

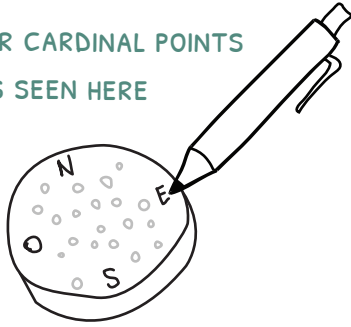
MAKE A COMPASS



SUPPLIES

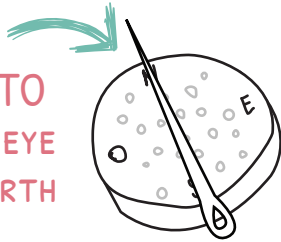
- NEEDLE
- MAGNET
- BOWL OF WATER
- CORK TOP OR A PIECE OF STYROFOAM
- SERRATED KNIFE
- PEN

2 WRITE THE FOUR CARDINAL POINTS ON THE DISK AS SEEN HERE



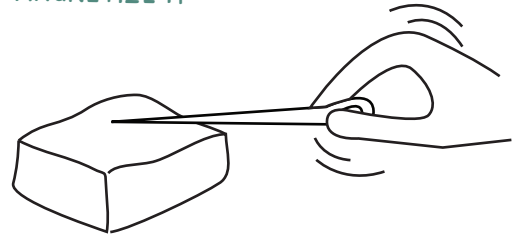
4 PLACE THE MAGNETIZED NEEDLE ON THE CORK DISK WITH THE POINT ON THE N THAT YOU WROTE ON IT

BE SURE TO PUT THE POINT NOT THE EYE ALIGNED WITH NORTH



GETTING HELP FROM AN ADULT, CUT A SLICE OF A CORK TO OBTAIN A THIN DISK

3 RUB THE POINTED SIDE OF THE NEEDLE AGAINST A MAGNET FOR AT LEAST 50 TIMES ALWAYS IN THE SAME DIRECTION IN ORDER TO MAGNETIZE IT



5 CAREFULLY PLACE THE CORK DISK WITH THE NEEDLE IN THE BOWL OF WATER

THE NEEDLE OF YOUR COMPASS AUTOMATICALLY LINES UP WITH THE EARTH'S MAGNETIC FIELD INDICATING NORTH

WHAT HAPPENS?



WHY IS THAT?



THE NEEDLE CONTAINS IRON WHOSE PARTICLES ARE ARRANGED IN RANDOM DIRECTIONS.

WHEN YOU MAGNETIZE THE NEEDLE USING THE MAGNET THE PARTICLES IN THE IRON ORIENT THEMSELVES ALL IN THE SAME DIRECTION.

OUR EARTH IS SO RICH WITH IRON THAT IT ACTS LIKE A HUGE MAGNET, CREATING A MAGNETIC FIELD THAT ALIGNS THE MAGNETIZED NEEDLE IN THE SAME DIRECTION OF THE POLES, JUST LIKE A COMPASS.