

Kinetic & Potential Energy and Heat Transfer

Fill in each part when its number appears on the slide.

Name: _____ Date: _____

PART 1 · TARGET

I can explain how energy changes between kinetic and potential forms and identify conduction, convection, and radiation.

PART 2 · WARM-UP

1. Give one example of something that has energy because it is moving.

2. Which has more stored energy: a book on the floor or the same book on a high shelf? Why?

3. Why does a metal spoon in hot cocoa get hot at the handle?

PART 3 · PREDICTION

A pencil is held still above the floor. Does it have energy?

Circle one: ☐ Yes ☐ No, it is not moving ☐ Not sure

PART 4 · VOCABULARY

Word	Meaning
Kinetic energy	
Potential energy	
Conduction	
Convection	

PART 5 · POTENTIAL AND KINETIC ENERGY

_____ energy is stored. _____ energy is the energy of motion.

Check: A roller coaster car is stopped at the top of a hill. It has mostly:

Circle one: (A) Potential energy (B) Kinetic energy (C) No energy (D) Sound energy

PART 6 · ENERGY TRANSFORMS

As an object falls, potential energy changes into _____ energy. The _____ energy stays the same.

Check: Where is the coaster's kinetic energy greatest?

Circle one: (A) Halfway up a hill (B) At the bottom of the biggest hill (C) At the top of the first hill (D)
When it is stopped

PART 7 • HEAT MOVES WARM TO COOL

Heat always moves from _____ to _____ objects.

Check: Hot cocoa (70 °C) sits in a 20 °C room. Heat moves:

Circle one: (A) Both ways equally (B) Nowhere (C) From the cocoa to the room (D) From the room to the cocoa

PART 8 • CONDUCTION, CONVECTION, RADIATION

_____ is heat by touching. _____ is heat by moving currents. _____
is heat by waves.

Check: A campfire warms your face from across the fire. This is:

Circle one: (A) Friction (B) Radiation (C) Conduction (D) Convection

PART 9 • WORKED EXAMPLE

Final answer from the example: _____

PART 10 • WE DO

A skateboarder starts at the top of a ramp and rolls to the bottom. Describe the energy changes.

Answer: _____

PART 11 • YOU DO

A pot of soup is heated from the bottom. The warm soup rises and the cooler soup sinks. This is:

Circle one: (A) Radiation (B) Insulation (C) Convection (D) Conduction

PART 12 • WORK TIME: POWER UP INDIANA FIELD TRIP

Write each code piece as you earn it: Stop 1: ____ Stop 2: ____ Stop 3: ____ Stop 4: ____ Stop 5: ____

Final code: _____

PART 13 • WRAP-UP

Was your prediction in Part 3 right? One thing I learned today:
