



**Srini Science Mind**  
Abdul Kalam Physical Science Group



**NEW**

**9<sup>th</sup> class**

**PHYSICAL SCIENCE**

**MODEL LESSON PLAN**



**M.SRINIVASA RAO, SA(PS) AGKMHS GUDIVADA PH: 9848143855**

# MODEL LESSON PLAN

CLASS: 09

SUBJECT: PS

Name of the Teacher: M.Srinivasa Rao

Name of the School: A.G.K.M.H.School, Gudivada

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
<b>Sound</b> <b>(Chapter-11)</b>	Sound is a form of energy	1	xx/xx/xxxx	xx/xx/xxxx	
	Production of sound	1	xx/xx/xxxx	xx/xx/xxxx	
	Propagation of sound	1	xx/xx/xxxx	xx/xx/xxxx	
	Types of waves	1	xx/xx/xxxx	xx/xx/xxxx	
	Characteristics of the sound wave	2	xx/xx/xxxx	xx/xx/xxxx	
	Characteristics of a musical sound	1	xx/xx/xxxx	xx/xx/xxxx	
	Reflection of sound	2	xx/xx/xxxx	xx/xx/xxxx	
	Range of hearing-Application of ultrasound	1	xx/xx/xxxx	xx/xx/xxxx	
	SONAR	1	xx/xx/xxxx	xx/xx/xxxx	

## 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:

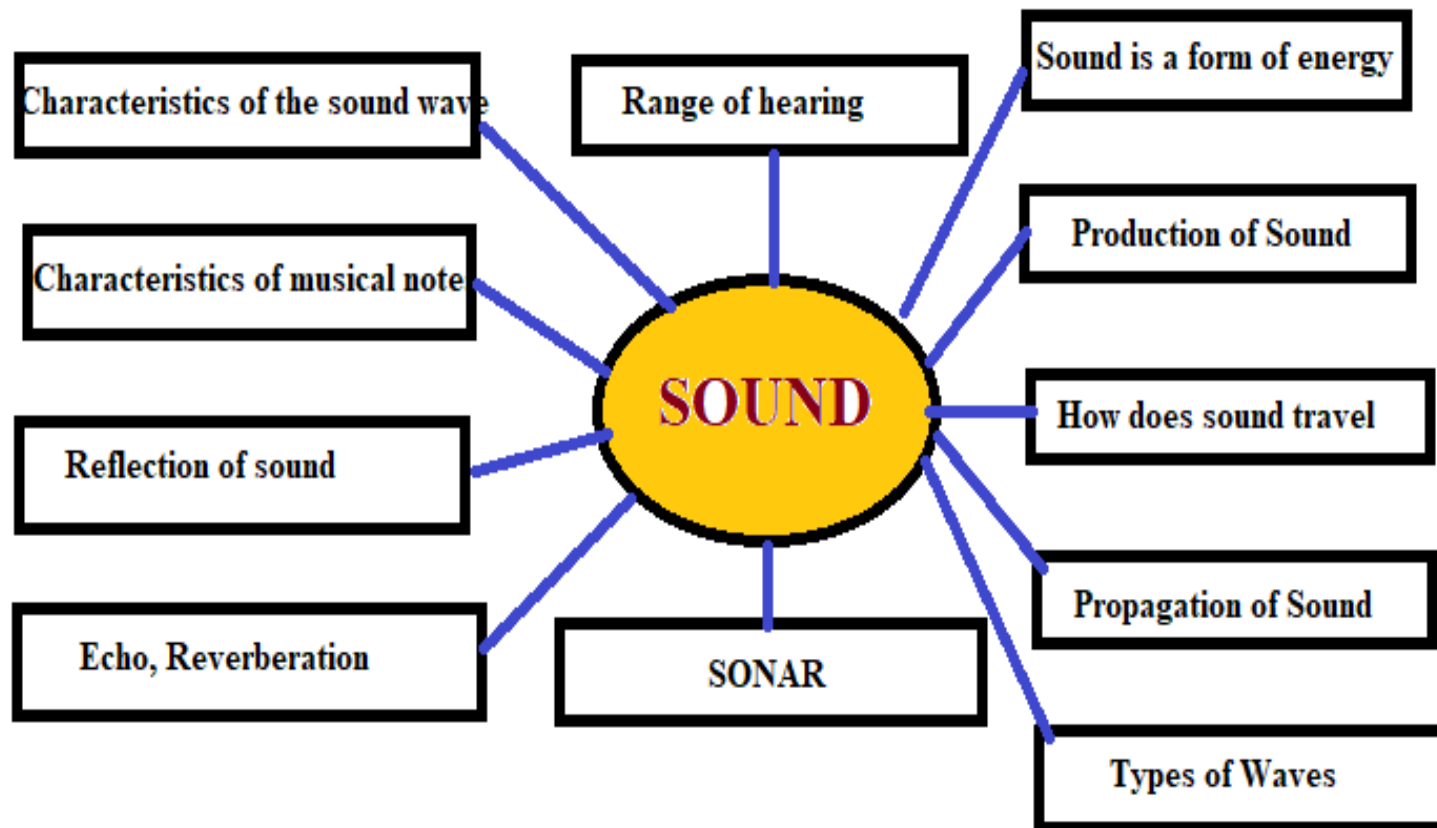
1. Conducts investigations on sound is a form of energy.
2. Relates processes and phenomena of production of sound with vibrations of source.
3. Differentiate waves based on properties and characteristics.
4. Draws labelled diagrams of wavelength, amplitude.
5. Analyses and interprets figures of Characteristics of a musical sound.
6. Draws labelled diagrams of low pitch, high pitch, louder sound and soft sound.
7. Applies scientific concepts in daily life and solving problems of multiple reflection of sound.
8. Conducts investigations on eco situations.
9. Applies scientific concepts in daily life and solving problems of covers walls of large rooms with sound absorbent material.
10. Designs models using eco-friendly resources of stethoscope.
11. Explains processes and phenomena of How bats use ultrasonic waves to catch prey.
12. Explains processes of SONAR.

## No. of Periods

- 1
- 1
- 1
- 1
- 1
- 1
- 1
- 
- 1
- 1
- 1
- 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. Discussion and conduct activity on sound is a form of energy.	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?

<p>2. Explain and conduct activity on production of sound with help of tuning fork and rubber hammer.</p> <p>3. Explain how does sound travel and propagation of sound.</p> <p>4. Explain and demonstrate types of wave propagation.</p> <p>5. Discussion and explain the characteristics of the sound wave. (Wavelength and Amplitude)</p> <p>6. Discussion and explain the characteristics of the sound wave. (Time period, Frequency and Speed of sound wave)</p> <p>7. Discussion and explain the characteristics of a musical sound. ( Pitch, Loudness and Quality)</p> <p>8. Explain and conduct an activity on reflection of sound.</p> <p>9. Explain Echo, Reverberation and its problems.</p> <p>10. Discussion and explain the uses of multiple reflection of sound.</p> <p>11. Explain the range of hearing and applications of ultrasound in industrial and medical fields</p> <p>12. Discussion and explain the working of SONAR and its problems.</p>	<p>2. Students observe how sound is produced</p> <p>3. Do compressions and rarefactions in sound wave travel in the same directions or in opposite directions? - Group discussion</p> <p>4. Students collect information on types of sound waves.</p> <p>5. Students draw diagrams of the wavelength and amplitude of a wave.</p> <p>6. Students solved the problems on Time period, frequency and speed of sound waves.</p> <p>7. Students draw diagrams of lower pitch, higher pitch, louder sound and soft sound.</p> <p>8. Students collect information on the reflection of sound.</p> <p>9. Group discussion on why is an echo weaker than the original sound.</p> <p>10. Students collect information on uses of multiple reflection of sound.</p> <p>11. Group discussion on Applications of ultrasound.</p> <p>12. Students explain the working of SONAR.</p>	<p>2. Students give a reason, why the vibrating body produces sound.</p> <p>3. Students complete the homework.</p> <p>4. Students draw rough diagrams of types of sound waves.</p> <p>5. Students write the definitions of wavelength and amplitude of sound waves.</p> <p>6. Students express the S.I units of Time period, Frequency and Speed of sound wave.</p> <p>7. Students complete the homework</p> <p>8. Students explain "Do hard surfaces reflect sound better than soft ones?"</p> <p>9. Students solved the problems on echo</p> <p>10. Students making the stethoscope</p> <p>11. Students complete the homework</p> <p>12. Students write the use of SONAR.</p>	<p>2. Which part of our body vibrates when we speak?</p> <p>3. How does the sound travels?</p> <p>4. What are longitudinal waves?</p> <p>5. Why does wavelength not affect the speed of sound?</p> <p>6. What are the characteristics of a sound wave?</p> <p>7. Does pitch depend on frequency?</p> <p>8. What are the two laws of reflection of sound?</p> <p>9. What is the formula for echo?</p> <p>10. Write the uses of multiple reflection of sound.</p> <p>11. What is audible range of the average human ear?</p> <p>12. Expand SONAR</p>
---	--	---	--

<p style="text-align: center;"><b>Check For Understanding Questions</b></p> <p><b>1. Factual:</b></p> <ol style="list-style-type: none"> <li>1. Do all vibrating bodies necessarily produce sound?</li> <li>2. Why echo is produced?</li> <li>3. How the concert halls and cinema halls are designed to use multiple reflections of sound?</li> </ol> <p><b>2. Open Ended/Critical Thinking:</b></p> <ol style="list-style-type: none"> <li>1. Does sound travel faster in high or low pressure?</li> <li>2. Does the frequency of sound waves depend on the medium on the medium in which it travels? How?</li> <li>3. Why is there no sound in space?</li> </ol> <p><b>3. Student Practice Questions &amp; Activities:</b></p> <ol style="list-style-type: none"> <li>1. Explain the following terms a) amplitude b) wavelength c) frequency</li> <li>2. Explain how echoes are used by bats to judge the distance of an obstacle in front of them.</li> <li>3. Write uses of multiple reflection of sound in day-to-day life.</li> <li>4. Why is soft furnishing avoided in concert halls?</li> <li>5. Explain the working and applications of SONAR.</li> </ol>	<p style="text-align: center;"><b>TLM's (Digital + Print)</b></p> <ol style="list-style-type: none"> <li>1. Used prepared Quiz paper.</li> <li>2. Utilized digital classroom.</li> <li>3. Provide video links QR codes, DIKSHA App</li> <li>4. YouTube video links</li> </ol>
<p><b>Assessment:</b></p> <ol style="list-style-type: none"> <li>1. How can you say that the sound is a form of energy?</li> <li>2. A sound wave travels at speed of 339 m/s. If its wavelength is 1.5 cm, what is the frequency of the wave? Will it be audible?</li> <li>3. How are multiple reflections of sound helpful to doctors and engineers?</li> <li>4. What are the characteristics of music?</li> <li>5. Collect the information on applications of ultrasound.</li> </ol>	

SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEADMASTER

VISITING OFFICER WITH REMARKS