SCIENCE TEACHING MATERIALS

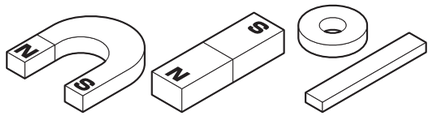
Magnet [Type SB] Worksheet

Name

Let's find out what can be attracted and cannot be attracted by a magnet.

Experiment 1 What is attracted to magnets?

●Find out what can be attracted by magnets.



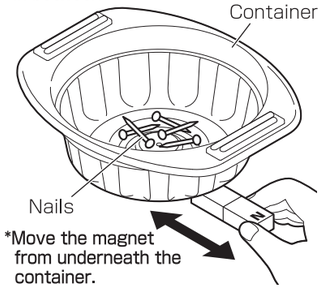
☆Circle the items that are attracted to magnets and draw a cross for items that are not attracted to magnets.

Attracted by magnets	Prediction	Result
nails		○
paper clips		○
pipe cleaners		○
iron		○
iron bars		○
sponges		×

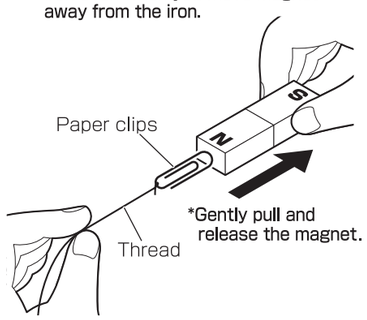
Attracted by magnets	Prediction	Result
bulldog clips		○
eraser		×
scissors (blade part)		○
scissors (handheld part)		○
empty cans (aluminium)		×
empty cans (steel cans)		○

Experiment 2 Strength of magnet

●Find out if the magnet can attract iron, even if there is non-magnetic material in-between.



●Find out if the magnet can attract the iron even when you move magnet away from the iron.



☆What happened to the nail?

<Example>
The nail moved in accordance with the movement of the magnet.

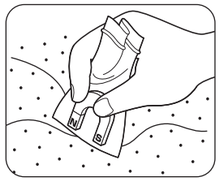
☆What happened to the paper clip?

<Example>
The paper clip was attracted to the magnet, even when separated from the magnet.

Let's Try!

Collect iron sand

●Let's put the magnet in the sandbox.



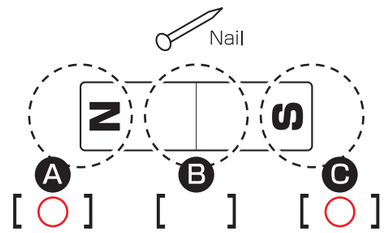
Play with pipe cleaners

●Place a bar magnet under the container and let the pipe cleaners stand on it.

What are the properties of the magnet?

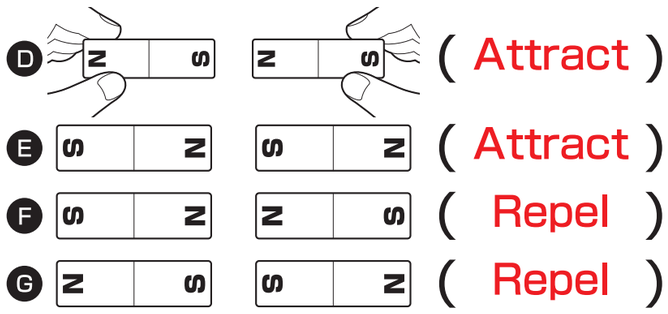
Experiment 3 Poles of the magnet

● Find out which point Ⓐ Ⓑ Ⓒ of the bar magnet is the nail attracted to the most.



☆ Tick in the box the point where the nail is most attracted to.

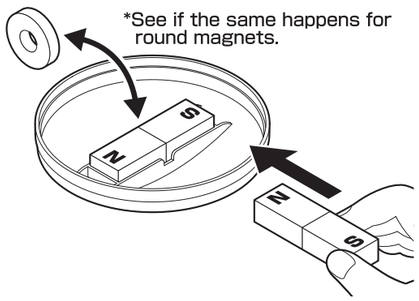
●Move the two bar magnets close to each other andcheck the response at points Ⓓ Ⓔ Ⓕ Ⓖ.



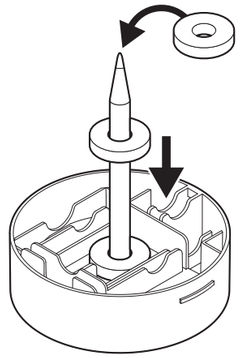
☆Write down in the brackets what happened to the magnet.

Various experiments with magnetic poles

●Place a bar magnet on the lid of the case and bring another bar magnet close to it.



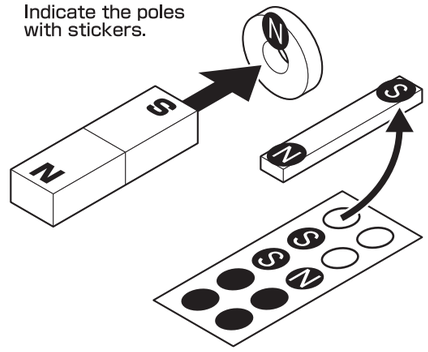
●Place the pencil at the bottom of the case and pass a round magnet through it.



If you do not know where are the magnetic poles

●Put the bar magnets close to each other to find out where the poles are.

Indicate the poles with stickers.

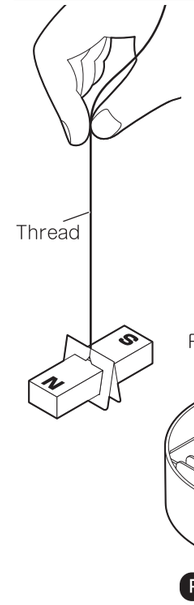


Experiment 4 Frely suspended magnet

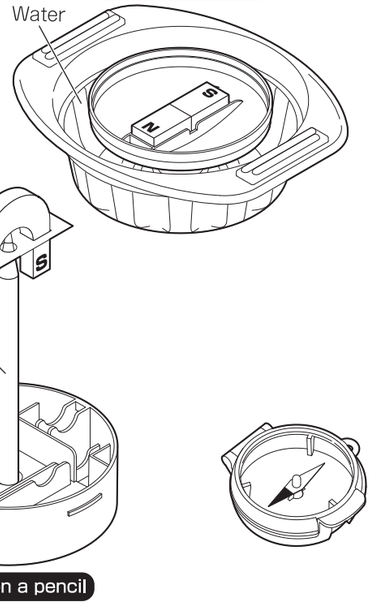
*Make sure that no other magnets are nearby during the experiment.

● Find out what happens to a magnet that is allowed to move freely, as shown in the diagram.

Suspended on a thread



Floating on water



Placed on a pencil

☆ What happened to the N and S poles when you use thread, pencil and water respectively?

<Example>
The magnet stopped in the same direction, for the 3 situations.

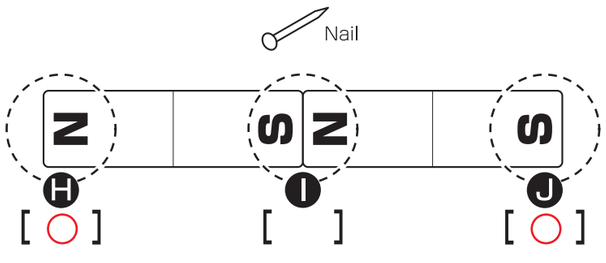
●Compare with the compass needle to see if there are any differences in movement.

☆Were there any difference from the compass?

<Example>
There was no difference between the compass and the movement of the magnet.

Let's Try! 2 Magnets

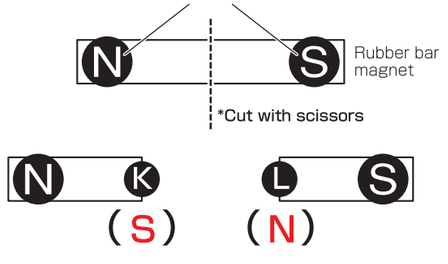
●Find out which point Ⓗ Ⓘ Ⓙ of the bar magnet is the nail attracted to the most.



☆ Tick in the box the point where the nail is most attracted to.

● Find out what happens to the poles Ⓚ Ⓛ when a rubber bar magnet is cut in half.

*Check the pole and paste the N/S stickers over them.



☆ Write N or S in the brackets.

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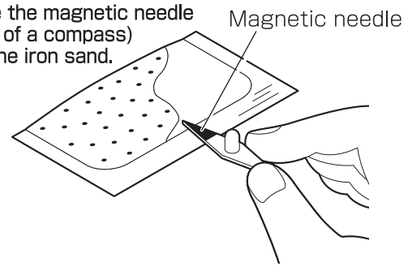
Let's Try! Is the compass also a magnet?

● Let's move the magnetic needle (the needle of a compass) closer to the iron sand.



☆Was there any difference between this and a magnet?

<Example>
There was no difference between the magnet and the iron sand, and the iron sand was attracted to the magnetic needle in the same way.

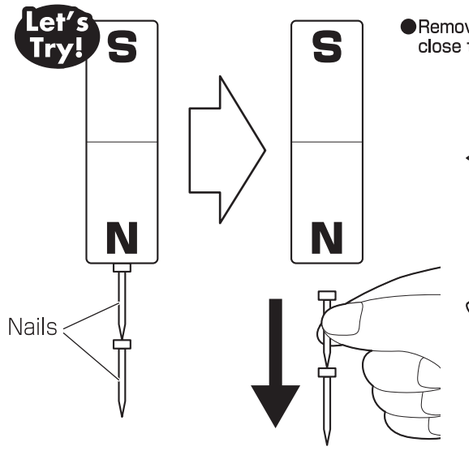
Can iron become a magnet?

Experiment 5 Iron attached to a magnet

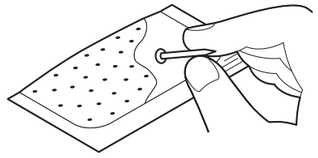
Do not remove iron sand from the bag!

●Find out what happens when a nail attached to a magnet is slowly pulled apart, as shown in the diagram.

Let's Try!

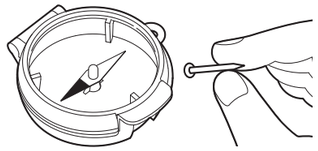


●Remove the nail from the magnet and hold it close to the iron sand or compass needle.



☆ What happened to the iron sand?

<Example>
The iron sand near the nail was attracted.



☆ What happened to the compass?

<Example>
The tip of the compass needle was attracted to the nail.

☆ What happened to the nail?

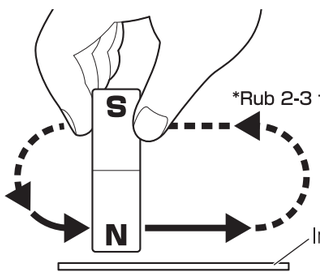
<Example>
The nail remained attached.

☆ Think and summarize what happens when iron is attached to a magnet.

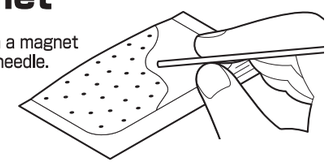
<Example>
Iron attached to the magnet had the same properties as a magnet, so the iron became a magnet.

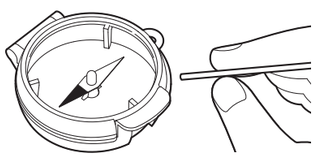
Experiment 6 Create a magnet

●As shown in the diagram, rub an iron bar with a magnet and bring it close to iron sand or a compass needle.

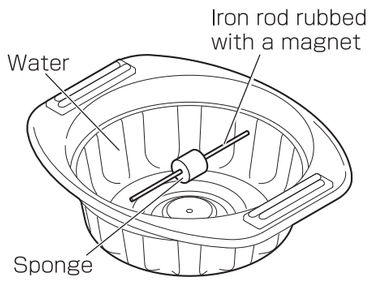


*Rub 2-3 times in the same direction.





●Put the iron rod in the sponge and have it float on the water (similar to Experiment 4).



☆ What happened to the iron sand and the compass needle?

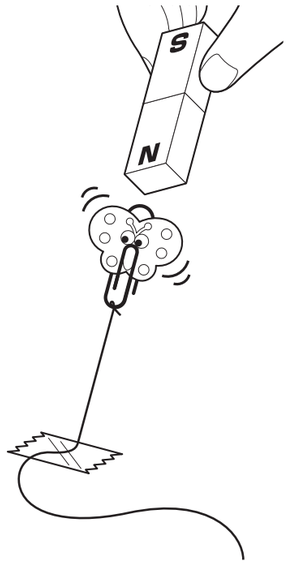
<Example>
Both the iron sand and the tip of the compass were attracted to the iron rod.

☆ What happened to the iron rod that floated in the water?

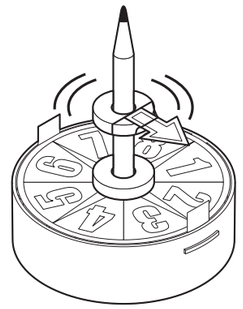
<Example>
The iron rod stopped in the same direction as the compass needle.

Let's try creating a toy using magnets.

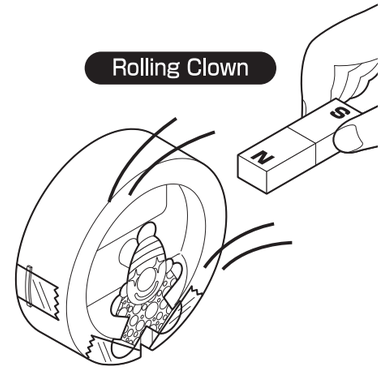
Fluttering Butterfly



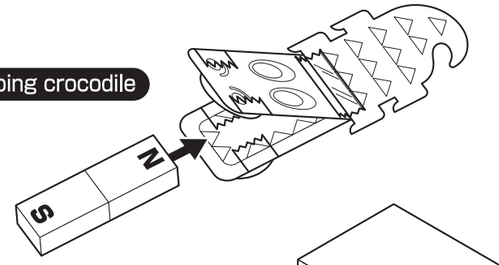
Twirling Roulette



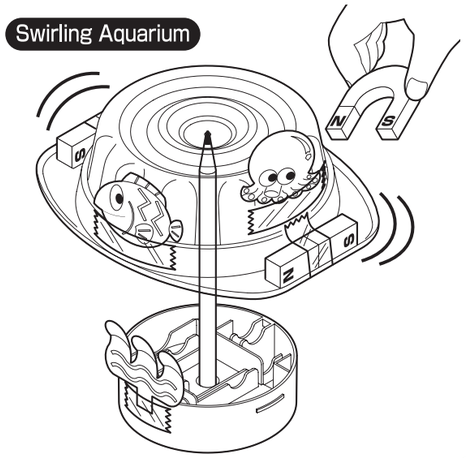
Rolling Clown



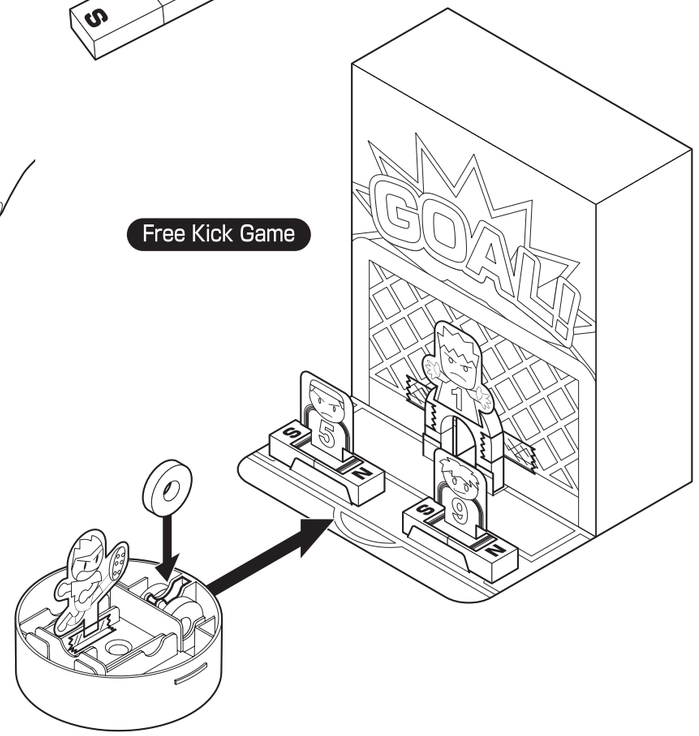
Snapping crocodile



Swirling Aquarium



Free Kick Game



☆ Make a toy and write down your experiences of playing with it.

Write down your own experiences.

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