Complete

1. When waves are reflected, they change their …… but reflects with the same …… of reflection.
2. …… is the transfer of energy by a wave to the medium through which the wave travels.
3. …… is the bouncing back of a wave off a surface.
4. …… is the change in direction of a wave when it travels by the edge of an object or through an opening.
5. …… is the passage of a wave through a medium.
6. Echo is an example of ……
7. Sound travels faster in a ……..dense materials.
8. High temperature ……..the speed of sound in gases and ……..the speed of sound in liquids and solids.

Mark true or false.

1. Sound travels at a higher speed in less dense objects.
2. Mechanical waves are transmitted in gases and liquids only.
3. Light is the only wave that can be reflected.
4. The law of reflection states that the angle of incoming wave equals the angle of reflection
5. Absorption is the transfer of energy by a wave to the medium through which the wave travels.

MCQ

1. Reflection occurs when a wave……..

A bends due to a change in speed

B hits a surface and bounces back

C passes through an opening

D bends around a barrier

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2. Which of the following is NOT a cause of a wave changing direction?

Diffraction

Reflection

Absorption

Refraction

3. The bending of waves around the edge of a barrier is known as……..

Diffraction

Reflection

Absorption

Transmission

4. When a wave hits a surface through which it transfers to the medium through which the wave travels, it undergoes……..

Diffraction

Reflection

Absorption

Refraction

5. A wave travels through a medium because ……..

the medium's particles are carried along with the wave.
the wave's energy passes from particle to particle.
the medium transfers electromagnetic energy.
the wave increases the potential energy of its medium

6. Sound travels FASTEST through which of these materials?

Air
Empty space
Metal
Water

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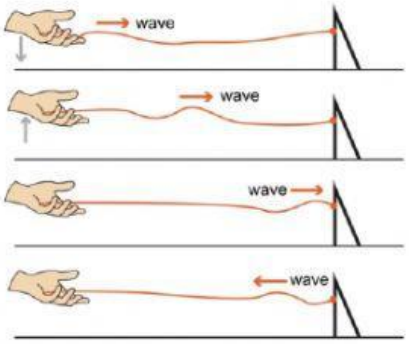
7. Why is the school library covered with carpet?

So everyone can make a lot of noise
To help absorb sounds to keep it quiet
Because it looks good
To help absorb sounds so it can stay noisy

8. Which type of interaction is this?



reflection
refraction
diffraction
absorption

9. Which type of interaction is this?

reflection
refraction
diffraction
absorption

10. Diffraction occurs when a wave
bends due to a change in speed
hits a surface and bounces back
passes through an opening
bends around a barrier

Essay

1. What is the effect of diffraction on waves?

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2. What causes more diffraction of waves?

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3. Explain why sound travels faster in more dense matter.

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4. Explain why the sound is faster at a higher temperature in gaseous state.

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5. Explain why the sound is slower at a higher temperature in solid and liquid state.

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6. As temperature increases, the sound moves faster in all cases.

Explain why you agree or disagree with this statement.

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7. Explain two ways on how acoustic engineers control sound waves using different materials.

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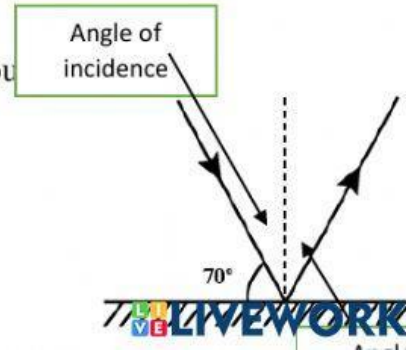
8. What is the angle of reflection? Explain how you



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Illustrate:

1. Mention the factors that affect the following:
   - Speed of sound.

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   - Absorption of waves.

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   - Transmission of waves.

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   - Diffraction of waves.

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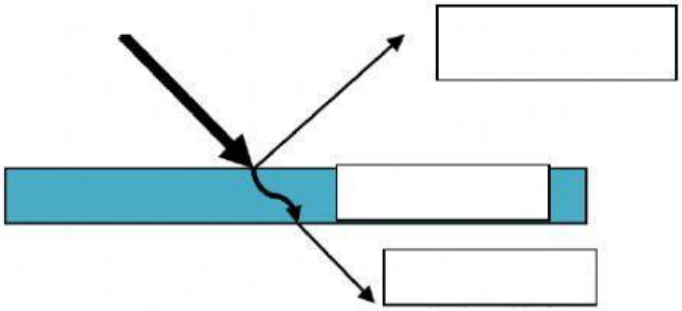
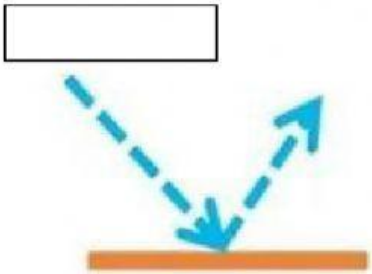
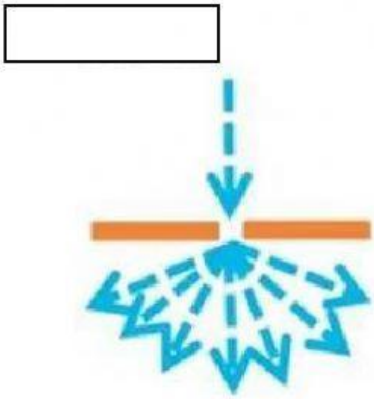
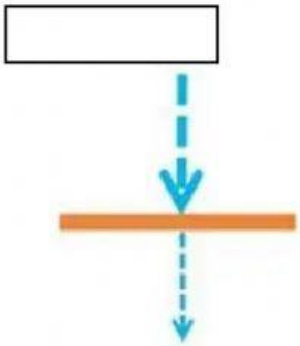
2. Label the following interactions:









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