

Evidence from the continents (other than shape)

E. Paleomagnetic data

1. How a compass determines latitude

We are all familiar with a compass needle rotating on a spindle and giving us an indication of the location of the magnetic north pole. The needle also moves in another direction. Following the lines of the magnetic field, at the Equator it is horizontal. As we move closer to the north magnetic pole the north seeking end of the needle dips down, dipping more the closer we get to the magnetic pole. As we move closer to the south magnetic pole the south seeking end of the needle dips down, dipping more the closer we get to the magnetic pole. From the dip of the needle, latitude (but not longitude) can be determined.

Although one end of the compass needle is called the north end (usually red or white with an arrowhead) it should be called the north seeking end. Remember from either physics or chemistry that likes repel and unlikes attract. Anions repel anions. Cations repel cations. Anions attract cations causing bonding. In reality, the 'north' end of the compass needle is the south end of the needle.

