

Magnetic Fields

READ ALOUD PASSAGE

The magnetic field is the invisible region around a magnet where its force can act. Field lines run from the North pole to the South pole. Where they bunch up close together, the field is strongest.

A magnetic field is a three-dimensional shape surrounding a magnet on every side, not a flat pattern. A magnet's field is strongest right at its surface and fades quickly with distance, until it's too weak to feel.

Two magnetic fields combine into one: they strengthen each other when opposite poles face, and push apart when matching poles face. Moving electric current also creates a magnetic field, which is how an electromagnet works, and it can be switched on and off.

Activity 1: Connect the Sentences

Each pair of sentences needs a connecting word. Pick one from the box and write it in the blank. Keep the comma after it.

CONNECTING WORDS

However

Also

As a result

For example

1. Field lines bunch up near the poles. _____
 , the field is strongest there

2. You cannot see a magnetic field. _____
 , iron filings can show its shape

3. Magnets do many jobs. _____
 , cranes use them to lift scrap metal

4. Opposite poles make fields combine. _____
 , matching poles make fields push apart

Activity 2: Copy the Shape

Read the sentence. Notice how it is built. Then write your own sentence using the same structure.

Read the sentence:

Although you cannot see a magnetic field, iron filings show its shape.

Notice how it is built:

Although _____, _____.

It starts with “Although,” then a short idea, then a comma, then the main idea.

Now write your own sentence the same way. You can write about anything you learned in this lesson.

Need help getting started? Try finishing this one: **Although the magnet is small, ___.**

[illegible]

Science Mad Lib

Fold the page on the dashed line so the story is hidden. Write a word for each blank. Then unfold the page, copy your words into the story, and read it aloud.

1 _____
A name

2 _____
A number

3 _____
A noun

4 _____
A silly name

FOLD HERE

THE STORY

_____ sprinkled iron filings around a magnet. Instead of landing
1
randomly, the filings lined up in curved lines. They were showing the magnetic
field, the invisible area where a magnet's force can act. Next, _____
1
wrapped wire around an iron nail _____ times and hooked it up to a
2
battery. Electricity turned the nail into an electromagnet! It picked up their
_____. When _____ unhooked the battery, it dropped right off.
3 1
They named their new magnet _____. "Finally," said _____, "a
4 1
magnet I can switch off."