

Make a North-Pointing Compass

Make your own compass! For child safety with sharp objects, adult assistance is required.

Materials:



Bar magnet



Steel needle



Pencil



Thread



Smaller steel
pin or needle



Wide mouth plastic
or glass cup

Procedure:

Using long strokes, rub the magnet down the length of the needle 30 - 50 times. This will align its electrons. Do not rub it back and forth, which will prevent magnetization.



Test it by trying to pick up the smaller needle. If it does not work, repeat, being sure to use long, consistent strokes. Check online for a video of the technique if necessary.

Once the needle is magnetized, have your child measure the cup height to get the right thread length, adding a little extra for knots.

Tie one end of the thread around the middle of the large needle. Adjust the knot so the needle hangs level when it is held up. Tie the other end around the middle of the pencil.

Have your child set the pencil across the mouth of the cup so the needle hangs inside. Shorten the thread if the needle touches the bottom. Watch the needle slowly spin and point to magnetic north. You made a compass!