

Energy on the Move

Trace how energy changes form and remains conserved.

5.2 "The student will investigate and understand that energy can take many forms. Key ideas include energy is the ability to do work or to cause change; there are many different forms of energy; energy can be transformed..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Circle each named form of energy, and underline each phrase that shows energy changing or moving, so you can trace where energy goes.

Following Energy Pathways

- ① Energy is the ability to do work or cause change. A stretched rubber band can make a toy car move when it is released. The band stores elastic potential energy. As the car rolls, that stored energy changes mainly into kinetic energy, the energy of motion. Friction between the wheels and floor also changes some energy into thermal energy, warming the surfaces a tiny amount.
- ② At a school garden, sunlight reaches a dark water barrel. Light energy is absorbed by the barrel and changes into thermal energy. The warmer barrel transfers thermal energy to the water. The water's temperature rises, which is a change caused by energy. Energy did not disappear during these changes. It moved or changed form, while the total amount of energy was conserved.
- ③ A flashlight shows another pathway. Chemical energy in its battery changes to electrical energy when the circuit is closed. In the bulb, electrical energy changes to light energy and thermal energy. The light lets a hiker see a trail, and the bulb becomes warm. The energy is not created by the flashlight. It is transferred and transformed, even when some becomes hard to notice.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What is energy, and what change does the rubber band cause?

2 Trace the main energy change as the toy car rolls. What causes some energy to become thermal energy?

3 What energy change warms the water in the barrel, and what evidence shows that energy caused a change?

4 What two forms of energy come from the flashlight bulb? How does this example show that energy is conserved?

3 YOUR TURN _____ Your own words

Create a three-panel sketch of a different everyday event. Label the energy form in each panel, draw arrows to show at least two energy transformations, and write one sentence explaining why energy is conserved.

		
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PART 1 • READ AND MARK

Circle each named form of energy, and underline each phrase that shows energy changing or moving, so you can trace where energy goes. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What is energy, and what change does the rubber band cause?	Energy is the ability to do work or cause change. The released rubber band makes the toy car move.
2	Trace the main energy change as the toy car rolls. What causes some energy to become thermal energy?	Elastic potential energy changes mainly into kinetic energy. Friction between the wheels and floor changes some energy into thermal energy.
3	What energy change warms the water in the barrel, and what evidence shows that energy caused a change?	Light energy changes into thermal energy in the barrel, and thermal energy transfers to the water. The water's temperature rises.
4	What two forms of energy come from the flashlight bulb? How does this example show that energy is conserved?	The bulb produces light energy and thermal energy. Energy is transferred and transformed from chemical and electrical energy, not created or destroyed.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Panel 1: A child sits at the top of a slide, gravitational potential energy. Arrow to Panel 2: The child slides, kinetic energy. Arrow to Panel 3: The child stops, thermal energy from friction. Energy is conserved because it changed forms rather than appearing or disappearing.

Accept accurate everyday pathways that show at least two transformations and use correct energy-form labels. The conservation sentence should state that energy changes form or moves, rather than being created or destroyed.