

Lesson 8 Lab: Additional tips and notes to make it successful

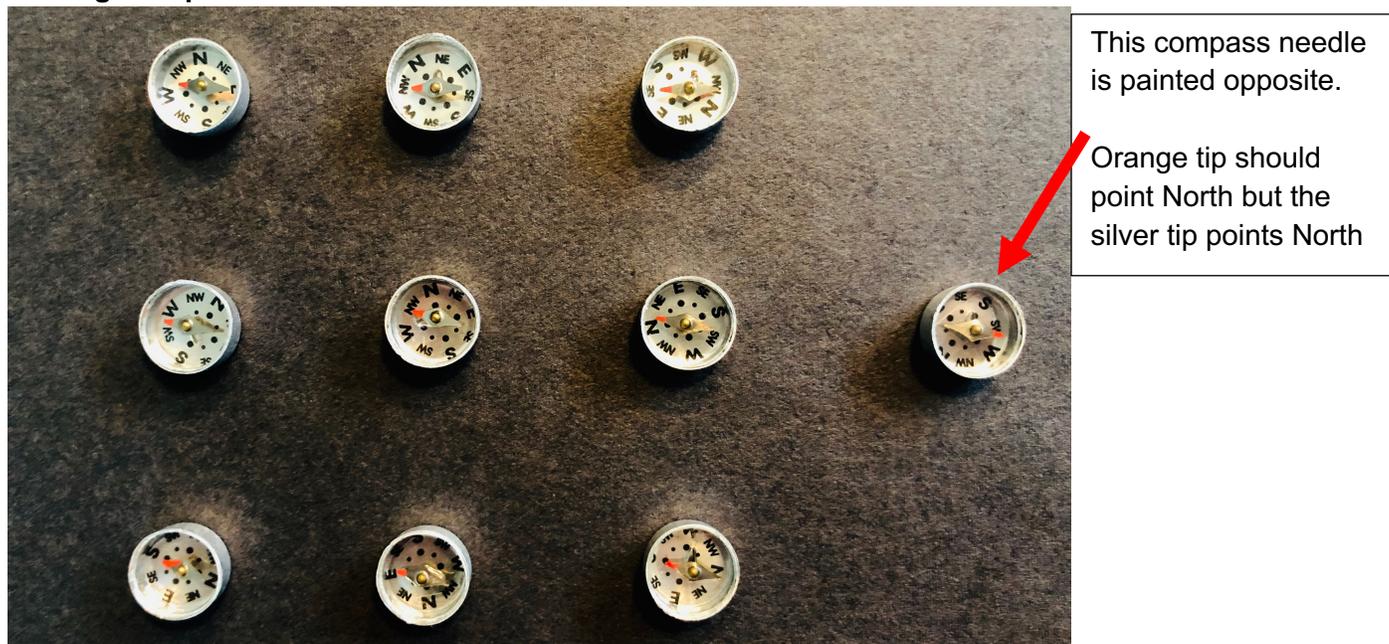
Most importantly, test your compasses or magnetic needles well ahead of time! Compass needles can be easily thrown off when stored near magnets. We are also finding that the source of these materials, do not consistently paint the compass needle tips the same color. Sometimes the red or orange tip points North and sometimes it points South. The best thing to do is to test your compasses or magnetic needles early so you have time to problem-solve before the lab. This will work the same whether you received needles or compasses because they are essentially the same thing (only magnetic needles on their own are rare and compasses are easy to source).

Lay the needles or compasses on a flat surface an inch or two apart. Look at the color tips of the needles to see how consistent the needles are in relation to each other (and if you know magnetic North). You can test the needles/compasses further by bringing a bar magnet near them to see how they respond.

Testing Magnetic Needles



Testing Compasses



What do I do if the needles/compasses are not consistent with each other?

This depends on how many are pointing opposite (which is likely more about how many needles are painted incorrectly).

Lesson 8 requires the use of all the needles/compasses while the other lessons only require 10 of them. For the lessons requiring few compasses, just select 10 that are consistent with each other. For Lesson 8, consider one of the options below.

1. Option 1: Students can still complete the lab with a single magnetic needle or compass. They simply move the one compass they have around the bar magnet and record the direction the needle is pointing. In this way you only need 10 needles. You can do this with as many needles as are consistent providing students with 1, 2, or even 3 compasses or needles.
2. Option 2: Sort the needles and compasses in to categories where the needles point the same direction. Provide each group of students a set of compasses that are consistent with each other even if they are not consistent with another group's needles. When the class discusses the lab, talk about whether the same color pointed the same way, but steer students away from whether red/orange or white/silver was pointing North or South since different groups will have seen different things.
3. Option 3: In addition to option 1 or 2 above, create a teacher demonstration set students can look at after they complete the lab (see below). This will help them see what the compasses would look like if they place 8-10 around a single bar magnet at the same time.

