

School Name: BMC School

Name of the Teacher: faiza

Subject: science

Class: 7th

Chapter Name: Microbes

Learning objective:

- Students will understand what microbes are (bacteria, fungi, protozoa, algae, viruses).
- Explain how microbes spread through air, water, contact, and surfaces with reference to everyday situations
- Understand conditions needed for microbial growth: moisture, warmth, food.
- Students will learn to prepare basic slides using a foldscope and an electronic microscope
- Students will be able to analyse compare different microbes and their good and bad effects on human healths and their usage in daily life

Sub-Topic	Specific Objective	Activities Students Will Do	21st-Century Skills Developed	What Students Will Create Using ICT	ICT Application / Tools	Bloom's Levels	Learning Theory Used
Microbes		Students will give Pre Quiz. They will use their Login ID and Password in Leap portal to Attempt the quiz.					
		<p>1. The topic will be introduced through discussion with students and their daily life activities. Like eating bread, curd, coughing, etc, they will be asked to discuss why milk changes into curd, why food gets bad, what kind of etiquette to be followed during sneezing or coughing, etc. The context of COVID-19 can also be brought if discussion flow permits. This discussion should bring about microbes like virus and bacteria present around us.</p> <p>2 Followed by which they will make mind map of various kind of bacteria, various protozoa, and algae, and their connection to real life, good/ bad effects, and other essential points. This can be facilitated on board or on student copies. This Mind map image can later be used by students to put in their project.</p> <p>3 Following the same students can try to explore some basic concepts regarding microbes like where are microbes found? where did they grow? how microbes spread? What are good and bad microbes? Are they beneficial for us or harmful?</p>			PowerPoint	Understanding, Analyzing	
	Types of Microbes (Bacteria, Fungi, Protozoa, Algae, Viruses)	<p>Different groups will select different microbes to work on.</p> <p>1. Students who selected bacteria list down the characteristic of bacteria. where did they grow? how do they spread? is there any good and bad bacteria? Which diseases are caused by it, and what is that prevention? you have to set curd (yogurt) for three consecutive days in three different containers. On the third day, you will observe each sample under a microscope. You have to note what you see, what the bacteria are called, and whether they are helpful or harmful. You also need to observe which day's curd contains the highest amount of bacteria and note down it then make a graph based on your observations.</p>			Excel, PowerPoint	Applying, Analyzing, Evaluating	
	How Microbes Spread	<p>2. Students who selected fungi: list down the characteristic of fungi. where did they grow? how do they spread? incubation period (How long do they stay alive?) is there any good and bad fungi? Which diseases are caused by it, and what is that prevention? activity: Keep a moistened piece of bread or bhakari in a closed box. Observe it after 3-4 days using a microscope / foldscope.</p>			PowerPoint, Camera, Foldscope	Applying, Analyzing	
	Conditions for Microbial Growth	<p>3. Students who selected viruses: list down the characteristic of viruses. where did they grow? how do they spread? incubation period (How long do they stay alive?) is there any good and bad viruses? Which diseases are caused by it, and what is that prevention? activity: student will use PPE kit.</p>			PowerPoint, Videos	Understanding, Applying	
	Slide Preparation & Microscopy	<p>4. Students who selected protozoa/algae: list down the characteristic of Protozoa/Algae where did they grow? how do they spread? incubation period (How long do they stay alive?) is there any good and bad Protozoa/Algae? Which diseases are caused by it, and what is that prevention?</p>			Microscope / Foldscope, Camera, PowerPoint, Videos	Applying	
	Comparison of Different Microbes						
	Students will create slides on good and bad microbes and their uses.						
	Students will find the difference between good microbes and bad microbes.						