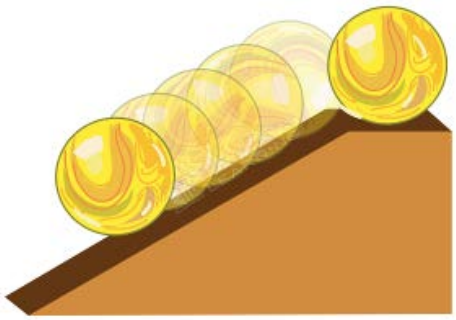
ENERGY

Two Types of Energy

Energy is the ability to do work. There are two types of **energy**.

- One type of energy is energy that is waiting to happen but has not happened yet. This is called **potential energy**.
- Another type of energy is called **kinetic energy**. This type of energy is energy that is happening now.



What is th *nd kinetic*

Energy has t **ential energy** can c **al energy** changing into op of a slide just about to go down (potential energy) and then as the person slides down the slide the energy changes (kinetic energy).

Forms of Energy

There are many forms of **energy**. **Chemical energy** holds the particles of matter together and is stored **energy** that is waiting to happen. Batteries are an example of chemical energy. The chemicals in the batteries interact together and release **chemical energy** as electrical energy which sends electrical power to the toy or appliance that is running on battery power.

The foods that we eat have chemical energy**. Chemical energy** in food gets changed into **mechanical energy** which is what helps us move our arms, legs, and our other body parts.

Mechanical energy is energy that is happening or waiting to happen, so it includes both the potential and the kinetic energy of an object.

Electrical energy is the movement of **electrical charges**, which creates electricity. This energy is moved from one place to another through wires. An **electrical charge** is a very small amount of **energy**. An **electrical current** is th to another through wires

Lesson Checkpoint: What is an electrical charge?

When **energy** changes form, heat is given off. For example, when you rub your hands together quickly back and forth, you are creating **heat energy**. You can feel the heat energy in your hands.

Matter is made up of tiny particles. The particles that make up matter move because they energy. Heat causes the particles that make up matter to move faster.

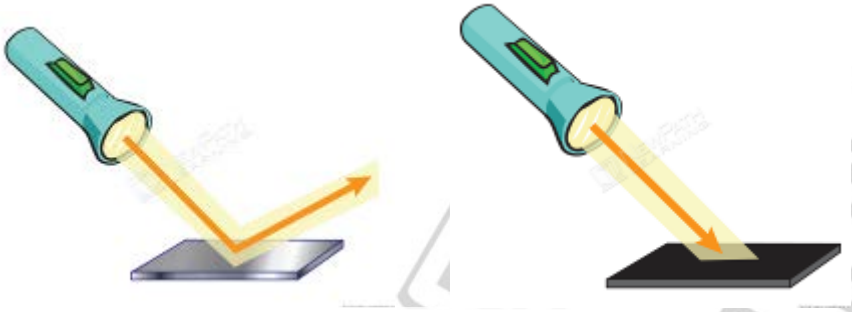
Thermal energy moves from warmer matter to cooler matter. If you place a cool object in a warm liquid, **thermal energy** will move from the warm liquid to the cool object. When the object and the liquid become the same temperature, the flow of heat energy will stop.

Heat energy ...an cause water that is ...ate. A ice cube melts ar...

Heat energy ...ange states, from being a liquid to becoming a gas as it evaporates into the air as the water boils.

Lesson Checkpoint: What is given off when energy changes form?

Light is also a form of energy. Light is energy that travels at very high speeds. **Light** can be **reflected** which means it bounces off an object. **Light** can also be **absorbed,** which means light is taken in by an object. **Light** travels in a straight line. When an object blocks light, a **shadow** is created.



Some materia to pass through clear **cent,** which means light p s do not allow any ligh

Lesson Checkpoint: Look around you…can you see three materials that are opaque?