

Magnetic Earth – using a sponge ball globe

Modelling the magnetic field of the Earth using a 'stress ball' globe instead of Plasticine

This is a pupil practical or teacher demonstration taking about 10 minutes. The magnetic field of a bar magnet within an 'Earth Globe stress ball' is investigated using a Magnaprobe™ (tiny magnet suspended in gimbals), or a magnetised needle on a thread.

Make a small incision in the globe at the South Pole using a craft knife and insert a small bar magnet parallel to the Earth's axis at the centre of the sphere. Use a Magnaprobe™ to locate the North and South Poles (the places where the

probe points vertically to the surface of the sphere). Observe the orientation of the probe at different latitudes in both hemispheres (magnetic dip or inclination).

The sponge globe is more visually appealing than a Plasticine™ globe making it easy for pupils to visualise the Earth's magnetic field. However the larger Plasticine™ globe enables follow up activities such as inserting cocktail sticks to show magnetic inclination (magnetic dip).



Magnetic 'stress ball' Earth. (David Rowley).

Source: David Rowley, Wells Cathedral School, Wells, Somerset, UK.