Energy in Action: Outdoor Exploration Worksheet

Step 1: Sunlight and Energy Transfers

Instructions:

1. Go outside on a sunny day and stand in a sunny spot.
2. Look at the sunlight shining on plants, the ground, or other objects around you.

Questions:

1. What do you think happens to the energy from the sun when it hits a plant? (Hint: Think about how plants use sunlight.)

2. Can you feel the heat from the sunlight on your skin? How is the energy from the sun being transferred to you?

Step 2: Shadow Experiment

Instructions:

1. Find a sunny spot where you can make a shadow. Stand so that the sunlight hits you and creates a shadow on the ground.
2. Move your arms and legs to change the shape of the shadow.

Questions:

1. What do you notice about the shape and size of your shadow as you move?

2. How does the sunlight transfer energy to your body to create a shadow?

3. What happens to the energy that isn't creating your shadow? Where does it go?

Step 3: Observing Kinetic Energy

Instructions:

1. Look around for moving things: trees swaying, people walking, cars passing by, or animals running.
2. Watch how things move and think about the energy making them move.

Questions:

1. List three things you saw moving. What kind of energy do they have?

2. Where does the energy come from that makes these things move? (For example, if you saw a person running, think about where their energy comes from.)

Step 4: Investigating Heat Energy

Instructions:

1. Find a warm object outside, like a rock or the pavement.
2. Place your hand on the warm object and feel the heat.

Questions:

1. Where does the heat energy in the rock or pavement come from?

2. Do you think the object is transferring energy to your hand? Why or why not?

Step 5: Energy in Your Body

Instructions:

1. Walk or run around your outdoor space for 1–2 minutes.
2. Pay attention to how your body feels as you move.

Questions:

1. How do you feel after moving? (For example: warm, tired, energized, etc.)

2. What kind of energy is your body using as you move? (Hint: Think about the food you ate earlier.)

Final Reflection:

1. How did you see energy being stored, transferred, or used in the activities you did today?

2. Write one example of how energy was transferred from one thing to another during your outdoor experiment.

Extra Activity (Optional): Energy Detective

1. Find one more example of energy in action outside. It could be the wind moving something, animals eating plants, or a light shining.
   Write or draw what you observed, and explain where the energy is coming from and where it is going.

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