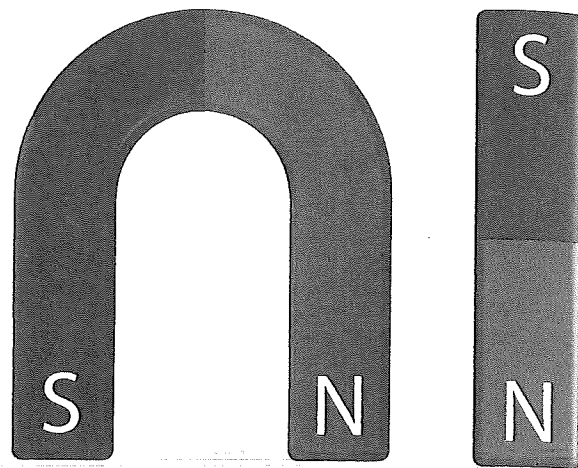


# 5th Science Blizzard Bag Assignment #1

## Lesson #105

### Magnetism

**Magnetism** is a force. It is an **attraction** (pulling toward) or **repulsion** (pushing away) of magnetic materials. What causes this “attracting” and “repelling?” It is the arrangement of electrons in the atoms that make up **magnets** and magnetic materials. Iron and steel are the most common magnetic materials, and magnets will attract items made with iron, nickel, or cobalt. Every magnet is surrounded by a magnetic field. A magnet has two poles: a north-seeking pole and a south-seeking pole. These poles are where the magnetic field is the



strongest. Often you will see a label—N or S—on the poles of a magnet. If you have two magnets, you will be able to identify the poles by holding them near each other. Like poles will repel; opposite poles will attract. If the two magnets pull toward each other, you know that one is the N pole and the other is the S pole. If they resist each other the two poles are the same.

Magnetism is a force that is very useful in everyday life. Magnets are used in compasses, motors, generators, builder’s tools, scrap metal sorters, telephones, computers, doorbells, and all kinds of toys. Some magnets are very strong; others are very weak, and these differently powered magnets have different uses. Very powerful magnets may be destructive and dangerous. They can damage equipment like computers, and you can get a nasty pinch if your finger gets wedged between a strong magnet and a piece of metal!

1. The space around a magnet that holds a force is called the \_\_\_\_\_.

power shield    force field    resistance    magnetic field

2. Which of these things are magnetic? Choose all that are.

metal paper clips    plastic cups    magnets    ceramic    cars

3. What makes objects magnetic?

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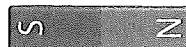
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## 4. True or False?

\_\_\_\_\_ A chemical change does not create new matter.

## 5. Look at each pair of magnets and decide how they will behave. Then write attract, repel, or neither next to each pair.

A) \_\_\_\_\_



B) \_\_\_\_\_



C) \_\_\_\_\_



## 6. Lightning is an example of \_\_\_\_\_ electricity.

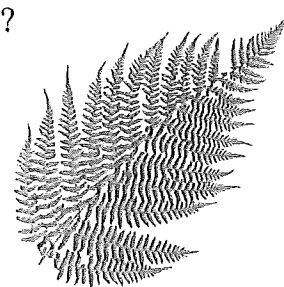
current      static      magnetic      hydro

## 7. Which of these is a way to be energy efficient?

- A) Using paper plates and napkins.
- B) Insulating windows to prevent heat loss.
- C) Getting up early in the morning.
- D) Watching the news before school in the morning.

## 8. Why do a cactus, a fern, and a tree belong to the same kingdom?

- A) They all grow outdoors.
- B) They all make their own food.
- C) They all die in cold weather.
- D) They all need water to survive.



## 9. Warm air can hold (more / less) water vapor than cold air.

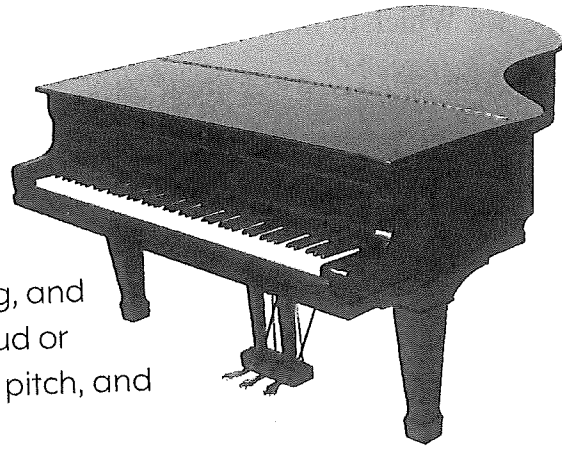
## 10. Ice will become liquid when it reaches its \_\_\_\_\_ point.

boiling      melting      condensation      freezing

## Lesson #107

## Sound Energy

Sound and light are both forms of energy that travel in waves. **Sound** is created by **vibrations** (back and forth movements of matter). You can probably think of many things that create sound vibrations: musical instruments, vocal chords, car engines, pencil tapping, and thunderstorms, just to name a few. Sounds can be loud or soft, low-pitched or high-pitched. Sound has volume, pitch, and frequency.



A sound's loudness is called **volume**, and the more energy a sound has, the greater its volume will be. Very loud sounds such as the blasts of fireworks or the pounding of heavy machinery can be painful or damaging to the human ear. People in jobs that are very noisy may wear earplugs or other protective gear because it is important to protect the ears from these high-energy, loud sounds. A sound's **pitch** is how high or low it is, and its **frequency** is the number of vibrations per second. The higher the frequency of sound waves, the higher the pitch will be. The lower the frequency, the lower the pitch will be.

Sound travels through matter in waves that move out in all directions. As sound waves move through air, the air particles vibrate. The sound keeps traveling until its energy runs out. If sound waves bump into something hard, they may bounce off, creating an echo. Or, sound waves may bump into something soft that will absorb the sound energy. Sound can travel through any kind of **medium** (matter that sound waves pass through), and sound waves move through different mediums at different speeds. Sound waves move faster through water than through air; they move through solids like steel and granite at even faster speeds. Remember, sound must have a medium to move through. If there is no air or water—like in outer space—sound does not travel.

- The more energy a sound has the greater its \_\_\_\_\_ will be.  
distance    pitch    volume    level
- Sound waves travel through different mediums at different speeds. Which of these is a medium for sound waves?  
air    water    steel    granite    all of these
- When sound waves bump into matter, the sound may bounce off, creating a(n) \_\_\_\_\_.

4. The cello and the violin are two instruments that look similar. But the violin is much smaller than the cello and has much shorter strings. These smaller strings will vibrate faster than the long strings of the cello. Which of these is true?
- A) The violin will produce sounds with a higher frequency and pitch than the cello.
  - B) The violin will produce sound with a lower frequency and pitch than the cello.
  - C) The violin's notes will have higher frequency but lower pitch than those of the cello.
  - D) The violin and the cello will produce sounds with equal frequency and pitch.

5. What are the six types of simple machines?

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6. What do these words have in common? weathering erosion earthquake

- A) They name processes in the water cycle.
- B) They name severe weather events.
- C) They shape the Earth's surface.
- D) They are processes that happen beneath Earth's surface.

7. A(n) \_\_\_\_\_ is the basic unit of life.

consumer producer atom seed cell

8. Where will air pressure be greatest?

- A) at higher altitudes
- B) at lower altitudes
- C) air pressure is the same everywhere

9. Electricity at rest is called \_\_\_\_\_ electricity.

10. In an atom, when the number of protons and electrons is the same, the atom is \_\_\_\_\_.

neutral unstable positively charged negatively charged