

Compass Basics

First rule: Practice Early!

Working with maps and compasses can be a lot of fun, but most people don't learn it well just by reading about it. Even if you've tried using a compass before, it takes a while to be able to use it naturally, and be able to answer questions about how it works.

Try all the basic steps of using a compass, practicing what you would say and how, and imagine what questions might come up. Draw pictures of what each step would look like. Make sure that you can repeat your performance.

Starting Out

Always go over the parts of a compass first, even with a group that has tried compasses before. It can be very frustrating for a beginning pathfinder to be given directions they can't follow just because they can't remember what things are called.

Hold the compass flat in your hand. Turn your whole body around in a circle as you watch the compass. What do you notice? The needle in the middle seems to move. Now try holding still and turning the compass slowly in your hand, leaving it flat. The needle seems to want to keep pointing in one direction as the compass turns around it. Depending on the age of the group, you may need to stop and discuss the where north is and what magnets are.

Here's the part that they will all remember – when using a compass in the real world, remember to put **Red Fred in the Shed**. The red end of the magnetic needle, which points to north, is Red Fred. The orienting arrow, which is drawn on the bottom of the compass and turns with the housing, is the Shed.



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Finding a Bearing (Direction)

Practice by giving everyone a simple direction, like one of the cardinal points (north, east, south, west, represented by the letters N, E, S, W on the housing.) Have them **turn the housing** so that the direction lines up with the **direction of travel arrow**. Since that arrow shows you the direction you want to go, it must always be pointing away from you, facing the direction you want to go. (** You can reverse this if you are following a course backwards, but don't bother with this now, unless you have experienced learners.*)

Hold the compass flat, **and turn your whole body** until Red Fred is in the Shed. Are you all facing the same direction? (If not, check that the right bearing is at the top, the direction of travel arrow is facing out, and the compass is flat.) Notice that you do not all have the same object in front of you, but if you all started walking, you wouldn't run into each other or cross paths.

Now that you've tried with the cardinal points, look at the numbers. Make sure you know how many degrees each line on the housing represents. Many compasses use each line to represent 2 degrees, but for some compasses, each represents 5 degrees. Also, if your pathfinders have all this down, see if they know off the top of their heads what number of degrees each cardinal point is. (East is at 90 degrees, south at 180 degrees, west at 270 degrees, and north can be read as either 0 or 360 degrees.)



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Starting point

So compasses tell us what direction to go. But your starting point makes a big difference, and here's a way to demonstrate that fact.

Have everyone form a large circle around an object. Face the object. This time everyone will keep their bodies still, while turning the housing on the compass until Red Fred is in the Shed. Make sure the compass is flat, or the needle won't spin properly.

Now have people read off their numbers. They may be tempted to give a number just like their neighbors, or worry that they don't have the right bearing. It's OK, because all the numbers are *supposed* to be different. Compasses can only tell you which direction to go relative to a starting point. If you're in St. Paul and you want to go to St. Louis, you would need to go south, but if you're in New Orleans, you'd have to go north.

Taking a Bearing

Taking a bearing means that you are making a record with a compass of where you are going. You might want to describe to someone else how to get to a certain place, or you might be writing down directions to describe the route you're taking - either so that you can take the same hike again, or can follow it back.

Especially if you are leaving directions for someone else, you will need to record a **specific starting place**. For example, you wouldn't say that you started at the troop house; you'd say that you started at the front door, or at the north-east corner of the building, or in front of the water tap.

Hold the compass flat and in a place where you can see it. If the compass is not completely flat, the needle will not be able to move freely and you can get a false reading. Make certain that the direction of travel arrow is pointing directly in front of you at all times.

Turn your body so that you are facing the direction you want to go. Double check that the direction of travel arrow is still pointing the right direction.

Now we need to put Red Fred in the Shed. You don't want to change which way you're facing, because you already know where you want to go. **Turn the compass housing** until the red end of the magnetic needle is lined up inside the pointing end of the orienting arrow.

Look at the direction of travel arrow, and read the number on the housing that lines up with it. (If your compass housing has a clear dial, there will be a small index line underneath the numbers to help you read the correct bearing.)

Record the bearing number. As you walk, count your steps so that you can tell the next person how far they need to go before taking another bearing. Be careful how you use the term 'pace'; technically, a pace is two steps, so make sure you know what the other person was counting when you follow their directions. (It might be safest to record the number of steps, just to be clear.)



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Following a Bearing

If you are following a bearing, it means that someone has determined where you should go from here, and has left you with directions of how to do it.

Look at your first bearing. Turn the compass housing until that bearing lines up with the direction of travel arrow at the top of the compass. Since you have been told that this is the correct bearing, do not turn the housing again until it's time for your next direction.

Hold the compass flat and in a place where you can see it. Some people hold their palm out flat and place their hand right next to their bodies, so that the direction of travel arrow is always pointing directly away from them. Others use both hands, placing one index finger along each side of the compass and their thumbs at the bottom, with the other fingers supporting from underneath. This way, the pointer fingers are pointing along with the direction of travel arrow, emphasizing which direction to go.

Now we need to put Red Fred in the Shed. We can't move the housing, because that would change the bearing. You will need to **move your whole body** so that the red end of the magnetic needle is lined up inside the pointing end of the orienting arrow.

WARNING: this is where a lot of error sneaks in! If you move the compass while keeping your feet in place, you will walk in the direction of your feet instead of where the compass tells you. If you move your feet too much, you will have walked away from your starting place, and the reading is no longer accurate. What you will need to do looks a little like a penguin waddle – shuffle your feet around in a tight circle, keeping your feet pointed the same direction as the direction of travel arrow.

To walk this bearing, without tripping, you will need to walk with your head up instead of looking at the compass, which will be wiggling anyway. Look down at the compass, and bring your eyes up along the direction of travel arrow and look out in the distance for some landmark that is right in front of that arrow. Look down again and double check; you might have been distracted by a big object that is not truly right in front of you. Once you have your landmark, you can start walking towards it.

If you have been given a series of bearings, you will also be given either a landmark to stop at, or a number of steps or paces. Make sure you know whether you should be counting single steps or paces (two steps each).



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Compass Directions Story

The Wedding

(Many thanks to [Becky Vincent](#) a Girl Guider in Canada whose site has lots of cool stuff. This is a good game to teach younger girls about compass directions.)

Each girl brings a chair or sit-upon into the circle. Divide the circle into the 8 points of the compass. Leave a clearly defined space between each point. When each section is called, for instance, NORTH, they stand up, turn around and then sit down. Each section does the same thing when their compass point is mentioned. When the story teller says WORLD, each player moves (clockwise) over one chair. Each player should note which section they are now occupying.

THE STORY -- The Wedding

A big important wedding is being held this year. The daughter of King NORTH is being married to the son of King SOUTH. It is going to be a very grand affair with guests from all parts of the WORLD.

From the land of the rising sun, the Emperor of the EAST and his wife, the Empress, and from the other side of the WORLD, King and Queen WEST with the little Prince NORTHEAST and the Princess SOUTHWEST.

The bridegroom, son of King SOUTH, has invited his cousin SOUTHEAST to be the best man. The bride, daughter of King NORTH, has asked her best friend, NORTHEAST, who is also a cousin of SOUTHEAST, to be Maid of Honor.

The Queen of the NORTH was very busy trying to find places for the visitors from all over the WORLD to stay. The Emperor EAST and his wife the Empress EAST had brought so many servants to wait on them, that the little town was beginning to be very overcrowded. To add to the confusion, King and Queen WEST had brought so much luggage that it took 3 wagons to haul it to the NORTH palace. Queen NORTH looked quite worried; where in the WORLD was she to put it all?

In the last wagon, Prince NORTHWEST and Princess SOUTHWEST had put all their pets which they couldn't bear to leave behind. They had four SOUTHWEST cats, four big dogs (which came from the other side of the WORLD), and a cow and a goat from the EAST. The cousins SOUTHEAST and NORTHEAST thought they were very odd things to bring halfway across the WORLD to a wedding.

At last the great day dawned, beautiful and sunny. The procession started to go to the NORTH Cathedral from NORTH Palace, and people from all over the WORLD cheered. After the ceremony in NORTH Cathedral, the procession returned to the NORTH Palace for the wedding breakfast.

First came King NORTH, with Queen SOUTH on his arm. Next came King SOUTH with Queen NORTH. Following then came King and Queen WEST, with Prince NORTHWEST and Princess SOUTHWEST. Looking very grand in their silk robes were the Emperor of the EAST and the Empress of the EAST. The guests from this part of the WORLD came next. Cousins SOUTHEAST and NORTHEAST then appeared. Then came the moment the whole WORLD had been waiting for. The beautiful bride, daughter of king NORTH, and the handsome bridegroom, son of King SOUTH, were standing in the doorway. Guests from all over the WORLD threw confetti and rice as they ran down the steps to the famous NORTH glass coach.

After the wedding breakfast at NORTH Palace, the bride and groom left on their honeymoon around the WORLD. Prince NORTHWEST had tied an old boot on the back of the car, and Princess SOUTHWEST had printed "Just Married" on the front.

The whole WORLD laughed and cheered and waved good-bye and good luck, along with Prince NORTHWEST, Princess SOUTHWEST, Cousins NORTHEAST and SOUTHEAST, Emperor and Empress EAST, King and Queen SOUTH, and finally King and Queen NORTH.

So ends a happy and exhausting day!



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