Shelby County Schools

Extended Learning Packet

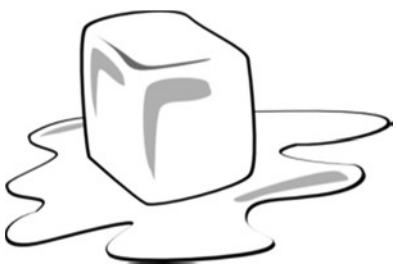
Science

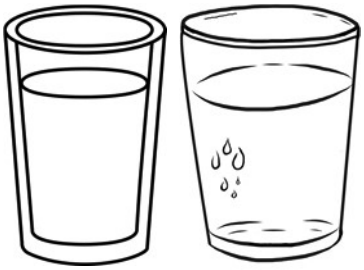
Grade 3

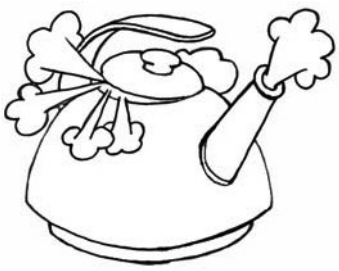
Name:

Changes of State in Water

Solid **Liquid** **Gas**







Freezes Melts Condensation Evaporates Vapor

Finish the sentences using the words above:

1. Water changes to _____ with heat.
2. Water becomes a solid when it _____.
3. Water _____ when it is heated.
4. Water forms _____ when it is cold.
5. Ice (water) will change to liquid when it _____.
6. Frozen water is a _____.
7. Tap water is a _____.
8. Evaporated water is a_____.
9. The 3 states of water are:_____

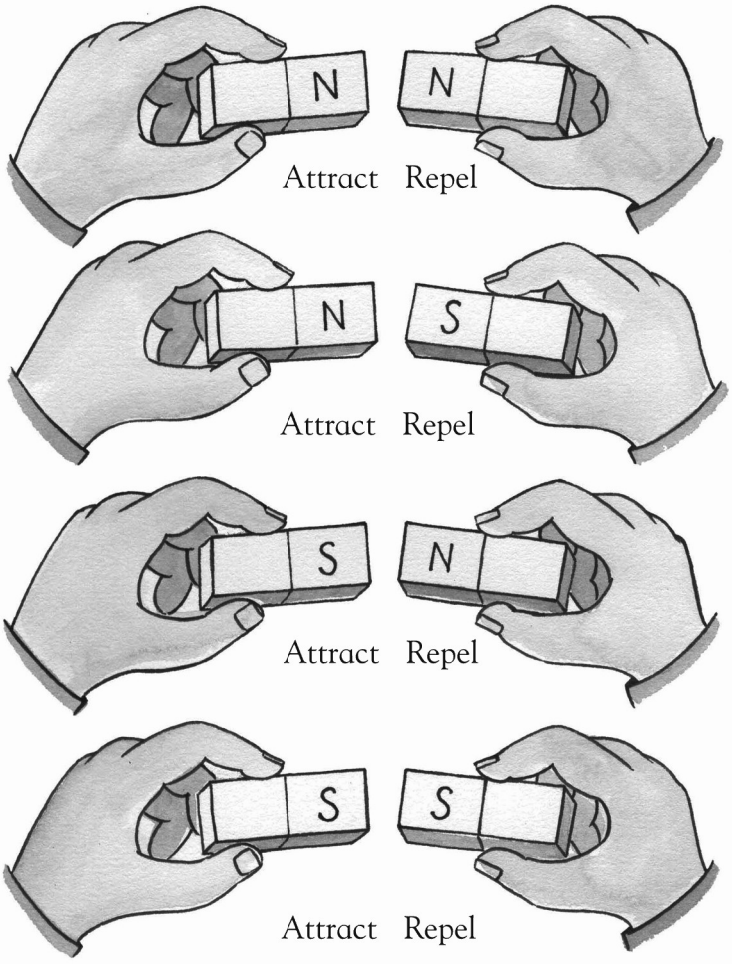
Attract or repel?

Background knowledge

On every magnet, the *magnetic poles* are where the force of magnetism is strongest. The north pole of one magnet will always attract the south pole of another magnet. If two south poles or two north poles are placed near one another, they will *repel* each other. When two magnets repel, they push away from one another. Earth is a gigantic magnet—it has a magnetic north and south pole.

Science activity

Look at the pairs of magnets in the pictures. Which pairs will attract each other? Which pairs will repel each other? Circle your answers.



Science investigation

Obtain 3–4 lifesaver-shaped magnets, and a dowel or pencil that will fit through the magnets' openings. Place the dowel vertically at a base of styrofoam or balsa wood. Try stacking the magnets in different ways on the dowel. Record and explain all of your observations.

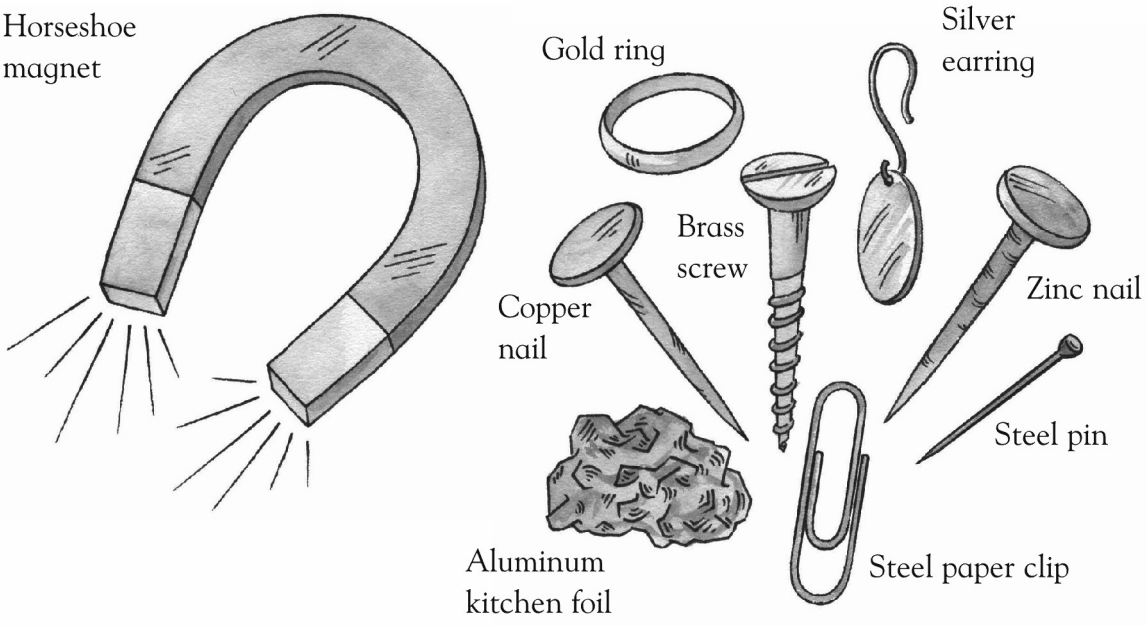
Magnet magic

Background knowledge

A *magnet* is a type of material that pulls on some metal objects. The magnet is said to *attract* the object. Magnets attract the metals iron, cobalt, nickel, and steel, but they do not attract other metals. Magnets can attract or *repel* (push away) another magnet. The force of a magnet can be felt from a distance. For example, an iron nail placed near a magnet will move toward the magnet. It looks like magic, but it is just the force of magnetism!

Science activity

Draw a line from the magnet to each of the metal objects it will most likely attract.



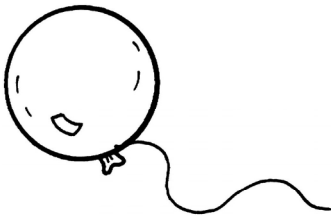
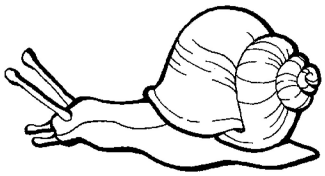
Science investigation

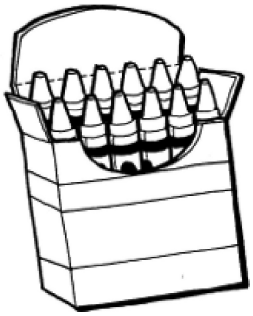
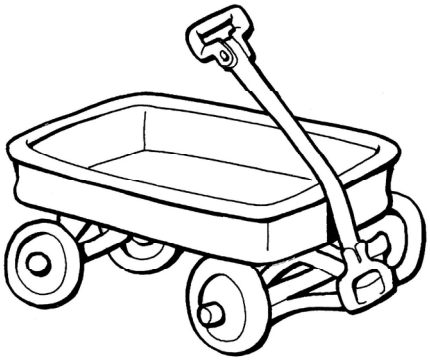
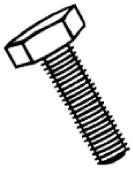
Test various materials' attraction to a magnet. Note down any samples that were repelled. What happens to the attraction as the magnet is moved away from the object?

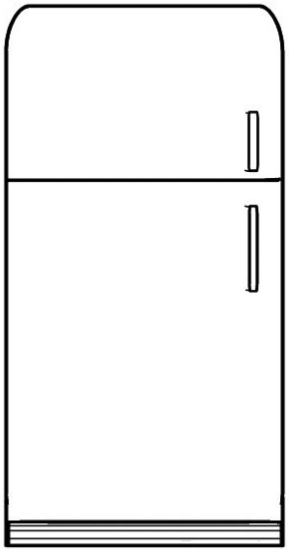
Name _____

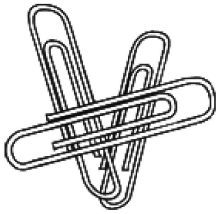
Magnets

Circle the items that a magnet will attract.



Name _____

Will These Items Attract Magnets?

(Circle your prediction)

Prediction		
balloon	yes	no
snail	yes	no
needle	yes	no
wagon	yes	no
screw	yes	no
crayons	yes	no
paper clips	yes	no
doll	yes	no
scissors	yes	no
refrigerator	yes	no

(Use a magnet to test your predictions and circle the result.)

Result		
balloon	yes	no
snail	yes	no
needle	yes	no
wagon	yes	no
screw	yes	no
crayons	yes	no
paper clips	yes	no
doll	yes	no
scissors	yes	no
refrigerator	yes	no

Try to list five more items from your home and your classroom that a magnet will attract.

Classroom

1. _____
2. _____
3. _____
4. _____
5. _____

Home

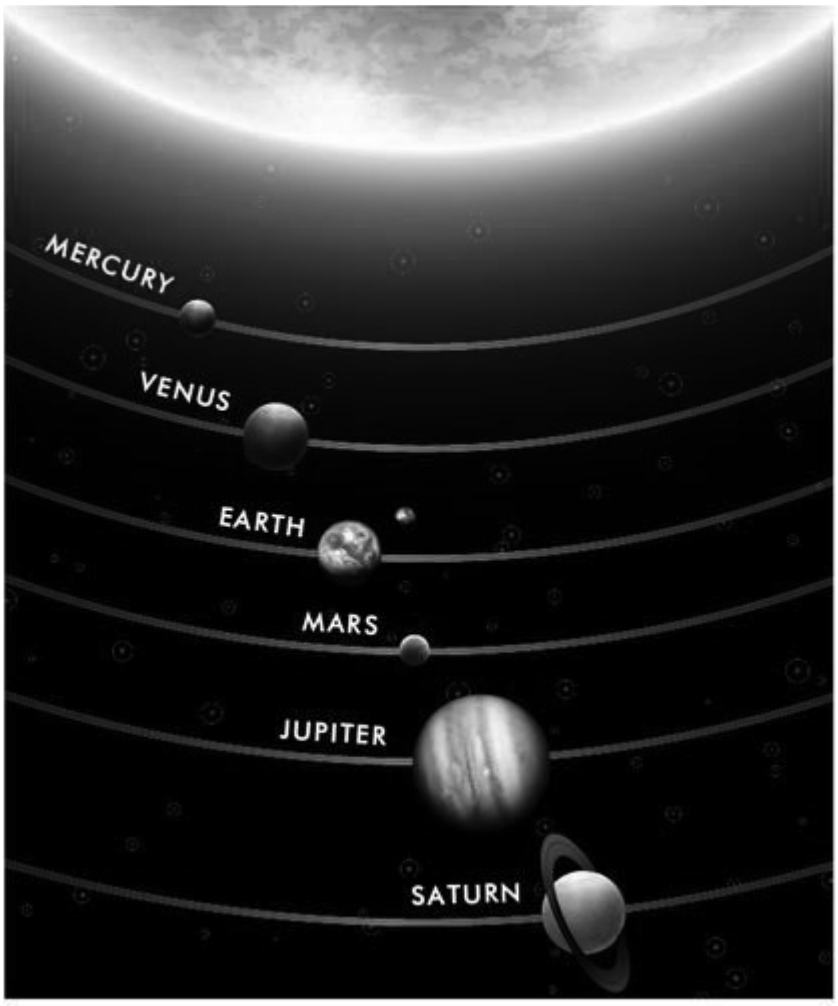
1. _____
2. _____
3. _____
4. _____
5. _____

The Outer Planets

This text is adapted from an original work of the Core Knowledge Foundation.

The four planets closest to the sun are Mercury, Venus, Earth, and Mars. There are four more planets in our solar system called the outer planets. So there are eight planets in all.

Jupiter is the very next planet after Mars. After Jupiter come Saturn, Uranus, and Neptune in that order. Neptune is the planet that is farthest from the sun. Uranus is difficult to see with the naked eye and Neptune is impossible to see without help. Neptune is only visible using a telescope.



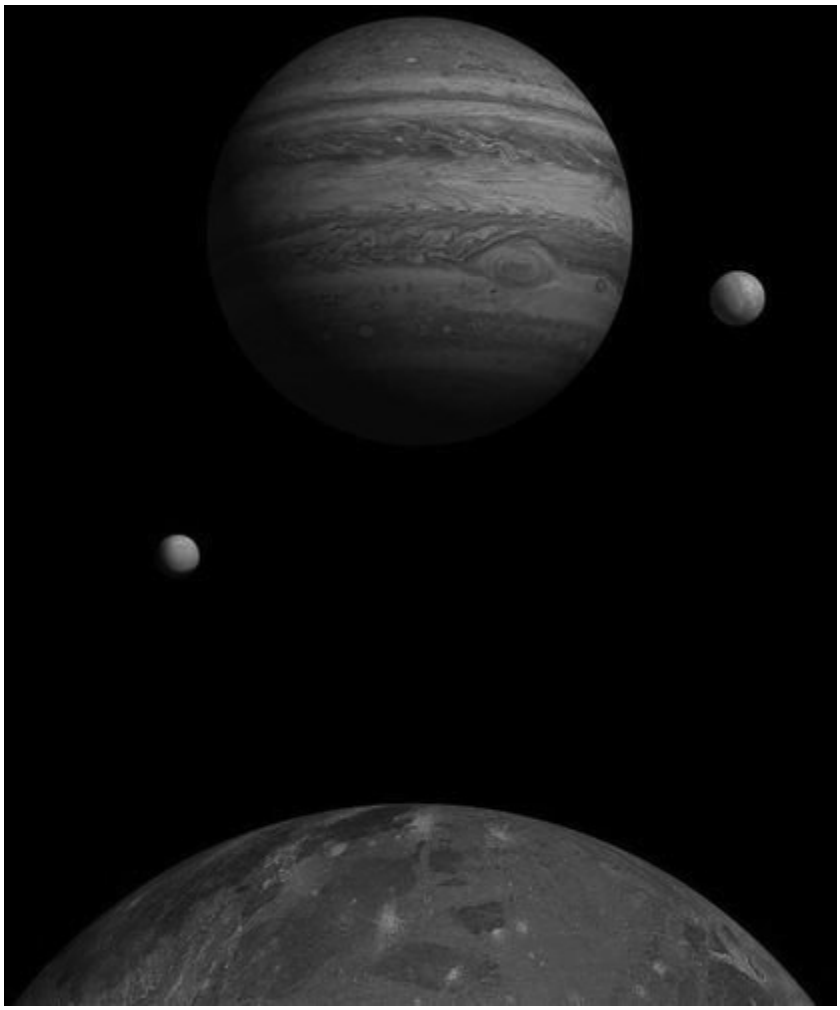
Part of our solar system: the sun and six of the eight planets

The outer planets are very large and are mostly made of gas. Scientists often call these planets gas giants. Of all the planets, Jupiter is the largest: 1,300 Earths could fit inside

Jupiter! It is made mostly of hydrogen gas, the most common gas in the universe.

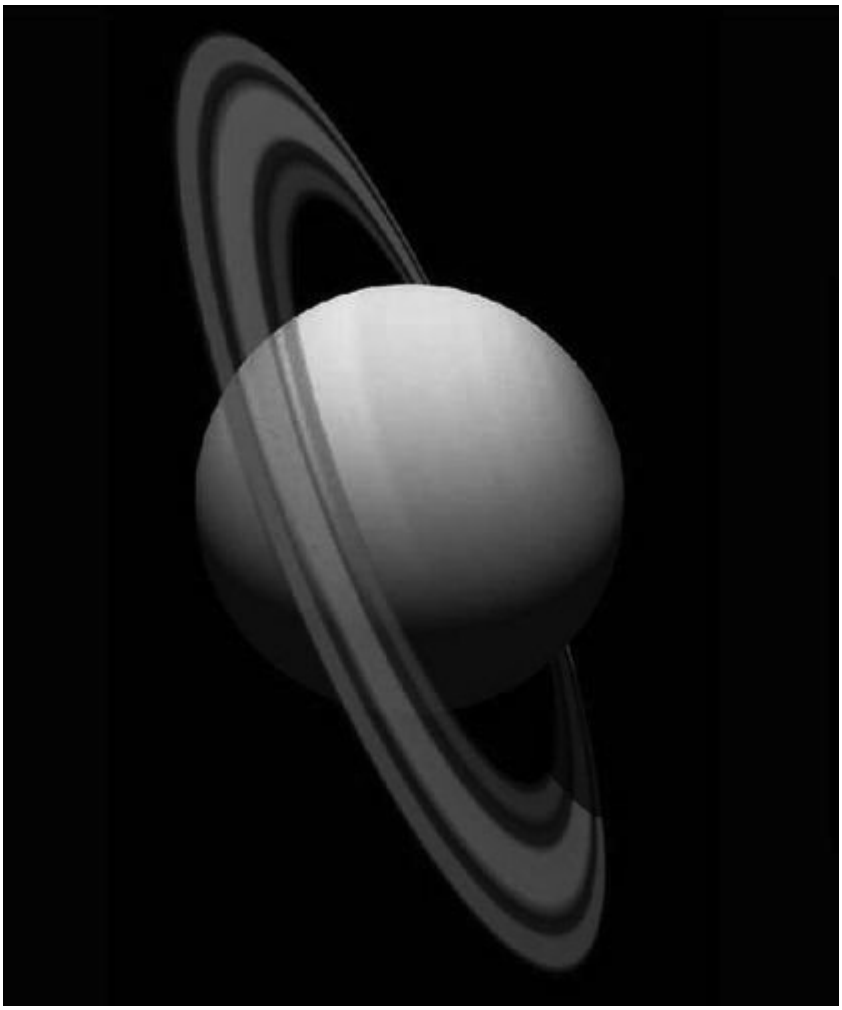
The gases on Jupiter seem to be blowing around. In the image of Jupiter below, you can see the giant, red spot. It looks like an eye! Experts think it is a big wind storm, like a huge hurricane.

Jupiter also has 63 known moons that orbit it. Some of these moons are very large, even larger than Earth's moon.



Jupiter and some of its moons

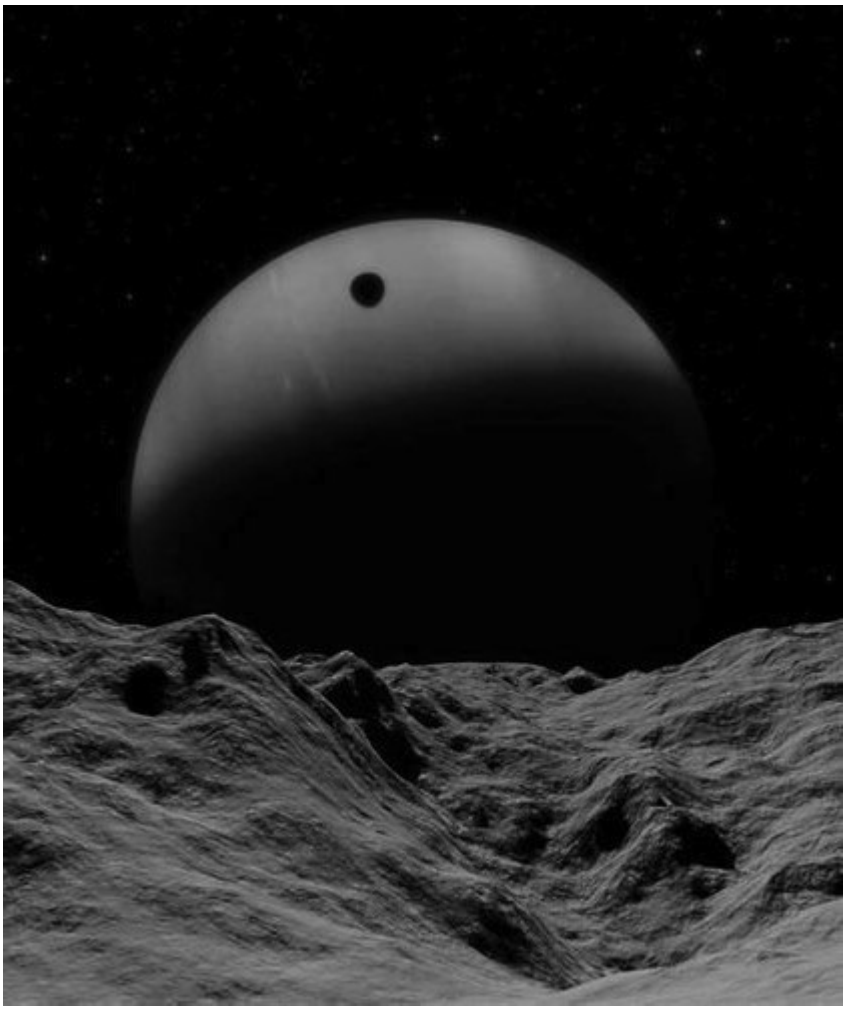
Saturn is known for its many large rings that orbit the planet. These rings are made of ice and dust. The ice reflects light and makes the rings glow. Saturn also has many moons that orbit it.



Saturn and its rings

The last two planets are Uranus and Neptune. These planets are the farthest from the sun so they are very cold. Uranus and Neptune also have rings, but they aren't easily seen like Saturn's. Both planets also have moons.

So now you know the names of all eight planets. Try asking the adults in your family how many planets there are. They may tell you that there are nine planets. When the adults in your family were in school, people said that there was a ninth planet called Pluto. But in 2006, scientists decided that Pluto did not have all of the characteristics needed to be classified as a planet. They removed Pluto's name from the list of planets, so now there are only eight planets.



This is Neptune as it might look if seen from one of its moons. The shadow of another moon makes a dark spot on the planet's surface.

Name: _____ Date: _____

1. What are the four outer planets in our solar system?

2. The four outer planets are called gas giants. Why might they be called gas giants?

3. Pick one of the four outer planets and describe it. Support your description with details from the text.

4. What is the main idea of this text?

Name _____ Date _____

States of Matter

Circle the state of matter describe. In many cases, there can be more than one correct answer.

1. Has a definite shape.	Solid	Liquid	Gas
2. Can easily be compressed.	Solid	Liquid	Gas
3. Particles are very far apart.	Solid	Liquid	Gas
4. Particles are vibrating.	Solid	Liquid	Gas
5. Particles can flow past each other.	Solid	Liquid	Gas
6. Particles are moving quickly.	Solid	Liquid	Gas
7. Particles are very close together.	Solid	Liquid	Gas
8. The Sun is composed of matter in this phase.	Solid	Liquid	Gas