

PHYSICS PROJECT



Magnetism

Poles, fields and everyday uses

PRESENTED BY

Student Name

SUBJECT

Physics

CLASS / YEAR

Class XI



Agenda

01

Introduction

02

Concepts

03

Experiment

04

Applications

05

Summary

SECTION 01

INTRODUCTION

What is magnets?



Diagram

Magnetism is the force by which magnets attract iron and attract or repel other magnets.

Every magnet has a north and a south pole. Like poles repel and unlike poles attract. The space around a magnet where its force acts is its magnetic field.

SECTION 02

CONCEPTS

Key concepts

1

Poles

North and south ends of a magnet.

2

Magnetic field

Region where the force acts.

3

Electromagnet

A coil that becomes a magnet with current.

Making an electromagnet

01

Coil

Wrap wire round a nail

02

Connect

Attach to a cell

03

Test

Pick up pins

04

Switch off

Pins drop

Magnetic or not?

Object	Material	Attracted?
Paper clip	Steel	Yes
Coin (most)	Alloy	Varies
Pencil	Wood	No

Reference values for illustration.

SECTION 03

EXPERIMENT

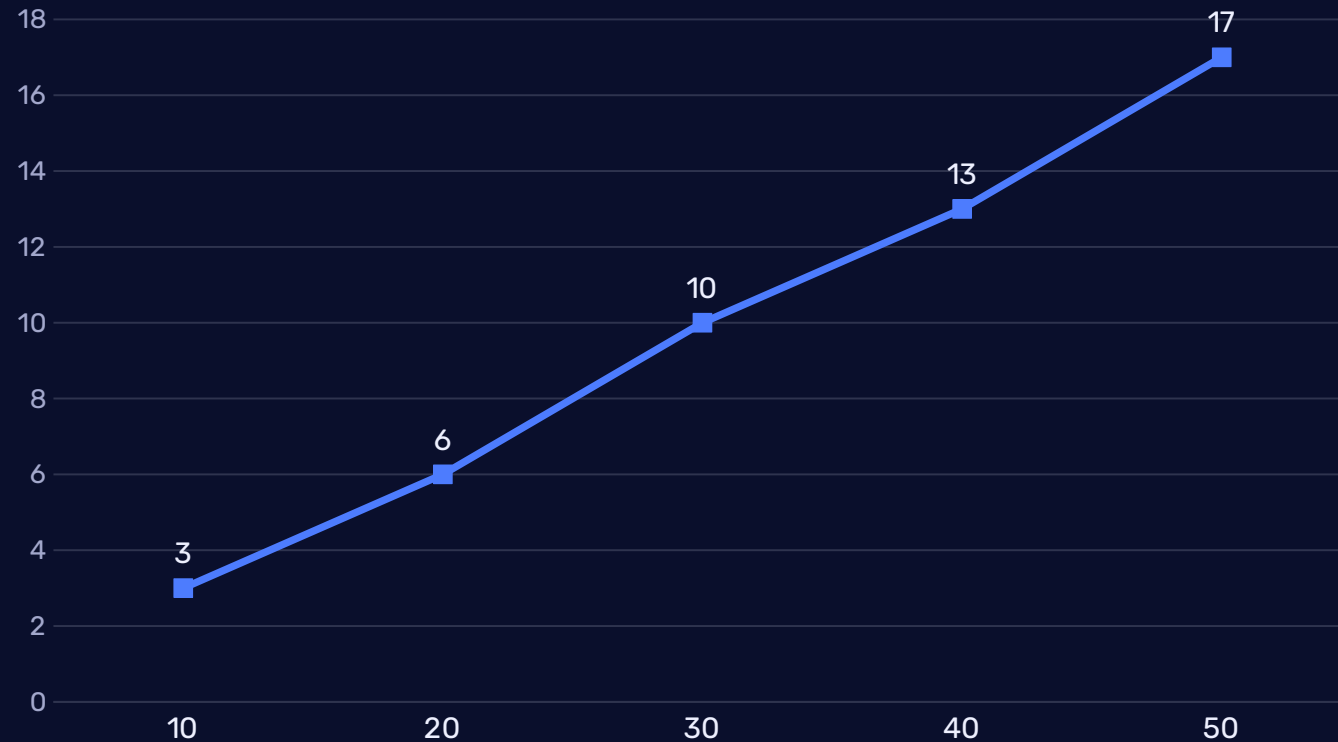
Experiment

- ▶ Sprinkle iron filings on paper over a magnet
- ▶ Tap the paper gently
- ▶ Observe the field pattern
- ▶ Draw the field lines

SAFETY

**Keep magnets
away from phones
and cards.**

Pins lifted vs number of coils



Electromagnet strength
(sample data).

Sample data for illustration – replace with your own figures.

Real-world applications



Image 1

Compass

Navigation



Image 2

Motors

Fans and vehicles



Image 3

Medical

MRI scanners

SECTION 04

SUMMARY

Quick facts

2

poles in every magnet

Earth

behaves like a giant
magnet

Maglev

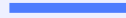
trains float on magnets

Summary

- ▶ Magnets have two poles
- ▶ Like poles repel, unlike attract
- ▶ Fields can be seen with iron filings
- ▶ Current can create magnetism



Image



Thank you

Questions?

Student Name • Physics