



Thomas Haney Secondary School

Science 10

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LG #8: Law of Conservation of Energy

(What I need to understand)

BIG IDEA: Where Does Energy Come From and Where Does It Go?

Learning Standards:

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<p>Fundamental Knowledge (what I need to know)</p> <ul style="list-style-type: none"> ☆ How energy is never created or destroyed, merely transformed from one type of energy to another. ☆ Some energy in all transformations is lost in the form of friction/heat. ☆ There are multiple forms of energy, for example; solar, thermal, potential, and kinetic energy. 	<p>Curricular Competencies (What I need to do)</p> <ul style="list-style-type: none"> • Explain the conversion of potential and kinetic energy. • State the Law of conservation of energy • Provide examples of how energy conversions affect living things.

Assessment of Learning Standards:

Have an interview to show evidence of the **Learning Standards**, or elect to take a quiz

		MASTERY (A)
<p>ESSENTIALS (C/C+)</p> <p>I CAN:</p> <ul style="list-style-type: none"> ☆ State the law of conservation of energy. ☆ Define potential and kinetic energy and give examples of each. ☆ Explain how energy is lost in every energy conversion. 	<p>ADVANCED (B)</p> <p>I CAN:</p> <ul style="list-style-type: none"> ➤ Explain why most activities seem to NOT follow the law of conservation of energy. ➤ Explain the energy transformations that take place on a roller coaster AND how these energy conversions prove the law of conservation of energy. 	<p>I CAN:</p> <ul style="list-style-type: none"> ✓ Construct an experiment that demonstrates the law of Conservation of energy.

Reflection:

After finishing my learning activities what do I understand? How have I answered the BIG Question?

OPTION 1

Choose your own adventure:

- ☆ Pick up an Adventure proposal form from the Science Kiosk
- ☆ Create a plan, include what topics will be covered
- ☆ Get teacher approval for your plan before beginning
- ☆ Bring your approved plan and your evidence of learning to the LG interview

OPTION 2

- ☆ **List and define five (5) different types of energy AND how they can be converted from one type to another.**
- ☆ **Watch** the video on conservation of mass
<https://www.khanacademy.org/science/physics/work-and-energy/work-and-energy-tutorial/v/conservation-of-energy>
...be prepared to answer questions during the interview!
- ☆ **Describe** why a moving object (like a bicycle) will eventually slow down and come to a complete stop if you stop providing external energy (peddling).
- **Describe in paragraph form** WHY most daily activities SEEM to NOT follow the law of conservation of energy.
- ✓ **Draw AND label** a diagram of a roller coaster course showing where the energy conversions occur **and explaining** how these conversion prove the law of conservation of energy.

OPTION 3

- ☆ **Create** a digital presentation, PowerPoint, Prezi, etc. illustrating five (5) different types of energy.
- ☆ Find and **document (record/reference)** three (3) website that explain the law of conservation of energy.
- ☆ Find a “conservation of energy” simulator online and try it out!....**Provide the link.**
- Using **ONE daily activity** as an example, **explain** how energy is converted between different forms AND how it is slowly lost.
- ✓ **Design an experiment** where you produce two (2) types of energy **and describe** how these types of energy are related.