Light and Shadow

Learning Objective:

To explore how light is reflected from surfaces.

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We already know that we need light to see things. If an object does not give out its own light (which most objects do not) then how do we see it?

How do we see a wall, a friend or a book? How do we see trees and kites and shoes?

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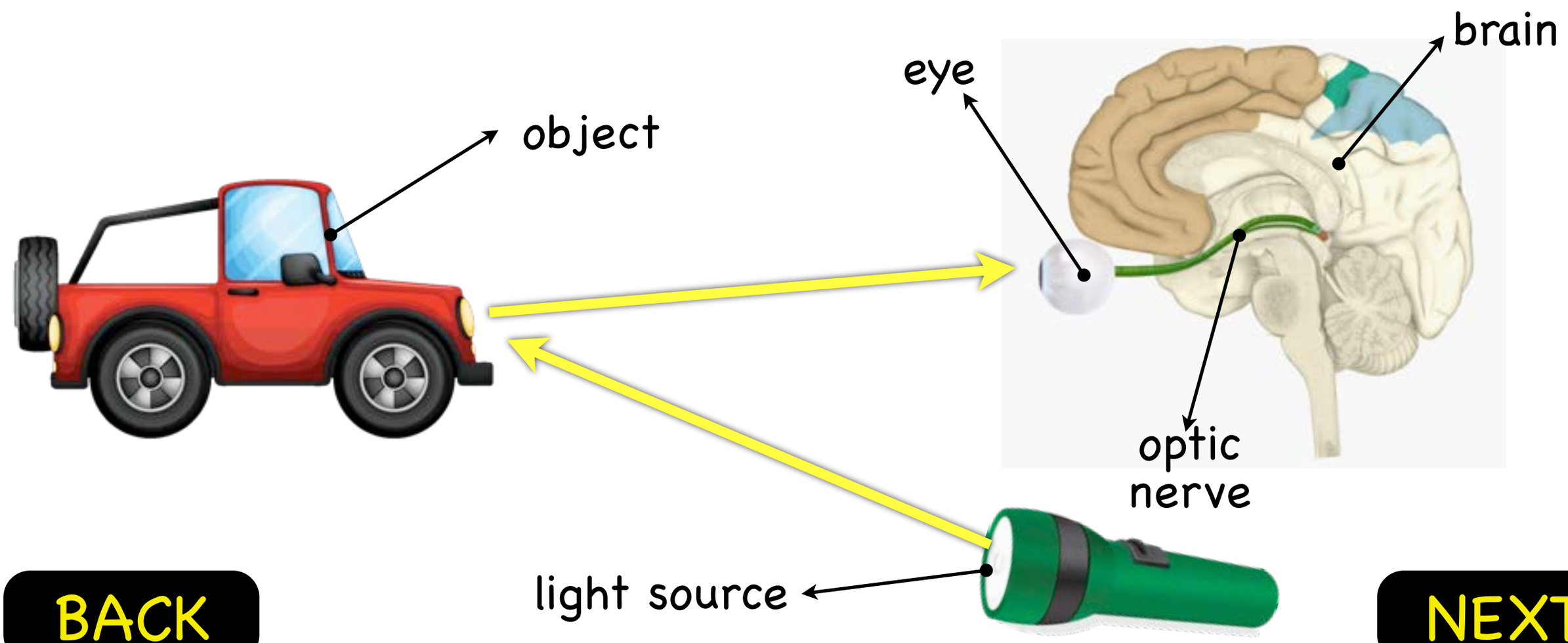
We can see objects because light is **reflected** off their surfaces. The light travels in a straight line from the light source and bounces off the object to our eyes. Our eyes then send a message to our brains through the optic nerve to tell us what we have seen.



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Some objects are designed to reflect a lot of light so that they can be seen clearly when a light shines on them in the dark. These objects all have reflectors which makes them easy for drivers to see when their headlights shine on them in the dark.

Can you think of any other objects that have reflectors on them?

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Some objects reflect more light than others. Surfaces that are smooth and shiny reflect more light than surfaces that are dull. When a surface is very smooth, like the surface of a mirror, it reflects a lot of light. This is why we can see ourselves in a mirror or in the surface of water.

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Can you think of any other objects where you could see a reflection of yourself?

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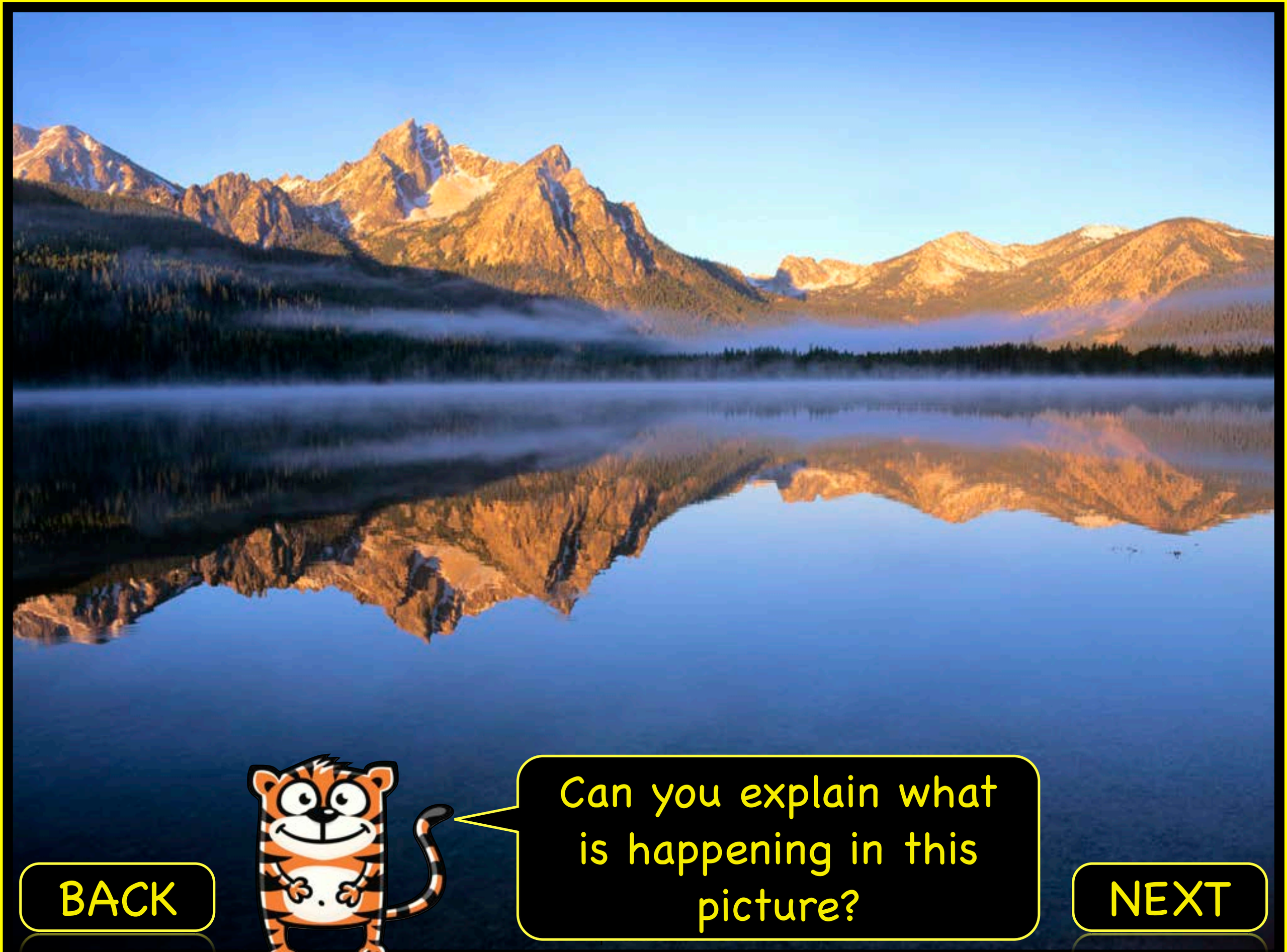

Can you explain what is happening in this picture?

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