

Alternate Education Program For Teaching And Learning IN September Month For 2021- 2022



Alternate Academic Calendar

Class:8

Subject: Science

Month: September

Sl no	Month/week	Main learning abilities	Learning activities	Evaluation
01	September 2021 first week	1. They shall understand the concepts pertaining to microorganisms They identify the habitat of microorganisms and they classify their types.	1. With the aid of microscope detect and observe the presence of microorganisms in moist soil, lake and in sewage water. 2. Observe the growth of fungus on bread, fruits and vegetables and food stuff. 3.To know about the habitat of microorganisms and their types click on youtube link to watch samveda video lesson: <a href="https://www.youtube.com/watch?v=A3ve8pdVf44">https://www.youtube.com/watch?v=A3ve8pdVf44</a>	1. What are microorganisms? 2. What are the microbial habitats? 3. Name different types of microorganisms 4. Collect the pictures of different types of microorganisms and classify them. 5. Practice/activity sheet-01
		2. Conversion of milk into curds and find out the role of microorganisms In bread, cake preparation.	1. Observing the method followed at home to convert milk into curds. 2. Fermentation of idli, dosa batter and detecting the reason for using the yeast in preparation of bread, pastry and cake. 3. Activity given in the textbook-2.3	1. Name the bacteria which helps in conversion of milk into curds? 2. What is the role of yeast in baking industry? 3. Practice book page number-11 4. Practice/activity sheet-02

01	September-2021 First week		<p>3. Commercial use of microorganisms-fermentation, medicinal uses.</p> <p>4. Vaccination, increasing the fertility of soil, Use the YouTube link to watch samveda video lesson to know about the role of microorganisms in cleaning the environment. <a href="https://www.youtube.com/watch?v=5bkSb3vaIGw">https://www.youtube.com/watch?v=5bkSb3vaIGw</a></p>	
		<p>3. Commercial use of microorganism, medicinal use of microorganism, know about the vaccine and they make a list</p>	<p>1. Activity given in the textbook-2.4</p> <p>2. Role of yeast in the commercial production of alcohol, wine, and acetic acid. Knowing the effect of fermentation.</p> <p>3. Making a list of major vaccines.</p> <p>4. Collecting the pictures and information who have contributed to the manufacture of antibiotics/vaccine.</p>	<p>1. What is fermentation?</p> <p>2. What are the contributions made by Louis Pasteur and Alexander Flemming in vaccine preparation?</p> <p>3. List out the vaccines given to the children</p> <p>4. Practice/activity sheet-03</p>
	<p>4. Increasing the fertility of the soil, understanding the role of microorganisms in cleaning the environment.</p>	<p>1. Preparing a list of microorganisms which increases soil fertility.</p> <p>2. Activity given in textbook -2.5</p> <p>3. Addressing the need of microorganisms for environmental cleanliness.</p>	<p>1. Name the microorganisms which fix nitrogen in biological nitrogen fixation.</p> <p>2. Mention the need of microorganisms in environmental cleanliness.</p> <p>3. Practice/activity sheet-04</p>	
		<p>5. Harmful microorganisms- microorganisms responsible for diseases in human beings, diseases caused by them, They explain about mode of transmission and</p>	<p>1. Harmful microorganisms- make the list of diseases in plants and animals and list the diseases which transmit by contact.</p> <p>2. Prepare a table comprising about mode of transmission of microorganisms and preventive measures.</p> <p>3. Activity given in textbook-2.1</p>	<p>1. List out the diseases caused by microorganisms in human beings, plants and animals.</p> <p>2. List out the symptoms and preventive measures of covid-19.</p> <p>3. Practice book page numbers: 8-9</p> <p>4. Practice/activity sheet -05.</p>

preventive measures.

02  September 2021 Second week	6. Diseases causing microorganisms in plants. They shall know about the mode of transmission of diseases.	1. Mode of transmission of diseases by microorganisms in plants preparing a table on mode of transmission. 2. Table given in the textbook -2.2 3. List out the diseases in your locally grown food crops and commercial crop plants. 4. To know about diseases spread by microorganisms, Food preservation and nitrogen fixation use this YouTube link to watch samveda video class. <a href="https://www.youtube.com/watch?v=YBmGzJnwK1Y">https://www.youtube.com/watch?v=YBmGzJnwK1Y</a>	1. List out the mode of transmission of diseases in plants and disease causing microorganisms in plants 2. List out the plant diseases affecting to your locally grown food crops and commercial food crops. 3. Practice sheet/activity sheet-06
	7. They shall understand about the food preservation methods like chemical method, preservation by common salt, preservation by sugar, preservation by oil and vinegar, heat and cold treatments and storage and packing.	1. Making a list of food preservation methods 2. Making a list of food items that are generally preserved by chemical methods. 3. Making a list of food items that can be preserved by using common salt, sugar, oil and vinegar, and heat and cold treatment. 4. To prevent the attack of microbes tell them the importance of storage and packing.	1. What are the methods of food preservation? 2. Write a brief note on the preservation methods that you follow at your home to preserve food stuff. 3. Practice/ activity sheet-07  1. List out the names of leguminous species of plants belonging to

8. Know the importance of Nitrogen fixation, they shall develop the skill of drawing the pictorial depiction of nitrogen cycle and explain about nitrogen cycle

1. Preparing a table of leguminous plant which are responsible for biological nitrogen fixation.
2. Knowing the method of nitrogen fixation by the action of lightning by viewing the video.
3. Plucking a legume species plant belonging to dicot plant group along with the roots and showing them roots with rounded root nodules.
4. Collect the picture of legume species plant belonging to dicotyledonous plant group.
5. Developing the skill of drawing nitrogen cycle.

- dicotyledonous plant group.
2. Name the bacteria present in the root nodules of leguminous plants.
  3. Draw the diagram of nitrogen cycle and explain about nitrogen cycling in atmosphere.
  4. Practice sheet/activity sheet-08.

Chapter:-4-Materials: metals and non-metals



Sl no	Month/week	Main learning abilities	Learning activities	Evaluation
03	September 2021 Third week	<p>1. Depending on physical properties of objects they classify them into metals and non-metals. They list out the physical properties of metals and non-metals.</p>	<p>1. Classifying the items available in our surroundings into metals and non-metals based on their physical properties. 2. Activity given in the textbook-4.1 3. Separating iron nail, coal, copper wire, aluminium wire, piece of wood etc into metals and non-metals. And list out the physical properties like hardness, lustrous, malleable, ductile, sonorous, good conductor of heat and electricity. 4. Activity given in the textbook – 4.2 and 4.3</p>	<p>1. Classify the given -iron nail, coal, copper wire, aluminium wire, piece of wood into metals and non-metals. 2. List out the physical properties of metals and non-metals. 3. Practice book page number-23 4. Practice/activity sheet-1/2/3.</p>
		<p>2. They find out the reasons for chemical properties of metals and non-metals. They develop the skills of conducting the experiments of reaction of metals and non-metals with oxygen, water.</p>	<p>1. Conducting the experiments showing chemical properties of metals and non-metals and write down the chemical equations. 2. Activity given in the textbook-4.3 and 4.4. 3. Conducting the experiments of reactions of metals and non-metals with oxygen, water. 4. Activity given in the textbook-4.5</p>	<p>1. why does iron materials do rust? 2. Why does the green coating keep forming on the upper surface of copper vessel? 3. Write down the chemical equation showing the reaction of metals and non-metals with oxygen and water.</p>

				4. Practice book page number-24-25
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04	September 2021 fourth week	<p>3. They shall explain about the chemical changes when metals and non-metals react with acids and bases. They shall develop the skill of writing the chemical equation.</p>	<p>1. Activity given in the textbook-4.6  2. Complete the table 4.3 about the reactions of metals and non-metals with acids.  3. Activity given in the textbook -4.7  4. Conducting the experiments of reaction of metals and non-metals with bases.  5. Developing the skill of writing chemical equations.  6. Using to view the diksha app and youtube video lessons</p>	<p>1. what is the gas evolved when a metal reacts with acid? How do you check this evolved gas?  2. Lemon pickles are not stored in Aluminium vessels. Justify.  3. Practice book page number-26</p>
		<p>4. They understand about chemical displacement reactions.  5. They list out the uses of metals and non-metals</p>	<p>1. Activity given in the textbook-4.8  2. Conducting the activity of reaction of iron with copper sulphate.  3. Writing the chemical equation of chemical displacement.  4. List out the uses of metals and non-metals.  5. Conducting an activity of matching the uses of metals and non-metals.  6. Preparing a table of nutrients in the form of metals and non-metals required for the growth of human beings and plants.</p>	<p>1. Explain with a suitable example about chemical displacement reaction.  2. Mention any four uses of metals in our day today life.  3. Given below are the uses of some non-metals. Name the non-metal used,  1. Respiratory functions in living organisms.  2. Water purification process.  3. Manufacture of crackers.  4. Practice book page number:27  5. Practice/activity sheet-05.</p>

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Practice / Activity sheet-01.

1. What are microorganisms?

Ans: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. What are the four major groups of microorganisms?

Ans; \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

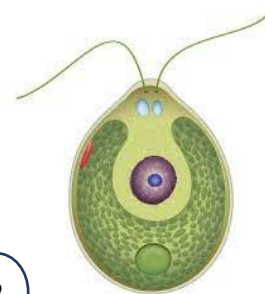
3. Observe the pictures given, Write down the names of microorganisms

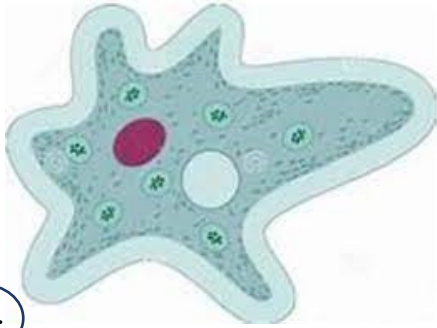


1

Names:1. \_\_\_\_\_ Name:2 \_\_\_\_\_

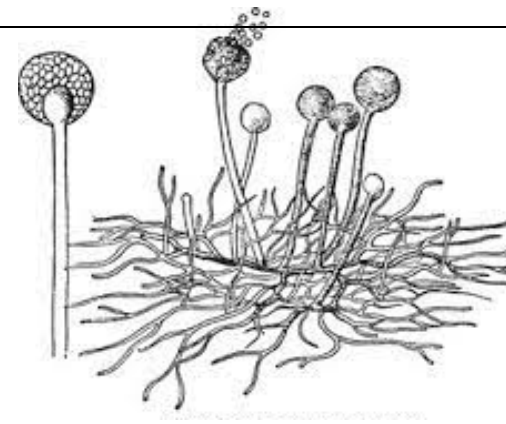
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3.

Name: \_\_\_\_\_

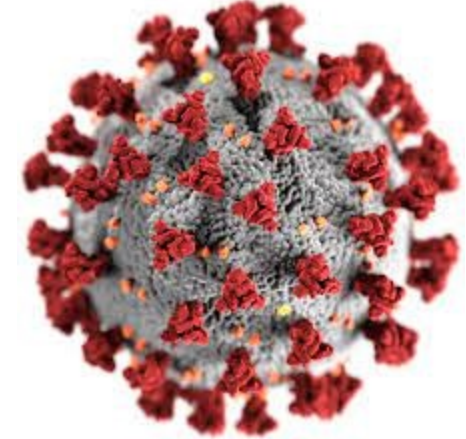


4

Name: \_\_\_\_\_



5. Name: \_\_\_\_\_



6 Name: \_\_\_\_\_

### Practice / activity sheet-02

1. keep a piece of bread in the moist place for 2-3 days.Later on observe the changes happening there and give reasons for the same,





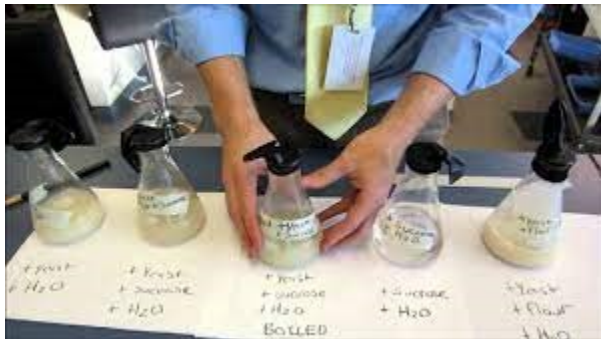
2. When we notice the grinded idli and dosa batter in the next morning the batter would have increased in volume in the vessel, Give reasons.



3. What is fermentation?



4. Write down two applications of fermentation.



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Practice /Activity sheet-03

1. What are antibiotics?

Ans: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Who is the father of antibiotics?

Ans; \_\_\_\_\_  
\_\_\_\_\_

3. Classify the antibiotics given below, write down within the circles related to them.

Pencillin, Cephalosporins, streptomycin. Tetracycline, candicidin, erythromycin, amontidis, acidomycin, acyclovir.

Antibiotics

Antibacterial

Antivirus

Antifungal

4. What are vaccines? Why vaccines are administered?

Ans: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Name the Scientist in the picture given below, who have contributed for developing the vaccines.



1. \_\_\_\_\_

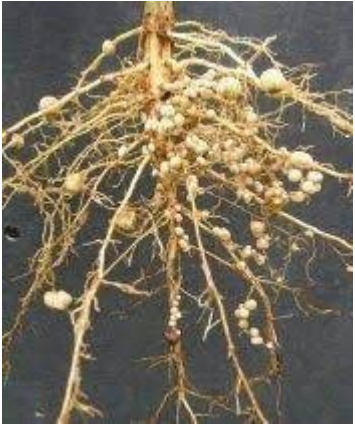


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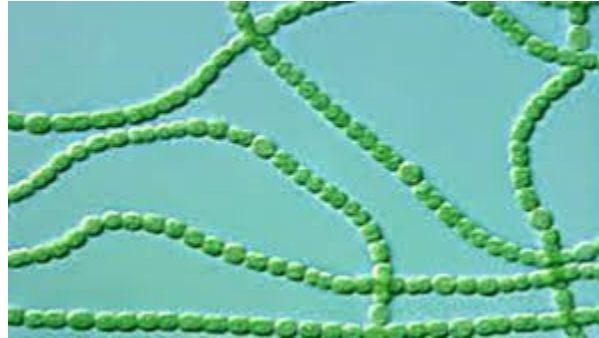
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Practice / Activity sheet-04.

1. The following pictures shows the microorganisms responsible for soil fertility. Observe the pictures  
And write down their role in soil fertility management.



1

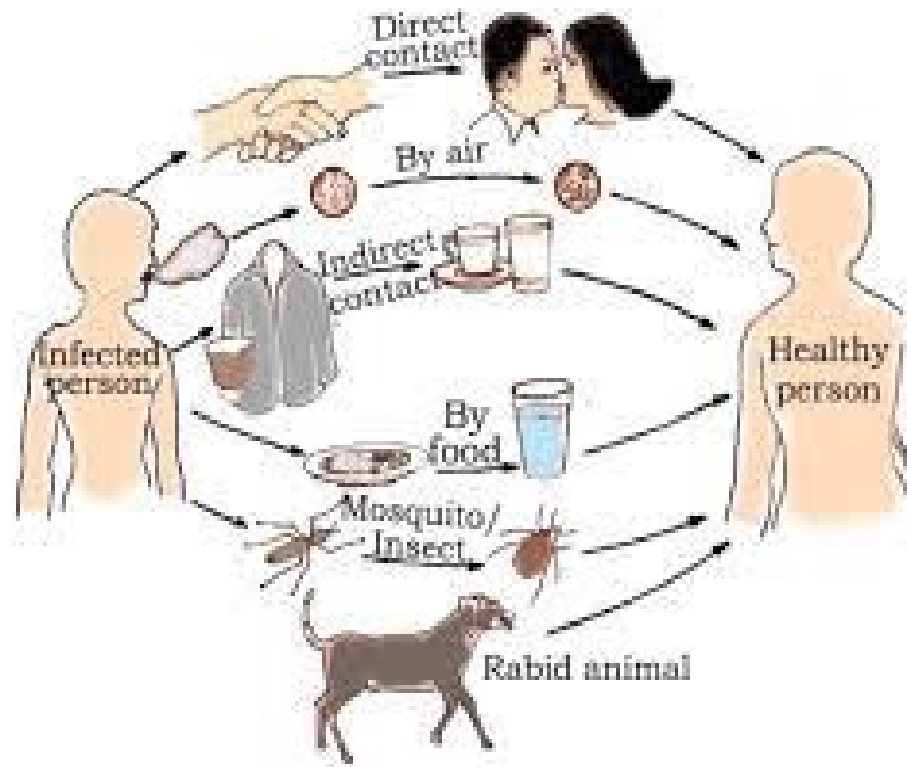


2



Practice / Activity sheet-05

I The following image shows the means of transmission of diseases from infected person to healthy person. List the diseases transmitted by these methods,





Sl no	Disease transmission methods	Transmitted diseases
1.	Direct contact	
2.	Through air	
3.	Through direct contact	
4.	Through food	
5.	Through mosquito/Insect	
6.	Through animals	

2. What is the microorganism that is responsible for the spread of Covid-19 infections? What are the precautions would you follow to avoid covid-19 infections?

Ans:

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Practice / Activity sheet-06




I The following table given below shows some common diseases caused by microorganisms in plants. Mention the microbe that causes the disease and the mode of transmission.




Sl no	Name of the plant disease	Image of the disease	Microorganism	Mode of transmission
1.	Citrus canker			
2.	Rust of wheat			
3.	Yellow vein mosaic of okra			

2. Prepare a table with the help of elders to identify the plant diseases of food crops and commercial crops that grow in your locality.

Practice / Activity sheet-07

I Complete the table by knowing the methods of preserving the food items given in the table.

Sl no	Food stuff	Image of the food stuff	Conservation method
1.	Pickle		
2.	Jam		
3.	Sweet dishes		

4.	Fishes		
5.	Fruits and vegetables		
6.	Milk		

Practice / Activity sheet-08

I Write the nitrogen cycle by using the picture and clues given below and arrange in an order,

I make up

78% in atmosphere

I am essential Constituent of all

Living organism as proteins  
Chlorophyll nucleic acidsvitamins

Again joined the  
Atmosphere.

I convert introgeneous compounds into  
N<sub>2</sub> gas

I cannot use atmospheric  
Nitrogen directly

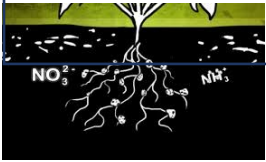
I am dentrifying bacteria

This wastes are degraded and nitrogeneous  
compound gets back into soil.

I am Rhizobium bacteria

Plants synthesise

A small amount of nitrogenous  
Compounds are absorbed by plants



Animals feed on plants for

nitrite

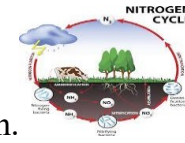
I convert ammonia into

I convert atmospheric nitrogen into ammonia I am nitrification bacteria

Nitrogen from nitrogenous Compounds.

Nutrition.

I fix nitrogen



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Practice / Activity sheet-01.

Chapter-4- Materials: metals and non-metals.

Some of the features are given below. Based on this features list the differences in the physical properties of metals and non-metals.




Characteristics	Metals	Non-metals
1. Visibility		
2. Toughness		
3. Malleability		
4. Ductility		
5. Thermal conductivity		
6. Electrical conductivity		

2. Match the following with the objects given in the list A with their uses given in the list B.

A	B
1. Gold	a. Thermometer
2. Iron	b. To pack the food
3. Aluminium	c. Machinery
4. Mercury	d. Ornaments

Practice / Activity sheet-02

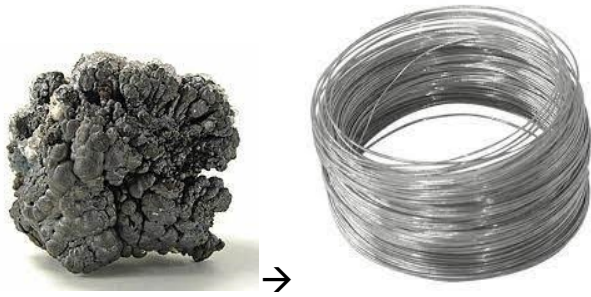
I Observe the pictures given in the table. List the physical properties of metals.

Sl no	Images of metal	Physical properties related to the image
1.		
2.		
3.		
4.		

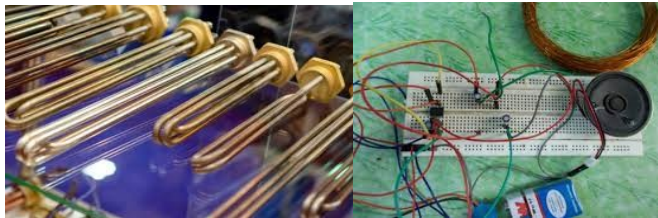




5.



6.



Practice / Activity sheet-03

1. Complete the table given below:

Sl no	Metal/non-metal	Lustrous (Present/absent)	Ductility (Present/absent)	Malleability (Present/absent)	Conductivity (present/absent)	Sonorous (present/absent)
1	Iron					
2	Coal					
3	Copper					
4	Sulphur					
5	Gold					
6	Bromine					
7	Aluminium					
8	carbon					

2. Following given is the uses of metals, name the property responsible for their use:

Sl no	Uses of metals	Property responsible for their use
1	Used in making ornaments	
2	Used in the manufacture of electric wires	
3	Used in the manufacture of roof tops	
4	Used in the manufacture of kitchen utensils	
5	Used in making the bells of temple	

## Practice / Activity sheet-04

### Activity-1:

When magnesium ribbon is burnt in air magnesium oxide is formed. To the product formed add water and mix well. This mixture is then tested with blue and red litmus.

Video link of this experiment:

[Burning Magnesium Ribbon-YouTube](#)



1. Write the chemical equation of the formation of magnesium oxide

Ans: \_\_\_\_\_  
\_\_\_\_\_

2. Which color of the litmus paper changes its color in this mixture?

Ans; \_\_\_\_\_

3. What properties does the mixture of magnesium oxide and water possess?

Ans: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Generally what properties do oxides of metals exhibit?

Ans; \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Activity-2:

Burn the sulphur in air, the smoke/gas evolved is collected in a glass beaker. To this smoke /gas add water and prepare a mixture. Red and blue litmus paper is introduced into this mixture.

Video link of this experiment as follows;

<https://www.youtube.com/watch?v=4dz1Au7Tm5I>



1. Write the chemical equation of sulphur burning in air

Ans: \_\_\_\_\_  
\_\_\_\_\_

2. Write the chemical equation of smoke of sulphur is dissolved in water.

Ans: \_\_\_\_\_  
\_\_\_\_\_

3. Which litmus paper changes its color?

Ans: \_\_\_\_\_  
\_\_\_\_\_

5. Generally what properties do oxides of Non-metals exhibit?

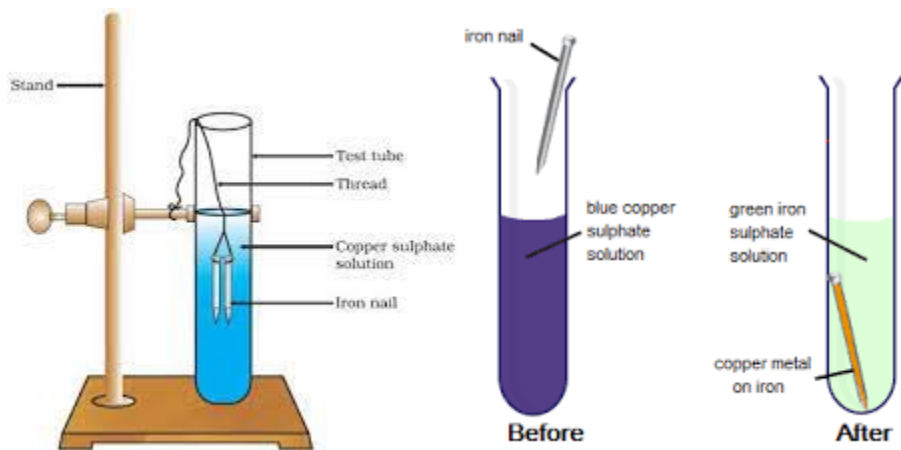
**Ans:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Practice / Activity sheet-05

### 1. Activity-1 :

Video link of the experiment:

<https://www.youtube.com/watch?v=kL78LwMeJV0>



Immerse an iron nail inside copper sulphate solution. Observe the activity carefully. After 5 minutes take out the iron nail. Observe for the changes and answer the following questions,

1. After 5 minutes, what is the brown color metal deposited on iron nail?

Ans: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. What is the type of chemical reaction that has taken place here?

Ans: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Write the chemical equation of this reaction.

Ans: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. What are the main uses of metals and non-metals in day today life?

Ans: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_