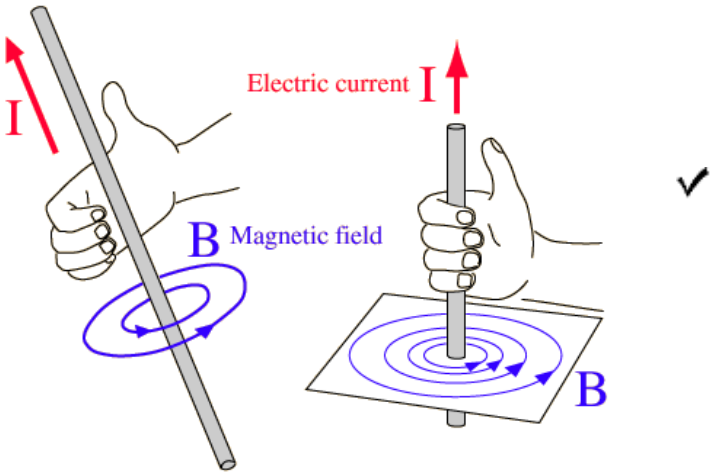
Station 1 **Current-carrying wires** /10 marks

Questions:

⇒ Does the direction of the magnetic field predicted by the hand rule agree with your observations? Draw a diagram of the magnetic field around a current-carrying wire.

Yes, the hand rule agrees with the observed magnetic field direction. ✓



✓

⇒ What is the purpose and function of using a compass in this activity?

✓ ✓

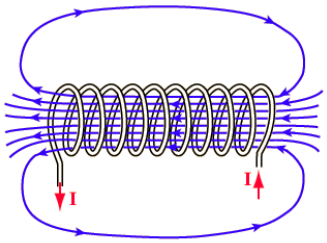
The compass acts as a test magnet which indicates the direction of the induced magnetic field around a wire or through a solenoid.

Station 2 **Solenoid – electromagnet**

Questions:

⇒ Using the appropriate hand rule, does the direction of the magnetic field predicted by the hand rule agree with your observations? Draw a diagram of the magnetic field generated in a solenoid.

The hand rule predicts the observed magnetic field direction. ✓



✓ ✓

⇒ Compare and contrast an electromagnet and a bar magnet.

A bar magnet has a permanent magnetic field which is the result of aligned magnetic domains in the metal. ✓

An electromagnet has a field that is induced by current running around a coil of wire. ✓

Both permanent and electro magnets have similar field patterns. ✓