

Dear Parent or Guardian,

Your child is now beginning TEKS 4.8, “Energy.” Read more to find out what your child is exploring!



What We’re Doing

Why do all the dominos fall if only one gets pushed? Why do you put on a coat when the weather gets cooler? Why does a flashlight only give off light when the switch is pushed?

By the end, your child will be able to

- investigate ways energy is transferred by objects in motion and waves
- identify conductors and insulators of thermal and electrical energy
- describe how electrical energy travels in a closed path in a circuit

At-Home Activity

To prepare your child for TEKS 4.8, try this short activity:

- Collect balls of different sizes such as a golf ball, soccer ball, basketball, and baseball.
- Sit across from each other, and roll two balls toward each other so they collide. Repeat using different balls and rolling them at faster and slower speeds.

Engage your child by asking these questions:

- What happens to energy when two objects collide?
- How do speed and mass affect energy transfer in a collision?

Helpful Resources



Log on to *Ed* to

- download lesson PDFs
- interact with the digital lesson
- explore the FUNomenal Reader *Course Corrections*

- examine the simulation *Keeping It Warm and Cool*



Science Summary

Vocabulary for this topic includes *energy transfer, collision, sound, wave, conductor, insulator, circuit, electrical energy, light, and thermal energy*.

- Energy can be transferred in different ways, such as when objects collide, waves move through water, or the sound of a voice moves through the air.
- Materials that conduct heat and electricity well are conductors. Metals are often good conductors. Materials that do not conduct heat or electricity well are insulators. Rubber and cloth are often good insulators.
- Devices that run on electrical energy transform that energy into different types of energy for useful purposes. Electrical energy can be used only if it flows through a closed path or loop known as a circuit.

Misconception Alert!

If your child has one of these misconceptions, here's how you can help.

- **Misconception 1: Energy is only present when things are moving.**

To address this, explain that when an object falls off a shelf, the energy of the falling object is transformed from stored energy into motion energy as the object falls.

- **Misconception 2: Hot and cold are different.**

To address this, ask your child to think about what happens when they place their hands on a hot or cold drink. Help them recognize that in each case the warmer object, either their hand or the drink, gets cooler and the cooler object warmer. Explain that thermal energy always moves from hotter to cooler places until both are at the same temperature. To say something is “cold” only means it has less thermal energy.

Thank you for supporting your child's education.

Sincerely,

The 4th Grade Teachers