

**Science –Heat Unit**  
**Including Science Textbook Pages 148 - 189**

- energy** - the ability to cause change
- friction** - force between moving objects that makes it hard for objects to move
- temperature** - the measure of how hot or cold something is
- Celsius** - the metric temperature scale  
0 degrees equals freezing temperature and 100 degrees equals boiling temperature.
- Fahrenheit-** the customary temperature scale  
32 degrees equals freezing temperature and 212 degrees equals boiling temperature.
- heat** - the movement of thermal energy from one thing to another
- thermal energy** - the form of energy that moves particles of matter
- insulator** - material that heat *cannot* move through easily
- conductor** - material that heat *can* move through easily
- conduction** - the movement of heat between objects that touch each other
- convection** - when the thermal energy from a heat source warms up the air molecules around it and the hot air then rises because the molecules are less dense. The cold air around it is pushed out and down and a cycle or current begins to flow and transfer heat.
- radiation** - thermal energy that moves without touching anything

**Students should know, understand and be able to explain:**

- 1. What are some ways that we use thermal energy?  
We use thermal energy to cook food, to dry our clothes, and to heat our homes.**
- 2. Be able to give examples of conduction, convection, radiation, insulators, and conductors in your daily life.**
- 3. What happens when a liquid is heated?  
When liquid is heated, it can turn into a gas because its particles move faster and spread farther and farther apart.**
- 4, Be able to give an example of how friction can create heat (matches, rubbing hands together).**
- 5. What tool is used to measure temperature?  
A thermometer is used to measure temperature.**
- 6. How do particles in cold objects move?  
Particles in cold objects move slowly.**
- 7. Which direction does thermal energy flow?  
Thermal energy travels from hot to cold.**
- 8. Which is heavier: cold air or hot air?  
Cold air is heavier than hot air.**