**Warmup:** Look at the following vocabulary terms. Write a sentence that use at least 5 of the vocabulary terms to predict what we are learning about today.

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| **Lost** | **Energy** | **Conservation** | **Kinetic** | **Potential** | **Einstein** | **Change** | **Transferred** | **Thermal** | **Electricity** |

As you read the article, circle vocab and underline important information in each paragraph. Next to each paragraph, write a question you may have about the information you marked.

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| **Reading** | Questions or Additional Facts: *There should be no more than 3 Level 1 questions* |
| Change is a part of life. As we grow, we change. Organisms live and die; we build structures and watch them fall apart. Energy is a crucial part of the never-ending cycle of change. Energy is found in many different forms, but all forms of energy may be classified as potential or kinetic. Potential energy is stored energy. When the stored energy is released, it becomes kinetic energy. Kinetic means "related to motion."  The amount of energy in the universe is constant. Energy is neither created nor destroyed. Rather, energy can change forms and be transferred from one object or organism to another. This idea is known as the Law of Conservation of Energy. This law is crucial to understanding energy and the many ways we use it.  Ancient scientists long ago observed that energy was conserved. In other words, the overall amount of energy in a system stays the same.  Think for a moment about ways energy can be transformed. Can you think of some examples? Potential energy becomes kinetic energy when the stored energy is released. The potential energy of gasoline becomes kinetic energy when the engine of a car burns the gasoline.  Kinetic energy can also become potential energy. The kinetic energy of wind can be used to make electricity, which can be stored in a battery as potential energy. The transfer of energy makes this energy available for our use. You may have heard people stating that energy in a system was lost. The Law of Conservation of Energy contradicts this statement. Energy isn't ever truly lost, but sometimes the ways we use energy aren't efficient. This "lost" energy is most often heat energy, so it isn’t actually lost!  Let's look at an example to explain energy inefficiency. Our homes are connected to power lines that transmit electricity from the power plants that burn fossil fuels like coal. As the electricity moves through the power lines, the electricity encounters resistance, which causes some of the electrical energy to change into thermal energy. Therefore, the amount of useable electrical energy is reduced by the time it reaches your house. The energy didn't disappear, its heat!  Energy is constantly transforming, both naturally and with help from humans. Scientists are continually working to develop more efficient technologies. Today, many appliances are sold with a label that says "Energy Star." An Energy Star-certified appliance uses less energy or uses energy more efficiently. By increasing the amount of energy available for useful work and decreasing the amount lost to friction or heat, we can help protect natural resources and save money.  |

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**Important NOTES:**

**Law of Conservation of Energy states:**

 When energy transforms from one type to another, energy is commonly lost in the form of \_\_\_\_\_\_\_\_\_\_.

Give an example of an energy transformation that take place in your home. Be sure to include the types of energy, the transformation that takes place and where some energy is "lost". (you may not use the example from the reading)