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## **78-530 FIELDMASTER ORIENTEERING COMPASS**

Our **Orienteering Compasses** are for use in the Northern Hemisphere. They come with a lanyard and are graduated 0 to 360 degrees in 2 degree intervals. Each has a liquid-filled capsule, declination correction scale, luminous points, and an acrylic base. The base has a 4x magnifier. Additional compasses may be ordered (item #78-530).

### **THE FOUR DIRECTIONS**

Here is an indoor game to review the four directions: North, South, East and West. It actually helps young children learn the eight basic compass directions, including Northwest, Northeast, Southwest and Southeast. They learn to orient themselves physically in a particular direction.

Before starting the game, place cards marked N, S, E and W on the four walls of the room. It is helpful to place them in the general direction of true North, etc.

Line up the participants in open lines, arms-length apart, both sideways and front to back so there is space around each child. You can then name a direction such as “Northwest”, and then quickly say “Freeze”.

The children should quickly turn to the direction they believe is northwest and then stop moving when you say “Freeze”. Those who are facing the wrong way are out of the game. Continue until there is one child left, the “winner”.

Variations on the game include sending children out of the game who get the direction correct to give more training to the others. Also, placing only the North card on the wall will make the game more challenging.

### **HOW TO USE A COMPASS**

#### **PARTS OF THE COMPASS**

Before trying to find directions with the compass, it is a good idea to go over the parts with the children first. The large Teacher Demonstration Compass is an excellent tool to show the compass parts to the students.

Every compass has the four directions, also known as the four cardinal points (North, South, East and West) and a magnetized needle that points north. Have the children study the parts of the compass they are holding. Have them try to turn the dial. Point out the degree scale around the dial. Let them try to hold the compass so the arrow “floats”.

**Base** – The rectangular part of the compass that has a dial on it, a magnifier and several “scales” that look like rulers.

**Bezel** (compass housing dial) – The dial that you can turn. There are numbers on the edge of the dial. These numbers go from 0 to 360. These are the degrees of a circle. They also represent all the directions you can travel from any point. The letters N, S, E and W are also on the dial, representing the four cardinal points. The compass housing contains the free-moving magnetic compass needle.

**Compass Needle** – The red and black arrow that is “floating”. The red part points to North.

**Direction Dots** (not on all compasses) – The green glow-in-the-dark marks at North (two lines), South, East and West. There is also a glow-in-the-dark dot on the North arrow. If you line up the dot on the arrow between the two dots at North, it can help you find your way in low light.

**Direction of Travel** – The front of the compass has the magnifying lens and a small clear dot. This is the direction of travel. There are also two red lines on either side of the magnifier to help point the way to go when the compass is set properly.

**Map Marking Hole** – You can insert a pencil here when using the compass with a map (advanced skill).

**Magnifying Lens** – A 4X magnifying glass is embedded in the base. This makes things look 4 times larger than they really are. This can be very useful when using the compass with a map (advanced skill).

**Scales** – Along the edge of the base there is a centimeter scale and two USGS map scales (also called roamer scales) for use with topographic maps.

## **FINDING YOUR DIRECTION**

### **HOW TO FIND NORTH**

Hold the compass so the dial is near your body and the front of the compass (where the magnifier lens is located) points away from you. Make sure you are not using the compass near anything metal such as a metal desk, a watch, a belt buckle, etc. Metal items will attract the magnetic needle and that will give you incorrect directions.

Hold the compass level (very flat) in your hand so the needle floats freely. It helps to hold it waist high, with the magnifying lens pointing straight ahead. When the needle stops moving, the red part of the arrow should be pointing to North. North is a very important direction for finding your way. The earth is like a giant Magnet. It has a north pole and a south pole. The red part of the compass needle always points to the magnetic north pole of the earth, which is in the general direction of what we call the North Pole.

Turn the bezel (dial) so the letter N lines up with the arrow. The red arrow should be right between the two green marks by the N. Make sure you have the N lined up exactly with the arrow, because you could accidentally go in the wrong direction if it is incorrect. Turn your body until you are facing north. Notice that North is at the zero-degree mark.

### **HOW TO FIND OTHER DIRECTIONS**

If you are told to go West, look at the dial and find the W. Notice that West is at the 270-degree mark. Turn the dial until the W is in front of you, lined up with the direction of travel (the magnifying lens in front). Turn your body around slowly until the red arrow points to N again (line it up between the two green dots). You are now facing west.

You can practice facing East at 90-degrees and South at 180-degrees.

Now you can try to go somewhere between North and West. Look at the dial and find where Northwest is. It is actually halfway between North and West, located at 315-degrees. Move the dial until Northwest is facing the direction of travel. Hold the compass flat so the needle can turn and then turn your body around slowly until the red arrow points to north again. You are now facing northwest.

You can practice facing Northeast, Southwest and Southeast.

### **Warranty and Parts:**

We replace all defective or missing parts free of charge. Additional replacement parts may be ordered toll-free. We accept MasterCard, Visa, checks and School P.O.s. All products warranted to be free from defect for 90 days. Does not apply to accident, misuse or normal wear and tear. Designed for ages 13 and up. Item is not a toy. It may contain small objects that can be choking hazards.

### **Other Science First Items:**

**657-5010 Fieldmaster Orienteering Kit:** The Orienteering Kit is everything you need to get started with map and compass work. The teacher guide will help the educator guide students in classroom work and field work. Equipment is provided for 12 students and an orienteering course.

**657-5011 Basic Orienteering Kit:** This basic orienteering kit is perfect for an introduction to compasses and directions. The kit allows a teacher to demonstrate using an oversize display compass, while the students have accurate liquid filled compasses. The detailed teacher instructions include many activities including: learning the parts of a compass, learning directions, finding your way, string course, finding a landmark, using maps, and hidden treasure games.