class): 9th
तासिका : 44 वेळ : 10:30am
(Peiod) (Time)

पाठाच्या पायऱ्या
(Steps of Lesson)

अद्यापन मुद्दे
(Teaching Points)

उद्दिष्टे व स्पष्टीकरणे
(Objectives with Specifia)

प्रस्तावना :
(Introduction)

- To arouse previous knowledge
- Attractive begin
- To develop skill for attitude
- To motivate student
- To link previous knowledge with present knowledge

शिक्षक कृती (Teacher Activity)
Teacher ask some questions based on previous knowledge

विद्यार्थी कृती (Pupil Activity)
Student give expected answer:-

हेतूकथन :
(Statement of Aim)

so, today we are going to learn about "Blood".

विषय प्रतिपादन :
(Presentation)

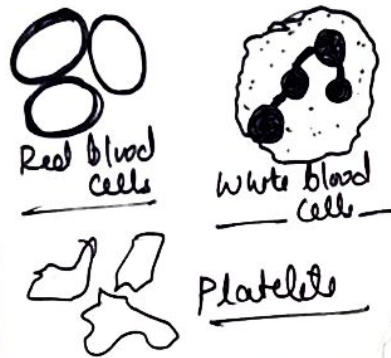
Blood

lood is a connective tissue that helps in the transportation of substances. It protects us from diseases & regulates the body temperature. It is red colour due to a red pigment called - haemoglobin (Hb)

Student listening carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
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Components of Blood



PLATELETS

Knowledge

Student recall about blood.

Understanding

Student explains what happens with high platelets

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)

Blood is made of several components.

① RED BLOOD CELLS (RBC) :-

- RBC contain pigment called Haemoglobin.
- Life span of RBC = 120 days.
- recycled in the liver and spleen.
- shape of RBC is biconcave with flattened center.
- RBC have no nucleus and can easily change shape.

② WHITE BLOOD CELLS (WBC)

- WBC is also called - Leukocytes.
- WBC protects our body from infection.
- They are also called soldiers of our body.
- white blood cells are formed continually.

③ PLATELETS :-

Platelets help the blood clotting process by sticking to the lining of injured blood vessel on which formulates a platform.

Teacher as some questions!

- Q1) What is blood?
- Q2) What are WBC also called?
- Q3) What happen if higher amount of platelets are formed?

Blood is a fluid which present inside the body.
WBC is also called soldiers of our body.
unnecessary clotting will occur in our body.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
नरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> → To fix the gain knowledge → Recalling what is taught → summing up the whole topic → To evaluate student → To develop self-study habit. → To fix the gain knowledge
गृहपाठ : (Home-Work)		

फलक - लेखन (Black-Board Writing)

Sub - Biology Class - 9 th	<u>BLOOD.</u>	Date = 10/11/14
<p>① <u>RED BLOOD CELLS (RBC)</u></p> <ul style="list-style-type: none"> → contains haemoglobin. → Life span = 120 days. → recycled in the liver & spleen. → RBCs have no nucleus and can easily change shape. <p>② <u>WHITE BLOOD CELLS</u> [WBC]</p> <ul style="list-style-type: none"> → called leukocytes 	<ul style="list-style-type: none"> → protects our body from infection → called builders of our body. <p>③ <u>PLATELETS :-</u></p> <ul style="list-style-type: none"> → helps the blood clotting process. → sticks to the lining of injured blood vessel on tornulate platform. 	
[M.N.] = List 10 functions of blood.		

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>on the basis In order to recall the topic teacher asks following questions:</p> <p>Q1) What are platelets?</p> <p>Q2) What is the life span of RBC?</p> <p>Q3) What makes our colour of blood red?</p> <p>Teacher gives homework to students:- Make a list of 10 functions of blood.</p>	<p>Students gives expected answers:</p> <p>Platelets makes the blood clotting process.</p> <p>Lifespan of RBC is 120 days.</p> <p>Haemoglobin present in blood</p> <p>Students writing down the homework.</p>

अभिप्राय (Remarks)

Explanation was good

पर्यवेक्षकाची राही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 10 विषय (Subject):

विद्यालयाचे नांव : Sunflower विषयांश : Reproduction
(School Name) (Topic) in Animal

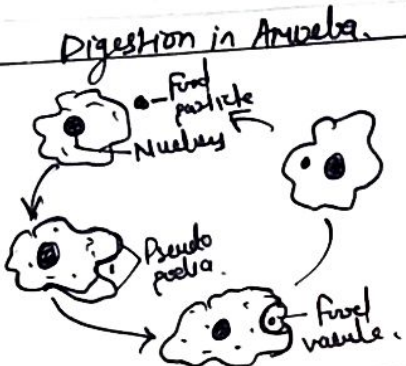
पाठ साहित्य : Chart Paper पूर्वज्ञान :
(Teaching Aids) (Previous Knowledge)

Biology दिनांक (Date): 18/11/22

उपविषयांश : Digestion in Amoeba इयत्ता (Class): 8th

उपविषयांश : Digestion in Amoeba तारिका : 2nd वेळ : 9:30am
(Sub-Topic) (Period) (Time)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → Attractive beginning → To cover previous knowledge → To develop scientific attitude → To motivate student → To link previous knowledge to present knowledge. 	<p>Teacher ask questions on previous knowledge.</p> <p>How do we take our food?</p> <p>Where the food is digested in human body?</p> <p>None an organism made up of single cell.</p> <p>Can we see amoeba with the naked eyes?</p>
हेतुकथन : (Statement of Aim)	So today we are going	to learn about the topic, " Digestion in Amoeba"	
विषय प्रतिपादन : (Presentation)	AMOEBA	<p>Teacher explain the topic :-</p> <p><u>AMOEBA :-</u></p> <p>Amoeba is a microscopic single celled organism found in pond water.</p> <p>Amoeba has a cell membrane, a rounded dense nucleus and vacuoles.</p> <p>Amoeba constantly change its shape and position.</p>	<p>Student gives expected answers</p> <p>We take our food through our mouth.</p> <p>Food is digested into stomach.</p> <p>Amoeba is made up of single cell.</p> <p>No we cannot see amoeba with naked eyes.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	<p style="text-align: center;"><u>Digestion in Amoeba.</u></p> 	<p><u>Knowledge</u> Student Recall and tells about Pseudopodia.</p> <p><u>Understanding</u> Student explains the digestion of food in Amoeba.</p>	<p>It has finger like projections, called pseudopodia or false feet for movement and capture of food when it sense food, it pushes out pseudopodia around the food particle and engulfs it. The food becomes trapped in a food vacuole.</p> <p>Digestive juices are secreted into the food vacuole. They act on the food and break it down into simpler substances.</p> <p>The absorbed substances are used for growth, maintenance and multiplication.</p> <p>The undigested residue of the food is expelled outside by the vacuole.</p> <p>Teacher ask following questions.</p> <p>Q1) What are pseudopodia?</p> <p>Q2) In Amoeba, the absorption of digested food takes place in ?</p> <p>Q3) In Amoeba, the digestion of food takes place in :-</p>	<p>the finger-like projections present in amoeba called. pseudopodia</p> <p>In cytoplasm</p> <p>The digestion of food takes place in Food vacuole :-</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> → To fix the gain knowledge → Summing up the taught topic → Recalling what is taught → To evaluate the student
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> → To develop self-study habit → To develop creativity → To use the lesson time

फलक - लेखन (Black-Board Writing)

Sub-Biology	<u>Digestion in Amoeba</u>	Date - 12/11/22
AMOEBA :		
→ Amoeba is a microscopic single celled organism found in pond water.	→ Digestive juices are secreted into the food	
→ It has finger like projection called pseudopodia.	→ The absorbed substances are used for growth, maintenance.	
→ When it dense food it pushed out pseudopodia.	→ The undigested residue of the food is expelled outside by the vacuole	
[H.W] = Make a diagram of steps involve in digestion of amoeba.		

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
In order to overrise topic teacher ask some questions!	Students give expected answer!
Q1) Give an example of multicellular animal.	Multicellular organism is Human Being!
Q2) What is mode of Nutrition in Amoeba?	Mode of Nutrition in Amoeba is Holozoic
Q3) Where does Amoeba is found?	Amoeba is found in pond water.
Teacher gives home-work to students.	
Q) Make a diagram of steps involve in digestion of amoeba.	Students writing down homework in Notebook.

अभिप्राय (Remarks)

presentation was good

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 11

विद्यालयाचे नांव : Sunflower
(School Name)

पाठ साहित्य : chart paper
(Teaching Aids)

विषय (Subject):

विषयांश : Water & Resources
(Topic)

पूर्वज्ञान :
(Previous Knowledge)

Biology

दिनांक (Date): 25/11/22

उपविषयांश : Different sources of water
(Sub-Topic)

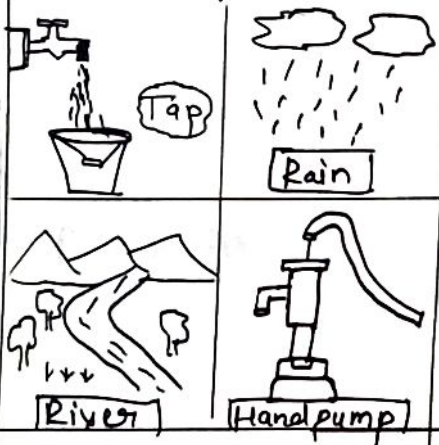
इयत्ता (Class): 9th

तासिका : 4th
(Period)

वेळ : 11:30 am
(Time)

अध्ययनानुभव (Learning Experience)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → Attractive beginning → To develop scientific attitude → To assess previous knowledge → To motivate students → To link previous knowledge with present knowledge 	<p>Teacher ask questions on previous knowledge:</p> <p>(a) What would you do when you feel thirsty?</p> <p>(b) What is the main source of water?</p> <p>(c) Where do we get water from?</p> <p>(d) Does rainwater is pure water?</p>	<p>Students give expected answer:</p> <p>we drink water when we feel thirsty.</p> <p>Main source of water is rain.</p> <p>we get water from well, pond, lakes etc.</p> <p>No rainwater is not pure form of water.</p>
हेतूकथन : (Statement of Aim)	so today we are going	to study about	" different source of water.	
विषय प्रतिपादन : (Presentation)			<p>Teacher explains the topic in detail:</p> <ul style="list-style-type: none"> → water is one of the natural bounties that we have. → water exist in all three states in nature :- as vapour in the air as liquid in rivers as solid in polar regions. → water covers nearly three fourth of earth's surface. 	<p>students listening carefully.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	अध्ययनानुभव (Learning Experience)	
			शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	<p><u>surface water</u></p> <p><u>Ground water</u></p> <p><u>Source of water</u></p> <div>  </div>		<p>* <u>Surface water</u> :-</p> <ul style="list-style-type: none"> → Rivers, lakes and ponds are called surface water. → Surface water is used for domestic purpose and for irrigation. → Canals are constructed to carry water from surface water bodies to crop field. <p>* <u>Ground water</u> :-</p> <ul style="list-style-type: none"> → The reservoir of water collected above impervious called ground water. → Ground water has been utilized by digging well. → The modern way of trapping ground water is to pump it out with the help of power operated tubewells. <p>* <u>Rain water</u> :-</p> <ul style="list-style-type: none"> → Rain water is our primary source of water. → It is the rain that replenishes our sources of surface water. → Water on the earth is markeded to millions of years due to water cycle. <p>Teacher ask Questions!</p> <ol style="list-style-type: none"> (Q1) What are surface water? (Q2) What is primary source of water? (Q3) Surface water is used for which purpose? 	
		<p><u>Knowledge</u></p> <p>Students remember</p> <p>tells about surface</p> <p><u>understanding</u></p> <p>Students explain</p>		<p>Rivers, lakes and ponds are called surface water.</p> <p>Rain water is primary source of water.</p> <p>surface water is used for irrigation.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> To fix the gain knowledge Summing up the taught topic Recalling what is taught To evaluate the student
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> To use the lesson To develop creativity To fix the gain knowledge To develop self study habit

फलक - लेखन (Black-Board Writing)

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>In order to recall teacher ask some questions.</p> <p>(a) Water exist in how many stages?</p> <p>(b) What are the examples of surface water?</p> <p>(c) What are the examples of ground water?</p> <p>Teacher gives homework to students.</p> <p>(d) Paste photos of different sources of water in chart paper.</p>	<p>Students gives expected answer:</p> <p>Water exist in three stages in nature → ① as vapour ② as liquid ③ as solid.</p> <p>River, lakes are examples of surface water.</p> <p>well, tube well are examples of ground water.</p> <p>Students working the home work.</p>

अभिप्राय (Remarks)

Recapitulation was proper and attractive

<p>Sub-Biology class - 7th</p> <p><u>Sources of water</u></p> <p><u>Surface water</u>:- Water present on the surface of Earth is called surface water.</p> <p><u>Rain water</u>:- Rain water is the purest form of water.</p> <p><u>River, lakes</u>:- The water in these water bodies comes on melting the snow.</p> <p>H.W.</p>	<p>Date - 25/11/22</p> <p><u>River and ocean water</u>:- Oceans are huge store of water. Millions of litres of water is present in them.</p> <p><u>Ground water</u>:- is the water under the ground where the soil is completely filled or saturated with water.</p>
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पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.):	12	विषय (Subject):	
विद्यालयाचे नांव : (School Name)	Sunflower	विषयांश : (Topic)	
पाठ साहित्य : (Teaching Aids)	Chart paper.	पूर्वज्ञान : (Previous Knowledge)	
पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)	
प्रस्तावना : (Introduction)		→ Attractive beginning → To revise previous knowledge → To develop scientific attitude. → To link previous knowledge to present knowledge.	
हेतूकथन : (Statement of Aim)	So today we are going to learn		
विषय प्रतिपादन : (Presentation)			

(12)

Biology दिनांक (Date): 30/11/22

उपविषयांश : (Sub-Topic) Parts of Plant.. इयत्ता (Class): 8th

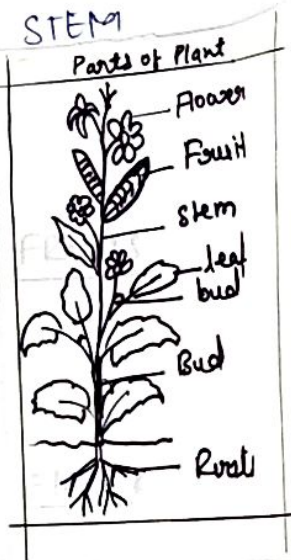
शिकलेलं ज्ञान about the topic तासिका : 2nd वेळ : 9:30 am (Period) (Time)

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask questions on previous topic:	Students trying to give expected answer:
Q1) What do you eat when you are hungry?	We eat food when we are hungry.
Q2) What do you eat in food?	Vegetables, fruits, Rice, pulses.
Q3) From where we get fruits and vegetables?	We get fruits and vegetables from plants.
Q4) Which part of plant you eat when you are eating leafy vegetables.	We eat leaves of the plant.
about, " Parts of plant we eat "	
Teacher explains the topic; Different parts of a plant are: Root, Stem, Fruit, stem , flower, leaf.	
Plants does not use all the food made by leaves, they store the extra food in their different parts.	
* We eat these extra food stored by plants.	Students listening carefully.

पाठ्याच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
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ROOTS

STEM



LEAVES

Knowledge

Students recall and tell the answer

Understanding

Students tell about

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)

Teacher discuss about each part of plants

① ROOTS

- Roots of some plants are swollen
- These plants store extra food in their roots. Ex: Carrot, Beetroot, Radish.

② STEM

- We eat stems of some plants also
- These plants store their extra food in their stems. Ex: Potato, Ginger, Sugarcane.

③ FRUITS

- we also eat fruits of some plants as vegetables.
- These plants store their extra food in their fruits. Ex: Brinjal, Tomato.

④ FLOWER

- We eat flowers of some plants these plants store their extra food in their flowers. Ex: Cauliflower, Broccoli.

⑤ LEAVES

- plants store their extra food in their leaves. Ex: Spinach, mint.

Teacher ask some questions:

- What are the different parts of plant?
- Do plants use all the food made by leaves?
- Give some examples of vegetables whose roots we eat as vegetables.

Students listening carefully.

Students trying to understand the topic.

Leaf, root, fruit, flower and stem are different parts of plant.

No, they store the extra food into their different parts.

Beetroot, Radish, carrot.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> → To fix the gain knowledge → To evaluate the student → Recalling what is taught → summing up the whole topic
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> → To evaluate the student → To develop self-study habit → To use learning time

फलक - लेखन (Black-Board Writing)

Sub-Biology	<u>Parts of plant</u>	D = 30/11/12
① <u>Roots</u>	④ <u>Flower</u> : we eat flower of some plants. These plants store their extra food in their flower: ex: Cauliflower, Broccoli	
→ Roots of some plants are swollen.		
→ These plants store extra food in their roots ex: Carrot, Beetroot		
② <u>Stem</u>	⑤ <u>Leaves</u> : Plant stores their extra food into their leaves ex: Spinach, Mint, Coriander.	
→ We eat stems of some plants ex: Potato, Ginger.		
③ <u>Fruits</u> : We also eat fruits ex: Brinjal, Tomato.		
<u>H.W</u>	Make well labelled diagram of parts of plant.	

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>On the In order to revise the topic teacher ask some questions.</p> <p>(Q1) Name some vegetables whose stem we eat?</p> <p>(Q2) What are leaves of the plants we eat as vegetables?</p> <p>(Q3) What else plants gives to us?</p> <p>Teacher gives homework to students:-</p> <p>(Ans) Make a well labelled diagram of parts of plants.</p>	<p>Student gives expected answer:-</p> <p>We eat stem of Potato, Ginger, sugarcane.</p> <p>Coriander, Mint, Spinach we get as vegetables.</p> <p>Plants gives us oxygen, fruits and vegetables also.</p> <p>Student writing down the homework.</p>

अभिप्राय (Remarks)

Sound should be little louder.

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.):	13	विषय (Subject):
विद्यालयाचे नांव : (School Name)	Sunflower School	विषयांश : (Topic)
पाठ साहित्य : (Teaching Aids)	Chart paper	पूर्वज्ञान : (Previous Knowledge)
पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> Attractive begin beginning. To activate previous knowledge. To develop scientific attitude. To link previous knowledge with present knowledge.
हेतुकथन : (Statement of Aim)	So, today we are going to study about	
विषय प्रतिपादन : (Presentation)		

13

Biology

दिनांक (Date): 6/11/12

उपविषयांश : (Sub-Topic) Breathing

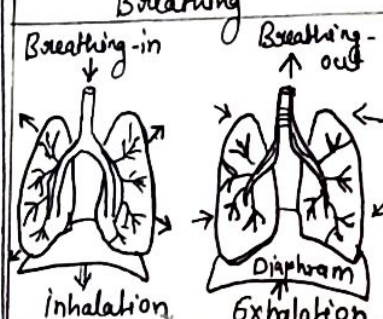
इयत्ता (Class): 10th

छात्रांचे ज्ञान about topic

तासिका : (Period) 3rd

वेळ : (Time) 10:30am

अभ्यासानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask some questions related to previous knowledge.	Students give expected answer:
Q1) Why do we respire?	We respire to get energy from food or to live.
Q2) What we inhale during respiration?	We inhale oxygen during respiration.
Q3) What we exhale during respiration?	We exhale Carbon dioxide during respiration.
Q4) Are there organisms that can survive in the absence of air?	Yes, like yeast, ferns can survive in absence of air.
"Respiration". Breathing	
Teacher explains the topic in detail:-	
Breathing is only one process that delivers oxygen to where it is needed in the body and removes carbon dioxide.	
The number of respiratory cycles per minute is the breathing or Respiratory rate.	Students listening carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अद्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
	<u>Inhalation and exhalation</u>	
	<u>Breathing Rate</u>	
	<u>Breath count</u>	
	<p style="text-align: center;"><u>Breathing</u></p> 	
		<p><u>Knowledge</u></p> <p>Student recognizes & tells about Breathing</p> <p><u>Understanding</u></p> <p>Student explains all steps of breathing</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>* <u>Inhalation and exhalation</u> The taking of air rich in oxygen into the body is called <u>inhalation</u> and giving out of air rich in carbon dioxide is known as <u>exhalation</u>.</p> <p>* <u>Breathing Rate</u>:- The number of times a person breath in a min. is called <u>breathing rate</u>.</p> <p>* <u>Breath counts</u>:- On an average an adult human being at rest breathes in and out 15-18 times in a min. During heavy exercise it increase upto 25 times per min.</p> <p>* <u>Function</u>:- Breathing has other important functions. - It provides mechanism for speech, laughter and similar expressions of the emotions. - It also used to for outflines such as yawning, coughing & sneezing.</p> <p>Teacher ask some ques:-</p> <p>Q1) Define Breathing?</p> <p>Q2) Define Breathing Rate?</p> <p>Q3) What are the two 'steps' of breathing?</p>	<p>Breathing is a process which absorbs oxygen into our body.</p> <p>The number of time a person breath in a min is called <u>breathing rate</u>.</p> <p>Inhalation & Exhalation are two steps of breathing.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> → To fix the gain knowledge → To evaluate the student. → Recalling what is taught. → Summing up the whole topic.
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> → To develop self-study habit → To develop creativity → To use the leisure time.

फलक - लेखन (Black-Board Writing)

<p>Class - 10th Sub - Biology</p> <p><u>Breathing</u> 6/11/22</p> <p>* <u>Inhalation</u> :- → In taking of air rich in oxygen.</p> <p>* <u>Exhalation</u> :- → Giving out of air rich in carbon dioxide.</p> <p><u>Function</u> :- used for reflexes such as yawning, coughing, sneezing.</p> <p><u>H.W</u> :- Make a model of inhalation & exhalation.</p>	<p>* <u>Breathing Rate</u> :- The number of times a person breaths is called breathing rate.</p> <p>* <u>Breathing Counts</u> :- On an average adult human being at rest breathes in and out 15-18 times in a min.</p>
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अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>on the basis of taught topic teach ask some questions?</p> <p>(Q1) Define exhalation:</p> <p>(Q2) What is breathing count of a normal person?</p> <p>(Q3) Does this count increase in any condition?</p> <p>Teacher gives homework to student</p> <p>(Q4) Make a model of inhalation & exhalation on chart paper.</p>	<p>Students gives expected answer:</p> <p>Giving out carbon dioxide rich air is called exhalation.</p> <p>15-18 count per min.</p> <p>Yes, it increases upto 25 times per min during exercise.</p> <p>Students working into their notebook.</p>

अभिप्राय (Remarks)

Lesson was taken.


पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 14		विषय (Subject):
विद्यालयाचे नांव : Sunflower school		विषयांश : (Topic)
पाठ साहित्य : Chart paper		पूर्वज्ञान : (Previous Knowledge)
पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none">→ Attractive beginning→ To arise previous knowledge.→ To develop scientific attitude.→ To motivate student.→ To link previous knowledge with present knowledge.
हेतूकथन : (Statement of Aim)	So today we are going to learn about	
विषय प्रतिपादन : (Presentation)		

Biology	दिनांक (Date): 14/12/22
उपविषयांश : (Sub-Topic) How do we breathe	इयत्ता (Class): 10th
student know about previous topic	तासिका : (Period) 3rd वेळ : (Time) 10:30am
अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask Question on previous Knowledge.	Students give expected answers:
Q1) From where do you breathe?	We breathe through lungs.
Q2) Which air we take during inhalation?	We take oxygen during inhalation.
Q3) Which air we exhale during exhalation?	We exhale Carbon dioxide during exhalation.
Q4) From where we take air into through?	We take air through our nostrils.
" How do we breathe ? "	
Teacher explains about the topic:-	Students listening carefully.
Normally we take in air through our nostrils. When we inhale air. It passes through our nostrils into the nasal cavity. From nasal cavity, the air reaches our lungs through the windpipe.	

पाठ्या पायन्या (Spets of Lesson)	अद्यापन मुदे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
		<p><u>Knowledge</u> Student recall and tells the about inhalation.</p> <p><u>Understanding</u> Student explain the use of the diaphragm.</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>→ Lungs are present in the chest cavity. The cavity is surrounded by ribs on the sides. A large, muscular sheet called diaphragm forms the floor of the chest cavity.</p> <p>→ Breathing involves the movement of the diaphragm and the rib cage.</p> <p>→ During inhalation, ribs move up and outwards and diaphragm moves down. This movement increases space in our chest cavity and air rushes into the lungs. The lungs get filled with air.</p> <p>→ During exhalation, ribs move down and inwards. This reduces the size of chest cavity and air is pushed out of the lungs.</p> <p>Teacher asks the following questions:</p> <p>(Q1) What will happen during inhalation?</p> <p>(Q2) What will happen during exhalation?</p> <p>(Q3) Breathing involve movement of what?</p>	<p>Students listening carefully.</p> <p>Students trying to understand topic.</p> <p>Ribs move up and increase the size of the chest.</p> <p>Ribs move down and reduce the size of the chest cavity.</p> <p>Breathing involve the movement of the diaphragm.</p>

पाठ क्रमांक (Lesson No.): 15 विषय (Subject):

विद्यालयाचे नांव: Sunflower school विषयांश: (Topic)

पाठ साहित्य: Chart paper पूर्वज्ञान: (Previous Knowledge)

(Teaching Aids)

पाठाच्या पायऱ्या (Steps of Lesson)	अद्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → To assess previous knowledge → Attractive beginning → To motivate students. → To develop scientific attitude → To link previous knowledge to present knowledge
हेतूकथन : (Statement of Aim)	So today we are going	to learn about
विषय प्रतिपादन : (Presentation)	<u>HERBS</u>	

Biology.




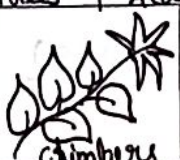




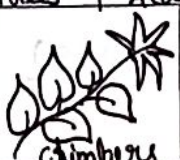




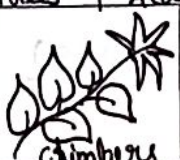

उपविषयांश: (Sub-Topic) Classification of plants. दिनांक (Date): 20/12/22

student knows about the topic. इयत्ता (Class): 9th

तासिका: (Period) 4th वेळ: (Time) 11:30am

अध्ययनानुभव (Learning Experience)

शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>Teacher ask questions on previous knowledge</p> <p>b1) Tell me the names of the plants that you have at your home?</p> <p>b2) Do they all look similar?</p> <p>b3) In what way they look different?</p> <p>b4) Do all plants have flowers?</p> <p>"Classification of Plants"</p> <p>Teacher explains the topic in detail:-</p> <p><u>HERBS:-</u></p> <ul style="list-style-type: none"> → Herbs are small in size. → Herbs have green and tender stems. → Herbs do not have many branches. <p>Eg:- Mint, tomato, etc.</p>	<p>Students give expected answers.</p> <p>Money plant, Ashoka, Tomato plant, Tulsi etc are plants in our home.</p> <p>No they are different from each other.</p> <p>Some are short some are hard some are soft.</p> <p>No all plants does not have flowers.</p> <p>Students listening carefully.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)												
	<p><u>SHRUBS</u></p> <p><u>TREE</u></p> <p><u>Classification of Plants</u></p> <table border="1"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>Trees</td> <td>Herbs</td> <td>Shrubs</td> </tr> <tr> <td></td> <td colspan="2"></td> </tr> <tr> <td>Climbers</td> <td colspan="2">Creeper</td> </tr> </table>				Trees	Herbs	Shrubs				Climbers	Creeper		<p><u>Knowledge</u> Student recall and tells the classification of plant.</p> <p><u>Understanding</u> Student explain climber</p>
														
Trees	Herbs	Shrubs												
														
Climbers	Creeper													

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p><u>SHRUBS:-</u></p> <ul style="list-style-type: none"> → Shrubs are medium in size. → Stems of shrubs are hard but not thick. Eg:- Rose plant, Bush, etc. <p><u>TREE:-</u></p> <ul style="list-style-type: none"> → Trees are tall in height. → They are thick and brown in the colour of the trunk. → They have thick branches. → Examples:- Mango tree, Ashoka tree. <p><u>CLIMBERS:-</u></p> <ul style="list-style-type: none"> → Climbers have weak stem. → Climbers take support and climb. Eg:- Money plant. <p><u>CREEPERS:-</u></p> <ul style="list-style-type: none"> → Creepers have weak stem. → Creepers cannot stand upright. → Spread on the ground. → eg:- watermelon, pumpkin. <p>Teacher asks some questions:-</p> <ol style="list-style-type: none"> Q1) State the classification of plants? Q2) What are climbers? Q3) Examples of climbers? 	<p>Plants are classified into herbs, shrubs, trees, climbers & creepers.</p> <p>Those plants who take support of other plant to grow.</p> <p>Ex. of climber are Money plant, Bean plant.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> To fix the gain knowledge To develop evaluate the student Recalling what is taught - Summing up the topic.
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> To develop self-study habit. To use the leisure time. To develop creativity.

फलक - लेखन (Black-Board Writing)

Biology	<u>Classification of Plants</u>	20/12/21
<u>HERBS</u>		
<ul style="list-style-type: none"> → Herbs are small in size → Herbs have green and soft stems. → Does not have many branches. 		
Ex: Mint, tomato, etc.		
<u>SHRUBS</u> :		
<ul style="list-style-type: none"> → Shrubs are medium in size → Stems of shrubs are hard 		
Ex: Rose Plant, but not tree		
<u>TREES</u> :		
<ul style="list-style-type: none"> → They are tall in height. → have thick branches. 		
Ex: Mango tree.		
<u>CLIMBERS</u> :		
<ul style="list-style-type: none"> → take support and climb 		
Ex: Money Plant.		
<u>CREEPERS</u> :		
<ul style="list-style-type: none"> → Cannot stand up straight → Spreads on ground. 		
Ex: watermelon.		
H.W Collect the leaves of different categories of Plants		

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
In order to recall teacher ask some questions:	Students gives answers:
Q1) What are creepers?	Plants which spread on the ground are called creepers.
Q2) What are the examples of creepers?	Watermelon & pumpkin are examples of creepers.
Q3) What are shrubs?	Shrubs have hard but not thick stem.
Teacher gives homework to students.	
Ques) Collect some of the leaves of different categories of plants.	Students writing down in notebook.

अभिप्राय (Remarks)

Home work was given & it was creative.

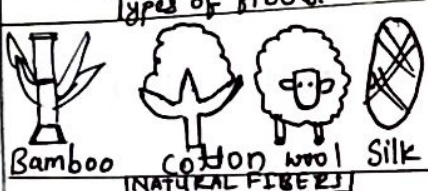
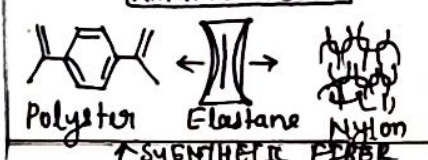
पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 16 विषय (Subject):
 विद्यालयाचे नांव : Sunflower School विषयांश :
 (School Name) (Topic)
 पाठ साहित्य : Chart paper पूर्वज्ञान :
 (Teaching Aids) (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<p>To assess previous knowledge.</p> <p>To motivate the students.</p> <p>To link previous knowledge with the present knowledge.</p> <p>To develop scientific attitude.</p>
हेतूकथन : (Statement of Aim)	So today we are going to study the	
विषय प्रतिपादन : (Presentation)		

Biology दिनांक (Date): 27/12/22
 उपविषयांश : Types of Fibers इयत्ता (Class): 8th
 (Sub-Topic) students know about the topic तासिका : 2nd वेळ : 9:30am
 (Period) (Time)

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask questions based on previous knowledge	Students gives expected answers:
Q1) What type of clothes do you wear during winter season?	We wear woollen clothes.
Q2) Why we wear woollen clothes in winter?	because they keeps us warm.
Q3) Do you know, where the wool comes from?	wool comes from the sheep & goats.
Q4) What part of goats does the wool obtain?	wool is obtain from hair of sheep & goat.
Topic "Types of Fibers".	
Teacher explains about the topic by showing chart.	
<u>FIBRES:-</u>	
The thin strands of thread that we see are made up of fibers. Still thinner strands called Fibers.	Student listening carefully
There are two types of Fibers	
① Natural fibers	

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
	<u>Natural Fibres</u> Types of fibres.  	<p><u>Knowledge</u> Students recall and tell the answer.</p> <p><u>Understanding</u> Students explain synthetic fibres.</p>

शिक्षक कृती (Teacher Activity)	अध्ययनानुभव (Learning Experience)
<p># <u>NATURAL FIBRES</u>:- The fibres of some fabric such as cotton, jute, silk, wool are obtained from plants and animals. These are called natural fibres. Fibres obtained from plants:- Cotton and jute. Fibres obtained from animals:- Wool & silk.</p> <p>* Silk fibres are drawn from the cocoon of silkworm.</p> <p># <u>SYNTHETIC FIBRES</u>:- Fibres are also made from chemical substances, which are not obtained from plant or animal sources. These are called synthetic fibres. Examples:- Polyester, Nylon, Acrylic.</p> <p>Teacher ask some questions:-</p> <p>Q1) What are two types of fibres?</p> <p>Q2) Natural fibres are obtained from ____ & ____?</p> <p>Q3) Name two synthetic fibres?</p>	<p>विद्यार्थी कृती (Pupil Activity)</p> <p>Students listening carefully.</p> <p>Students trying to understand the topic.</p> <p>Two types of fibres are natural fibres & synthetic fibres.</p> <p>from plants and animal.</p> <p>Nylon and polyester are two synthetic fibres.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		To fix the gain knowledge → summing up the whole topic → Recalling what is taught To evaluate the students
गृहपाठ : (Home-Work)		→ To develop self-study habit. → To develop creativity → To use leisure time

फलक - लेखन (Black-Board Writing)

Class: 8th & 9th Sub: Bio	<u>DATE: 27/12/22</u>
<u>NATURAL FIBERS</u>	<u>SYNTHETIC FIBERS</u>
The fibers of some fabrics such as cotton, jute, silk, wool are obtained from plants & animals. * Fibers obtained from plants → cotton & jute. * Fibers obtained from animal → wool & silk. * Silk fibers are drawn from the silkworm.	Fibers are also made from chemical substances. → Not obtained from plant or animal sources. → They are called synthetic fibers. Ex: ① Polyester ② Nylon ③ Acrylic
[H.W] collect some fabric and paste them in natural & synthetic fibers	

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
In order to clarify the topic teacher ask some questions:- (01) what are the examples of fibers obtained from plants? (02) Where does silk is obtained? (03) Name examples of synthetic fibers. Teacher gives homework:- (01) collect some fabric and classify them according to their source.	Students gives expected answers: Jute, Cotton and wool are obtained from plants. Silk is obtained from silkworm. Nylon & Polyester are synthetic fibers. Students writing down in notebook.

अभिप्राय (Remarks)

Statement of aim brought properly from students.



पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 17

विषय (Subject):

विद्यालयाचे नांव : Sunflower school

विषयांश : Microorganisms

(School Name)

पाठ साहित्य : Chart paper

(Teaching Aids)

विषयांश : (Topic) friend & foe.

पूर्वज्ञान : (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → To aware previous knowledge. → Attractive beginning → To motivate students. → To develop scientific attitude. → To link previous knowledge to present knowledge.
हेतूकथन : (Statement of Aim)	so, today we are going to learn about	
विषय प्रतिपादन : (Presentation)		

Biology

दिनांक (Date): 04/01/23

उपविषयांश : Friendly microorganisms

(Sub-Topic)

इयत्ता (Class): 8th

तारिका : 2nd


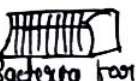
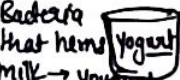
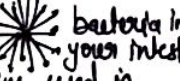
(Period)

वेळ : 9:30am

(Time)

अध्ययनानुभव (Learning Experience)

शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask questions based on previous knowledge.	Students gives expected answers:-
Q1) What are microorganisms?	Microorganism is a tiny organism exist in single celled form or colony of cell.
Q2) Can we see microorganism by naked eye?	No, we cannot see microorganism from naked eye.
Q3) Are there any harmful microorganisms?	Yes, some microorganisms are harmful.
Q4) The microorganisms which are not harmful can be called as?	Friendly microorganism.
"Friendly microorganisms"	
Teacher explains the topic by showing card.	
Microorganisms are used in various purposes. They can be used in the preparation of curd, bread & cake.	
→ They are also used in cleaning of the environment.	Students listening carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
	making of bread & curd.	
	Commercial use of microorganisms	
	<u>* FRIENDLY MICROBES</u>	
	<u>BENEFICIAL MICROORGANISM</u>	
	 Penicillin	
	 Bacteria from making bread	
	 Bacteria that turns milk → yogurt.	
	 Bacteria in your intestine used in digestion.	
		<p><u>Knowledge</u> Students recall and tells the commercial use of microorganisms.</p> <p><u>Understanding</u> Students explain conversion of sugar into alcohol.</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>* making of bread & curd :-</p> <ul style="list-style-type: none"> The bacterium 'lactobacillus' promote the formation of curd. Bacteria also involved in making of cheese, pickles. Bacteria and yeast are also helpful for fermentation of curd idlis & dosa batter. <p>* Commercial use of micro-org.</p> <ul style="list-style-type: none"> Microorganisms are used much for the production of alcohol, wine, acetic acid (vinegar) <p>* Medicinal use of micro-org.</p> <ul style="list-style-type: none"> The sources of medicines are microorganisms. These medicine stops the growth of harmful microorganisms are called antibiotics. <p>Antibiotics which are made from bacteria:</p> <ol style="list-style-type: none"> ① Streptomycin ② Tetracycline ③ erythromycin. <p>Teacher ask some questions:</p> <ol style="list-style-type: none"> 01) From which microorganism a milk is converted into curd? 02) What is the commercial use of microorganism? 03) The conversion of sugar into alcohol is called? 	<p>By Lactobacillus milk is converted into curd.</p> <p>Making of alcohol, wine and vinegar.</p> <p>Fermentation.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> → To fix the gain knowledge → To evaluate the students → Summing up the topic → Recalling what is taught.
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> → To develop self-study habit. → To use leisure time. → To develop creativity.

फलक - लेखन (Black-Board Writing)

Biology 8th

Friendly microorganisms Date: 04/01/23

These examples show some of helpful uses of microorganisms

- ① Bacteria used to ferment milk as part of cheese making.
- ② Yeast ferments the carbohydrates found in grapes to make alcoholic wine.
- ③ Yoghurt is made using milk that has been soured by bacteria.

- ④ Yeast is added to bread dough to make it rise.
- ⑤ Microorganisms feed on leaves, plants decomposing it creating compost.
- ⑥ Antibiotics used to kill bacteria - that cause infection. Ex: Penicillium.

HW List how microorganisms help you in everyday life.

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
In order to recall the topic teacher ask questions	Students give expected answers:
Q1) What are antibiotics?	Medicines which kill or stop growth of harmful microorganisms are called antibiotics.
Q2) Name what antibiotics made up from bacteria and fungi?	Streptomycin, tetracycline are made up from bacteria & fungi.
Q3) Yeast is grown in natural sugars of which crops?	Barley, wheat, rice etc.
Teacher gives homework to students &	
Ques) List how microorganisms help you in your everyday life.	Student copying down the notebook

अभिप्राय (Remarks)

Diagram was proper and labelled nicely

पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 18 विषय (Subject):

विद्यालयाचे नांव: Sunflower school विषयांश: Micro-organisms
(School Name) (Topic) friend & foe.

पाठ साहित्य: Chart paper पूर्वज्ञान: (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> To Arouse previous knowledge Attractive beginning Developing scientific attitude. To link previous knowledge to present knowledge.
हेतूकथन : (Statement of Aim)	So, today we are going to learn	
विषय प्रतिपादन : (Presentation)		

Biology

दिनांक (Date): 04/01/23



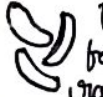



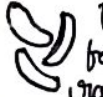



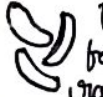

उपविषयांश: Harmful microorganisms इयत्ता (Class): 8th

(Sub-Topic) Students know about diseases of matter तासिका: 2nd वेळ: 9:30 am

(Period) (Time)

अध्ययनानुभव (Learning Experience)

शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask questions on previous knowledge.	Students gives expected answers:-
Q1) The micro organisms that are useful for us is called?	They are called friendly microorganisms.
Q2) Why we should keep a handkerchief on the nose and mouth while sneezing?	To prevent the spread of communicable diseases.
Q3) Are all ^{micro} organisms are good for us?	No, some microorganisms are harmful.
Q4) What can we name those microorganism?	We can say them Harmful microorganisms.
about " Harmful microorganism	
Teacher explains the topic in detail.	
# HARMFUL MICRO-ORGANISMS:-	
→ The microorganisms that cause diseases in living beings are known as pathogens.	Listening carefully.
→ There are many ways in which microorganisms can harm us:	

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)				
	<p><u>FOOD SPOILAGE BY</u> <u>MICRO-ORGANISM</u></p> <p><u>HARMFUL MICROORGANISM</u></p> <table><tr><td><p>Salmonella found in raw chicken</p></td><td><p>Ring- worm</p></td></tr><tr><td><p>E. coli found on raw meat</p></td><td><p>Athlete's foot.</p></td></tr></table>	 <p>Salmonella found in raw chicken</p>	 <p>Ring- worm</p>	 <p>E. coli found on raw meat</p>	 <p>Athlete's foot.</p>	<p><u>Knowledge</u> Student recognize and tells about pathogens</p> <p><u>Understanding</u> Student explains two communicable disease.</p>
 <p>Salmonella found in raw chicken</p>	 <p>Ring- worm</p>					
 <p>E. coli found on raw meat</p>	 <p>Athlete's foot.</p>					

अध्ययनानुभव (Learning Experience)	शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	<p>Some pathogens are transmitted through air, water & food.</p> <p>The diseases which are transmitted directly from an infected person.</p> <p>known as:- common cold, tuberculosis etc.</p> <p>Diseases caused by microorganisms in Animals:-</p> <p>Foot & Mouth disease - Virus.</p> <p>Diseases caused by Micro-organisms in Plants:-</p> <p>Rust of wheat → Fungi</p> <p>Citrus canker → Bacteria</p> <p><u>* FOOD SPOILAGE BY MICRO-ORGANISMS</u></p> <p>→ Bacteria, moulds, & yeast are main causes of food spoilage.</p> <p>→ Bacteria can cause the spoilage of food with increased water activity. eg: Milk products.</p> <p>Teacher ask some questions:-</p> <p>(1) What are pathogens?</p> <p>(2) What are communicable disease?</p> <p>(3) State two communicable disease.</p>	<p>Microorganisms that spread diseases are called pathogen.</p> <p>Disease which can be transmitted from one person to another.</p> <p>Common cold and tuberculosis are falls.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> - To fix gain knowledge - To evaluate the student. - Develop scientific attitude - To link previous knowledge to present knowledge
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> - To develop self-study habit. - To use learning time - To develop creativity

फलक - लेखन (Black-Board Writing)

Class: Sub:	Harmful Microorganism
<p>① Food poisoning can be caused by bacteria that grow on uncooked food.</p> <p>② Chicken pox is caused by a virus. It spreads very easily.</p> <p>③ Influenza virus causes flu symptoms like headache, fever.</p>	<p>④ Athlete's foot was caused by a fungus that grows between the toes.</p> <p>⑤ Plaque on our teeth is formed when bacteria in the mouth.</p> <p>⑥ The fungi that grow on food are called moulds.</p>
[15] List some harmful microbes you see in your daily life.	

अध्ययनानुभव (Learning Experience)	शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	<p>In order to revise the topic teacher asks questions:</p> <p>(i) What are responsible for food spoilage?</p> <p>(ii) What can be added to prevent food spoilage?</p> <p>(iii) From where pathogen enters in body?</p> <p>Teacher gives homework to students.</p> <p>(iv) Define what are harmful and harmful microbes you see in your everyday life.</p>	<p>Students give expected answers:</p> <p>Bacteria, moulds and yeast are the main causes of food spoilage.</p> <p>Preservatives are added to prevent food spoilage.</p> <p>Pathogen enters in our body through air, water & food.</p> <p>Students writing down the homework in notebook.</p>

अभिप्राय (Remarks)

Lesson was taken.


पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 19 विषय (Subject):

विद्यालयाचे नांव : Sunflower School विषयांश : Translocation of substances
(School Name) (Topic)

पाठ साहित्य : Chart paper, 30 module. पूर्वज्ञान :
(Teaching Aids) (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> → To assess previous knowledge → Attractive beginning → Developing scientific attitude → To link previous knowledge to present knowledge
हेतुकथन : (Statement of Aim)	So today we are going to learn	
विषय प्रतिपादन : (Presentation)		

Biology - दिनांक (Date): 13/01/23
विषयांश : Human excretory system. इयत्ता (Class): 8th
Sub-Topic) Don't know about the topic. तासिका : 2nd वेळ :
(Period) (Time) 9:30

शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask questions based on previous knowledge Where do we eat food? Where does the food goes after eating by mouth? What will happen with food? After digestive system. What happen to the waste material? What is the process called?	Student gives expected answer: We eat food through mouth. Food goes down into the stomach. Food gets digested by digestive system. Waste material will get out of the body. It is called excretion.
about " Human excretory system.	

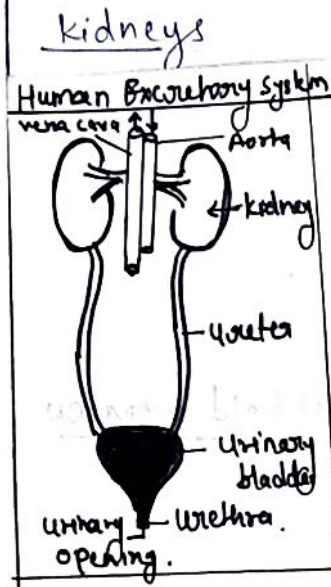
HUMAN EXCRETORY SYSTEM.

The process of removal of waste products produced by the cells of the living organism is known as excretion.

The organ that are involved in the removal of waste product from the body is called excretory system.

Students listening carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अद्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
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Ureters

Urethra

Knowledge
Students recall and tell the part of excretory system.

Understanding
Student explain urinary bladder.

अध्ययनानुभव (Learning Experience)	विद्यार्थी कृती (Pupil Activity)
<p><u>शिक्षक कृती (Teacher Activity)</u></p> <p>Excretory organs which form excretory system are as follows:-</p> <p><u>KIDNEYS:-</u> Blood is filtered to remove the wastes. This filtration is performed by blood capillaries present in the two bean shaped kidneys. The wastes that are dissolved in the water are removed as urine. The kidneys receive the blood rich in oxygen from the heart through the renal artery.</p> <p><u>URINARY BLADDER:-</u> The pouch-like structure which stores the urine produced in the kidney is known as urinary bladder.</p> <p><u>URETERS:-</u> Two tube-like structures which connect the kidneys and the urinary bladder are called ureters.</p> <p><u>URETHRA:-</u> Urine is sent out through the opening called urethra.</p> <p>Teacher ask following questions:-</p> <p>21) What are the parts of excretory system?</p> <p>22) Purification of blood is done in ?</p> <p>23) What is urinary bladder?</p>	<p>Students listening carefully.</p> <p>Students trying to understand the topic.</p> <p>Kidneys, urinary bladder, ureters & urethra are parts of excretory system.</p> <p>It is done in kidney.</p> <p>Pouch like structure which stores the urine.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> - To fix the gen knowledge - To evaluate the students - summing up the topic - Recall the taught lesson
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> - To develop self-study habit. - To use leisure time - To develop creativity.

फलक - लेखन (Black-Board Writing)

<p>Biology Date</p> <p><u>Human Excretory System</u></p> <p>13/10/23</p> <p>① <u>Kidney</u></p> <ul style="list-style-type: none"> → Dark red, bean shaped → Right one is slightly lower than left one. → Metanephric outstoperational in position. <p>② <u>Ureter</u>:</p> <ul style="list-style-type: none"> → Narrow, opens into urinary bladder. → tubular structure. <p>13/10/23 Draw well-labelled structure of excretory system.</p>	<p>③ <u>Urinary bladder</u></p> <ul style="list-style-type: none"> → Reservoir of urine in the pelvic cavity → inner lining is composed of transitional epithelium. <p>④ <u>Urethra</u>:</p> <ul style="list-style-type: none"> → Canal like structure that opens to exterior by urethral orifice.
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अध्ययनानुभव (Learning Experience)	शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
	<p>order to recall the topic ask following questions: what is the role of urethra?</p> <p>what is the function of ureter?</p> <p>what is excretion?</p> <p>ask give home-work to students</p>	<p>Students give expected answers:</p> <p>Tube arises from urinary bladder helps to expel urine out of the body.</p> <p>Tube like structure connect the kidney to the urinary bladder.</p> <p>Removal of waste material from the body.</p> <p>Students writing homework into the notebook.</p>

अभिप्राय (Remarks)

Excretory system explained nicely.


पर्यवेक्षकाची सही
(Sign. of Supervisor)

पाठ क्रमांक (Lesson No.): 20 विषय (Subject):
 विद्यालयाचे नांव: Unflown school विषय (Topic): Life Processes
 पाठ साहित्य: chart paper पूर्वज्ञान: (Previous Knowledge)

पाठाच्या पायऱ्या (Steps of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
प्रस्तावना : (Introduction)		<ul style="list-style-type: none"> To arise previous knowledge To attract beginning To develop scientific attitude To link previous knowledge to present knowledge.
हेतुकथन : (Statement of Aim)	So today we are going to learn about	
विषय प्रतिपादन : (Presentation)		

Biology - दिनांक (Date): 14/01/23
 उपविषय (Sub-Topic): Aerobic and Anaerobic respiration. इयत्ता (Class): 10th
 विद्यार्थी ज्ञान: Students know about the topic. तासिका: 3rd वेळ: 10:30 am
 (Period) (Time)

शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
Teacher ask some questions based on previous knowledge: When you run fast than what happen with you? What do you get by breathing fast? In which form you get energy? What is Respiration?	Students give expected answers: we start to breath fast. we get Energy. we get energy in the form of oxygen. In inhalation of oxygen and exhalation of CO_2 gas is called respiration.
Respiration is the movement of oxygen from the outside environment to the cells within tissues, and the removal of CO_2 in opposite direction. Respiration is of two types:- Aerobic respiration Anaerobic respiration	Students listening carefully.

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
	<u>AEROBIC RESPIRATION</u>	
	<u>ANAEROBIC RESPIRATION</u>	
	<div data-bbox="344 820 629 1235" data-label="Diagram"> <pre> graph TD subgraph Aerobic_Respiration [Aerobic Respiration] R1[glucose + oxygen] --> P1[Carbon dioxide + water] R1 -.-> E1[Release energy] end subgraph Anaerobic_Respiration [Anaerobic Respiration] R2[glucose] --> P2[alcohol] R2 -.-> E2[Release energy] end Aerobic_Respiration --> Anaerobic_Respiration </pre> </div>	<p><u>Knowledge</u> Student recall and tells about respiration</p> <p><u>Understanding</u> Student explains about Aerobic respiration</p>

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p><u>AEROBIC RESPIRATION:-</u></p> <p>It is a fixed metabolic reaction and takes place in the presence of oxygen.</p> <p>It involves the exchange of gases between the organism and the outside environment.</p> <p>Process of respiration takes place in the cytoplasm & mitochondria.</p> <p>Glucose breaks down into CO_2 and water.</p> <p>All higher organisms such as mammals perform this type of respiration.</p> <p><u>ANAEROBIC RESPIRATION:-</u></p> <p>No requirement of oxygen.</p> <p>Takes place in the cytoplasm only.</p> <p>Glucose breaks down to ethyl alcohol, CO_2 & energy.</p> <p>Lower organisms such as bacteria or other prokaryotes and yeast follow this type of respiration.</p> <p>Teachers are doing questions!</p> <p>Which mode of respiration takes place in the presence of oxygen?</p> <p>Which oxygen takes place in the absence of oxygen?</p>	<p>Students listening carefully</p> <p>Students trying to understand the topic.</p> <p>Aerobic respiration takes place in presence of oxygen.</p> <p>Anaerobic respiration takes place in absence of oxygen.</p>

पाठाच्या पायऱ्या (Spets of Lesson)	अध्यापन मुद्दे (Teaching Points)	उद्दिष्टे व स्पष्टीकरणे (Objectives with Specification)
पुनरावलोकन : (Recapitulation)		<ul style="list-style-type: none"> - To fix the gain knowledge - To develop evaluate the student - summing up the whole topic - Recalling what is taught
गृहपाठ : (Home-Work)		<ul style="list-style-type: none"> - To use lesson time - To develop self-study habit - To develop creativity


फलक - लेखन (Black-Board Writing)

Sub - Biology Class - 10th	<u>Type of Respiration</u>	Date - 14/01/23
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><u>AEROBIC RESPIRATION</u></p> <ul style="list-style-type: none"> → It involve in exchange of gas between the organism and the outside environment → Takes place in presence of oxygen → Glucose breaks down into CO_2 and water. </div> <div style="width: 45%;"> <p><u>ANAEROBIC RESPIRATION</u></p> <ul style="list-style-type: none"> → No requirement of oxygen → Glucose breaks down to ethyl alcohol and energy → Found in lower organisms </div> </div>		
[H.W] State the difference between Aerobic & Anaerobic respiration		

अध्ययनानुभव (Learning Experience)	
शिक्षक कृती (Teacher Activity)	विद्यार्थी कृती (Pupil Activity)
<p>In order to revise teacher ask questions :-</p> <p>What is Respiration?</p> <p>Write two types of Respiration?</p> <p>Name main type of Anaerobic respiration.</p> <p>He ask & gives homework to students :-</p> <p>State the difference between aerobic respiration and anaerobic respiration?</p>	<p>Students trying to give answer :-</p> <p>Movement of in & out of air through lungs.</p> <p>There are two types of respiration:</p> <p>① Aerobic respiration</p> <p>② Anaerobic respiration</p> <p>Lactic acid fermentation</p> <p>Students writing down the homework.</p>

अभिप्राय (Remarks)

Lesson was good and
Teaching aid was proper.


पर्यवेक्षकाची सही
(Sign. of Supervisor)