

## Magnets

Name 3 materials that are attracted to magnets:

1. Iron
2. Nickel
3. Cobalt

What are the 4 properties of magnets:

1. Attraction
2. Navigation
3. Two poles
4. Opposite attracts, Same repels

Poles exist in pairs. Even if we cut a magnet in half it will still have a North and a South pole.

The same poles will repel each other.

The opposite poles will attract each other.

## Compasses

A compass will always point:

North

Why does a compass work: The Earth's magnetic field

Draw a diagram of the above:



### Electromagnets

Electricity can create an electric field, which can be manipulated to create a magnetic field.

Describe how to create an electromagnet:

Wrap a wire around an iron core. The more loops the better. Connect the wire to the positive and negative terminals of a battery.

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Draw a diagram of an electromagnet and a diagram of it's magnetic field:

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What is the difference between an electromagnet and a regular magnet:

Can disconnect an electromagnet, and you can control the strength of an electromagnet.

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Where could you find an electromagnet:

1. Refrigerator  
door

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2. Door  
bell

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Describe 3 ways you could increase the strength of an electromagnet:

1. More wire  
(loops)

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2. More electrons (stronger  
voltage)

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3. Use copper wire instead of aluminum

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