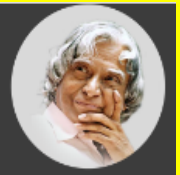
Srini Science Mind

Abdul Kalam Physical Science Group



NEW

9th class

PHYSICAL SCIENCE

LESSON PLAN with BYJU's Content

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LESSON PLAN

CLASS: 09 **SUBJECT: PS** **Name of the Teacher: M.Srinivasa Rao** **Name of the School: SPSMH School, Gudivada**

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
Sound (Chapter-11)	Production of Sound	1			
	Propagation of Sound	1			
	Sound waves are longitudinal waves	2			
	Characteristics of a sound waves	3			
	Speed of sound in different media	1			
	BYJU's Content Review	1			
	Reflection of sound	2			
	Echo and Reverberation	1			
	Uses of multiple reflection of sound	3			
	Range of Hearing	1			
	Application of Ultrasound	2			
	BYJU's Content Review	1			

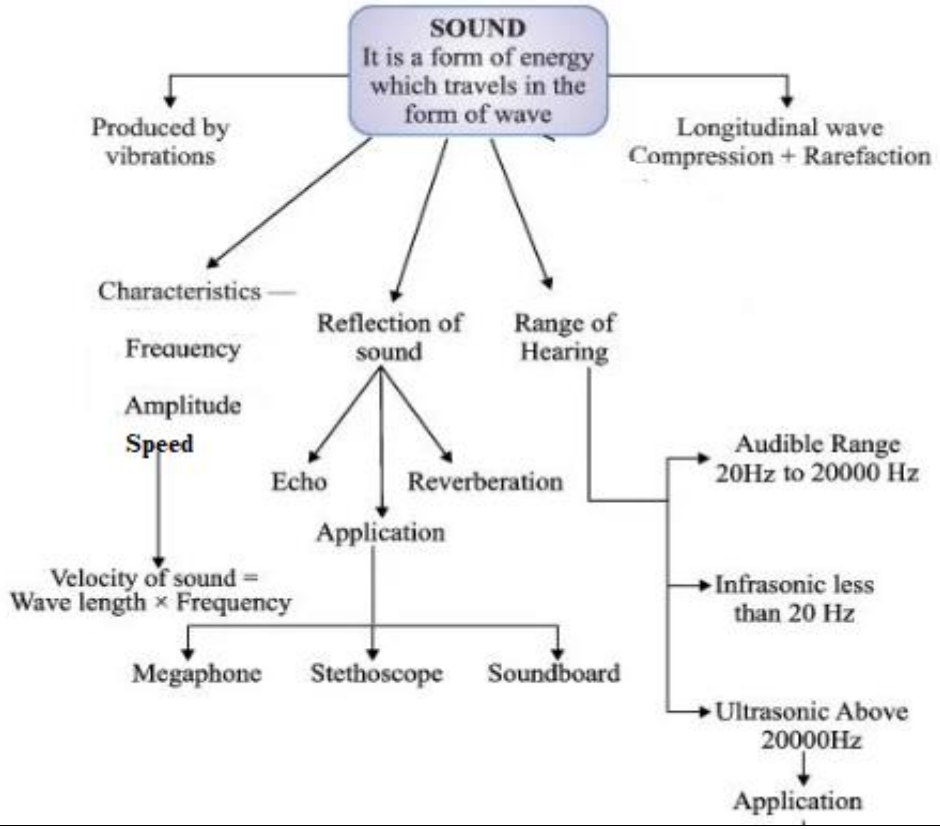
Prior Concept/Skills:

1. How do objects produce sound?
2. Does the sound travel if there is no medium?
3. What is the unit to measure the sound intensity?

Learning Outcomes:	**No. of Periods**
1. Explain processes and phenomena of propagation of sound.	2
2. Conducts investigations on production of sound	1
3. Relates processes and phenomena of production of sound with vibrations of source.	2
4. Differentiate waves based on properties and characteristics.	2
5. Draws labelled diagrams of frequency, amplitude.	1
6. Analyses and interprets figures of Characteristics of sound.	1
7. Draws labelled diagrams of low pitch, high pitch, louder sound and soft sound.	1
8. Relates processes and phenomena with the cause of sound waves following the laws of reflection.	2
9. Applies scientific concepts in daily life and solving problems of multiple reflection of sound.	1
10. Conducts investigations on eco situations.	1
11. Applies scientific concepts in daily life and solving problems of covers walls of large rooms with sound absorbent material.	1
12. Designs models using eco-friendly resources of stethoscope.	1
13. Explains processes and phenomena of How bats use ultrasonic waves to catch prey	1

TEACHING LEARNING PROCESS

Induction/Introduction:



Experience and Reflection:

1. Students know the energy of sound and protect the human ear from its effects.
2. Students will learn the contexts in which echo occurs in everyday life.
3. Students will know in which situations ultrasounds are used in everyday life.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for:
1. Explain and conduct activities on production of sound with help of tuning fork and rubber hammer.	1. Students will arrange the apparatus properly and conduct an activity.	1. Students describe the activity in their own way	1. Can we that a sound is a form of mechanical energy?
2. Explain how does sound travel and propagation of sound.	2. Students observe how to propagation of sound.	2. Students give a reason, why the vibrating body produces	2. Which part of our body vibrates when we speak?

		sound.	
3. Explain and demonstrate types of wave propagation.	3. Do compressions and rarefactions in sound wave travel in the same directions or in opposite directions? - Group discussion	3. Students complete the homework.	3. How does the sound travels?
4. Explain and demonstration of sound waves are longitudinal waves.	4. Students collect information on types of sound waves.	4. Students draw rough diagrams of types of sound waves.	4. What are longitudinal waves?
5. Discussion and explain the characteristics of a sound wave. (Frequency)	5. Students draw diagrams of the density and pressure variations of sound propagation	5. Students write the definitions of frequency of sound waves.	5. Why does wavelength not affect the speed of sound?
6. Discussion and explain the characteristics of the sound wave. (Amplitude)	6. Students draw diagrams of lower pitch, higher pitch, louder sound and soft sound.	6. Students express the S.I units of amplitude, Frequency and Speed of sound wave.	6. What are the characteristics of a sound wave?
7. Discussion and explain the characteristics of the sound wave. (Speed)	7. Students solved problems on speed of sound waves	7. Students complete the homework	7. Does pitch depend on frequency?
8. Discussion and explain of speed of sound in different media.	8. Group discussion on Speed of sound in different media	8. Students explain on what factors influence the speed of sound?	8. What is the speed of sound in air at 0^0C?
9. Review of Byju's tab content	9.Viewing the content in Byju's Tab	9. Viewing the content in Byju's Tab	
10. Explain and conduct an activity on reflection of sound.	10. Students collect information on the reflection of sound.	10. Students express the laws of reflection of sound.	9. What are the two laws of reflection of sound?
11. Explain Echo, Reverberation and its problems.	11. Group discussion on why is an echo weaker than the original sound.	11. Students solved the problems on Echo	10. What is the formula for echo?
12. Discussion and explain the uses of multiple reflection of sound.	12. Students collect information on uses of multiple reflection of sound.	12. Students complete the homework	11. Write the uses of multiple reflection of sound.
13. Explain the range of hearing	13. Students classify the range of hearing.	13. Students define the audible range of sound.	12. What is audible range of the average human ear?
14. Explain the applications of ultrasound	14. Group discussion on Applications of ultrasound.	14. Students express the applications of ultrasound in our daily life	13. What are Ultrasonics?

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Check For Understanding Questions	TLM's (Digital + Print)
1. Factual: 1. Do all vibrating bodies necessarily produce sound? 2. Why echo is produced? 3. How the concert halls and cinema halls are designed to use multiple reflections of sound? **2. Open Ended/Critical Thinking:** 1. Does sound travel faster in high or low pressure? 2. Does the frequency of sound waves depend on the medium on the medium in which it travels? How? 3. Why is there no sound in space? **3. Student Practice Questions & Activities:** 1. Describe with the help of a diagram, how compressions and rarefactions are produced in air near a source of sound. 2. Why is sound wave called a longitudinal wave? 3. The frequency of a source of sound is 100 Hz. How many times does it vibrate in a minute? 4. Give two practical applications of reflection of sound waves. 5. What is reverberation? How can it be reduced?	1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App 4. YouTube video links 5. Byju's Tab 6. IFP

Assessment:
1. What is sound and how is it produced?
2. Does sound follow the same laws of reflection as light does? Explain.
3. What is loudness of sound? What factors does it depend on?
4. Explain how defects in a metal block can be detected using ultrasound.
5. Collect the information on applications of ultrasound.

SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEADMASTER

VISITING OFFICER WITH REMARKS