Learning Target: I can construct labs that support a claim about the type of energy transformations within a system.

Create Your Own Energy Transformations Lab Challenge

Warm Up: Write the energy transformations that occur for the examples below.

1. Eating an apple and then riding a bike. _____
2. Batteries used to make a flashlight turn on. _____
3. Turning on a chorded lamp. _____
4. Putting gas in the car to drive. _____
5. Sunlight on a plant. _____
6. Using a toaster to make toast. _____

Lab Introduction: In today's lab you will create your own energy transformation exemplars. You will be given all the materials you need. The most important materials will be your KNOWLEDGE AND IMAGINATION.

Instructions:

1. Use the materials that have been given to your group to create the energy transformation for each scenario.

2. Draw a diagram of the energy transformation in each scenario

3. Write a brief summary detailing how each energy transformation you created works.

4. USE YOUR IMAGINATION AND HAVE FUN!

Scenario 1 – Mechanical to Electrical to Light Energy

Diagram drawing

Brief summary - _____

_____

_____

_____

_____

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Scenario 2 – Chemical to Electrical to Mechanical Energy

Diagram drawing

Brief summary - _____

Scenario 3 – Chemical to Electrical to Mechanical Energy to Mechanical to Electrical to Light Energy

Diagram drawing

Brief summary - _____

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Scenario 4 – Light to Electrical to Mechanical Energy

Diagram drawing

Brief summary - _____

Scenario 5 – Mechanical to Electrical to Mechanical Energy

Diagram drawing

Brief summary - _____

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<u>Bonus! – Stump the Teacher</u> – Create your own energy transformation scenario as a group to challenge your teacher's knowledge of energy transformations. Talk to your teacher to determine what your prize will be if you win and what the prize will be if your teacher wins!

Student's prize (If you stump the teacher)

_____

Teacher's prize (If the teacher can answer your challenge correctly)

_____

<u>Bonus Scenario!</u>

<u>Diagram drawing</u>

<u>Brief summary</u> - _____

_____

_____

_____

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Post-Lab Questions:

1. What is a by-product of each energy transformation scenario? _____

2. Why do they say that there is an 'energy crisis' if energy cannot be created or destroyed, it can only be changed from one form to another? _____

_____

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