

# Making Sound

All of the objects listed below make sounds. Put an X next to the objects you think involve vibrations in producing sound.

- guitar strings
- drum
- dripping faucet
- barking dog
- piano
- screeching brakes
- radio speaker
- crumpled paper
- car engine
- chirping cricket
- singer
- popped balloon

- drum
- wind
- wood saw
- clapped hands
- bubbling water
- rustling leaves



- hammer
- flute
- thunderstorm
- two stones rubbed together
- snapped fingers

Explain your thinking. What "rule" or reasoning did you use to decide which objects involve vibrations in producing sound?

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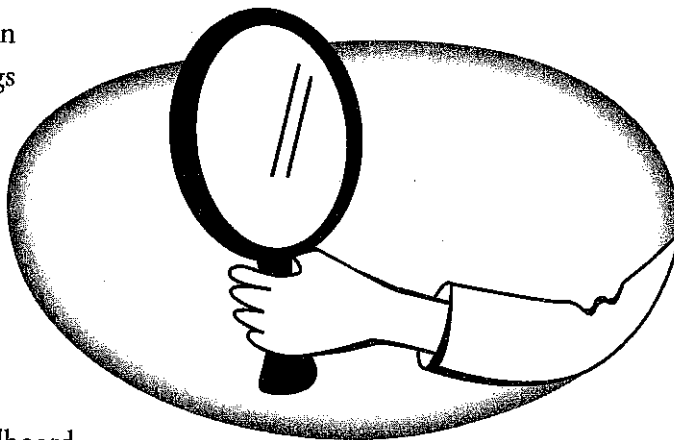
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# Can It Reflect Light?

What types of objects or materials can reflect light? Put an X next to the things you think can reflect light.



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|---|--|--|
| <input type="checkbox"/> water          | <input type="checkbox"/> dull metal      |  |
| <input type="checkbox"/> gray rock      | <input type="checkbox"/> red apple       |  |
| <input type="checkbox"/> leaf           | <input type="checkbox"/> rough cardboard |  |
| <input type="checkbox"/> mirror         | <input type="checkbox"/> the Moon        | <input type="checkbox"/> milk                          |
| <input type="checkbox"/> glass          | <input type="checkbox"/> rusty nail      | <input type="checkbox"/> bedsheet                      |
| <input type="checkbox"/> sand           | <input type="checkbox"/> clouds          | <input type="checkbox"/> brand new penny               |
| <input type="checkbox"/> potato skin    | <input type="checkbox"/> soil            | <input type="checkbox"/> old tarnished penny           |
| <input type="checkbox"/> wax paper      | <input type="checkbox"/> wood            | <input type="checkbox"/> smooth sheet of aluminum foil |
| <input type="checkbox"/> tomato soup    |  |  |
| <input type="checkbox"/> crumpled paper |  |  |
| <input type="checkbox"/> shiny metal    |  |  |

Explain your thinking. Describe the "rule" or the reasoning you used to decide if something can reflect light.

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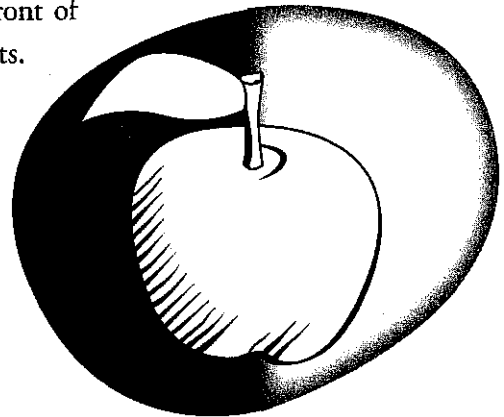
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# Apple in the Dark

Imagine you are sitting at a table with a red apple in front of you. Your friend closes the door and turns off all the lights. It is totally dark in the room. There are no windows in the room or cracks around the door. No light can enter the room.



Circle the statement you believe best describes how you would see the apple in the dark:

- A** You will not see the red apple, regardless of how long you are in the room.
- B** You will see the red apple after your eyes have had time to adjust to the darkness.
- C** You will see the apple after your eyes have had time to adjust to the darkness, but you will not see the red color.
- D** You will see only the shadow of the apple after your eyes have had time to adjust to the darkness.
- E** You will see only a faint outline of the apple after your eyes have had time to adjust to the darkness.

Describe your thinking. Provide an explanation for your answer.

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# Birthday Candles

Imagine you are at a birthday party. A birthday cake with candles is put on a table in the middle of a room. The room is very large. You are standing at the end of the room, 10 meters away from the cake. You can see the candles. Circle the response that best describes how far the light from the candles traveled in order for you to see the flames.

- A** The light stays on the candle flames.
- B** The light travels a few centimeters from the candle flames.
- C** The light travels about 1 meter.
- D** The light travels about halfway to where you are standing.
- E** The light travels all the way to where you are standing.



Describe your thinking. Provide an explanation for your answer.

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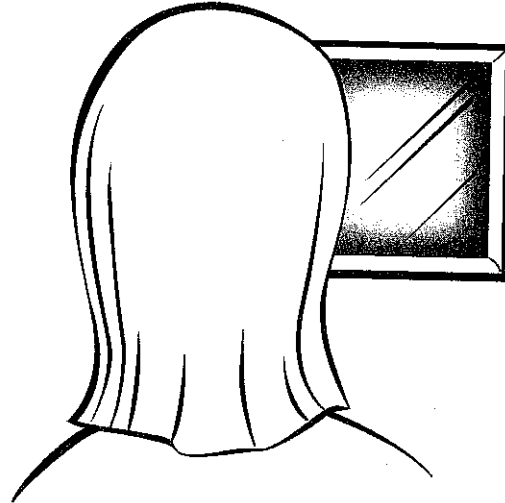
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# Mirror on the Wall

Adrienne placed a small, flat mirror flat against a wall. Standing close to the mirror, Adrienne could see her face from her eyebrows to her chin. Adrienne backed up five steps away from the mirror. Adrienne is now farther away from the mirror. How much of her face will Adrienne see in the mirror this time?

- A** She will see more of her face.
- B** She will see less of her face.
- C** She will see the same amount of her face.



Explain your thinking. Describe your reasoning or any experiences you have had with mirrors that helped you decide what Adrienne would see.

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