

## THE STANDARD

# Evidence of Energy Transfer

"Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents."

 ANCHORING PHENOMENON

## The Lamp Across the Room

Flip a switch on the wall and a lamp clear across the room lights up and gets warm. A wire runs hidden inside the wall, so you cannot see what connects the switch to the lamp. The energy started far away and showed up here as light and heat.

## DRIVING QUESTION

"How does flipping a switch over here make a lamp light up and warm up way over there?"

 INVESTIGATIVE 1

### The Spoon That Steals Your Warmth

Put a metal spoon and a plastic spoon in a cup of warm water. After a minute, the metal spoon handle feels warm but the plastic one stays cool. The heat traveled up the metal from the water to your fingers, so some paths carry it better than others.

## DRIVING QUESTION

"Why does the metal spoon handle get warm while the plastic one stays cool in the same cup?"

 INVESTIGATIVE 2

### You Can Feel the Speaker Buzz

Turn up a speaker and hold a hand a few inches in front of it. On a low, loud note you feel a buzz on your skin and a balloon nearby trembles. The sound left the speaker, crossed the air, and pushed on your hand. You feel the energy travel.

## DRIVING QUESTION

"How does sound from the speaker reach across the air and make a balloon shake?"