Explain Events, Procedures, and Ideas

Grade 4 Reading Worksheet - Building Confidence

Name _____ Date _____

Read the text. Circle the answer to each What question.

READ THIS FIRST

Make a Floating Compass

A compass is a tool that shows which way is north. Sailors and hikers have used compasses for hundreds of years. You can make a simple one at home with a few supplies.

You will need a sewing needle, a small magnet, a slice of cork and a bowl of water. Ask an adult to help, because the needle is sharp.

First, hold the needle by its eye. Then stroke the magnet along the needle about thirty times. Always stroke in the same direction, from the eye to the point. Lift the magnet away at the end of each stroke. Rubbing back and forth would undo your work.

Next, push the needle carefully through the slice of cork so it lies flat. Gently set the cork on the water in the middle of the bowl. Keep the bowl away from metal objects and other magnets.

Now watch closely. The cork will slowly turn and then stop. The needle will point north and south.

Why does this work? Stroking the needle in one direction lines up tiny parts inside the metal. As a result, the needle becomes a weak magnet. Earth itself acts like a giant magnet, with one end near the North Pole. A magnet that can turn freely will line up with Earth's magnet. The water lets the cork spin easily, so the needle can turn until it lines up.

To check your compass, compare it with a real one or a phone compass. Your needle should match.

1. What should you do right after you stroke the needle with the magnet?
   Hold the needle by its eye.
   Set the cork gently on the water in the bowl.
   Push the needle through the slice of cork.

2. What happens to the needle after it is stroked about thirty times?
   It points toward the nearest metal.
   It becomes too heavy to float.
   It becomes a weak magnet.

3. What do you need to make the compass?
   a needle, a battery, a copper wire and a large bowl of water
   a magnet, a piece of string, a metal spoon and a glass jar
   a needle, a magnet, a slice of cork and a bowl of water

4. What happens to the needle once the cork stops turning?
   It points at the nearest magnet.
   It points north and south.
   It points up toward the sky.

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Answer Key - Grade 4 Reading Worksheet - Building Confidence

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