LESSON PLAN: EXPLORING MAGNETS (GRADE 6)

FAMILIARIZATION

All familiarisation activities should be completed before the lesson begins, and the following activities may take up to two weeks to complete.

1. WORD CARDS

☞ Teacher will introduce these words using word cards.

Magnet, Magnetic, Non-magnetic, Iron, Metal, Attract, Stick, Magnetic materials, Non-magnetic materials, Poles, North pole, South pole, Direction, Compass, Predict, Observe, Record, Experiment, Conclude

2. PICTURES / VISUALS TO SHOW

☞ Teacher will show pictures (picture cards/chart/PPT/real objects) and ask students to observe carefully, discuss, and identify what they see.

Fridge magnet, Bar magnet, U-shaped magnet, Ring magnet, Iron nail, Magnetic compass image, Magnet with filings concentrated at ends, Two magnets attracting, Two magnets repelling

3. CONCEPTS TO BE FAMILIARISED

Concept 1: Magnets are found in daily life

☞ Show real objects and say:
"Magnets are around us even if we don't notice them."

Concept 2: Some materials stick, some don't

☞ Quick demo:

Magnet + iron nail (sticks)

Magnet + plastic (does not stick)

Concept 3: Magnets have special ends (poles)

☞ Show bar magnet and point ends

Concept 4: Magnets help find direction

☞ Show compass and relate to story

Concept 5: Magnets can pull without touching

☞ Show paper clip moving toward magnet

☞ Instruction:
"Teacher will demonstrate each concept using real objects, ask students to observe carefully, and ask simple questions to check understanding."

DAY 1: INTRODUCTION

Activity 1: Story Read-Aloud + Discussion

Type: Emotional + Intellectual

☞ Teacher will make students sit in a semicircle and read aloud the introduction story of Reshma from the textbook with proper expression, pause at the problem where sailors cannot see stars, ask students to think individually for one minute about how sailors can find direction, then ask them to turn to their partner and discuss one idea, and finally call 3–4 students to share their responses with the class.

☞ Students will write in their notebook: *"How would sailors find direction without stars?"*

Activity 2: Think–Pair–Share on Uses of Magnets

Type: Intellectual

☞ Teacher will ask students to silently think for one minute about where they have seen magnets in real life, then discuss with their partner for two minutes, followed by sharing responses while the teacher lists them on the board, and then instruct students to write any three uses of magnets in their notebook.

Activity 3: Classroom Magnet Exploration

Type: Physical + Intellectual

☞ Teacher will place various objects on the table (pencil box, clip, duster, plastic items), call students group-wise to test each object with a magnet carefully without dropping it, guide them to observe which objects stick and which do not, and ask them to write two objects that are attracted by magnets in their notebook.

Bonus (Fast Learners)

☞ Students who finish early will draw and label five uses of magnets in their notebook.

Support (Slow Learners)

☞ Teacher will sit with them, give only two objects, demonstrate slowly, and ask guiding questions like "Does it stick? Try again."

End-of-Day Assessment (10 minutes)

☞ Teacher will ask students to close their books and notebooks, then orally ask 3–4 questions such as "What problem did Reshma face?", "Name one use of magnets you observed today", and "How can magnets help in real life", observe which students respond confidently, then instruct all students to write in their notebook the answer to the question *"Why are magnets useful in our daily life?"* in 3–4 complete sentences, and finally quickly walk around the class to check whether students have written meaningful answers and understood the concept.

Lesson

DAY 2: MAGNETIC & NON-MAGNETIC MATERIALS

Activity 1: Prediction Writing + Reading

Type: Intellectual

☞ Teacher will distribute different objects to each group, ask students to observe them carefully and predict which objects will stick to the magnet, instruct them to draw a table in their notebook (Object–Prediction–Observation), and write their predictions before testing.

Activity 2: Hands-on Experiment

Type: Physical

☞ Teacher will ask students to test each object one by one using a magnet, observe carefully, and immediately record their observations in the notebook table.

Activity 3: Read-Aloud + Concept Building

Type: Intellectual

☞ Teacher will read aloud the paragraph explaining magnetic and non-magnetic materials from the textbook and ask students to underline key words like “magnetic materials” and “non-magnetic materials” while following in their book.

Activity 4: Group Discussion

Type: Emotional + Intellectual

☞ Teacher will ask students to compare their predictions with actual results in groups and discuss why some materials are attracted and some are not, followed by writing the conclusion in their notebook.

Bonus

☞ Students will create a small chart in notebook dividing materials into magnetic and non-magnetic.

Support

☞ Teacher will give fewer objects and guide step-by-step testing.

End-of-Day Assessment (10 minutes)

☞ Teacher will ask students to revisit their prediction-observation table, then ask them to circle the correct predictions and identify mistakes, followed by giving a short written task where students must classify 5 objects (given on board) into magnetic and non-magnetic in their notebook, and finally conduct quick oral questioning like “Is wood magnetic?”, “Why is iron magnetic?”, while noting which students are able to answer independently.

DAY 3: POLES OF MAGNET

Activity 1: Demonstration + Observation

Type: Physical

☞ Teacher will spread iron filings on paper, place a bar magnet, gently tap it, and ask students to observe carefully where filings collect more, followed by questioning.

Activity 2: Guided Questioning

Type: Intellectual

☞ Teacher will ask questions like “Are filings equal everywhere?” and “Where are they more?” and guide students to conclude that ends are stronger.

Activity 3: Read-Aloud + Concept

Type: Intellectual

☞ Teacher will read aloud the section on poles of magnet and explain North and South poles while students follow and underline important points.

Activity 4: Notebook Drawing

Type: Physical + Intellectual

☞ Students will draw a bar magnet and label North and South poles neatly in their notebook.

Activity 5: Pair Discussion

Type: Emotional

☞ Students will discuss in pairs what happens if a magnet is broken and then write their answer.

Bonus

☞ Students will write why poles cannot exist alone.

Support

☞ Teacher will show real magnet and repeat explanation slowly.

End-of-Day Assessment (10 minutes)

☞ Teacher will draw an unlabelled magnet diagram on the board and ask students to come and label North and South poles, then instruct all students to draw and label a magnet in their notebook and write one sentence answering *“Where is the magnetic force strongest and why?”*, and simultaneously observe students’ drawings and explanations to assess conceptual clarity.

DAY 4: FINDING DIRECTIONS

Activity 1: Experiment (Suspended Magnet)

Type: Physical

☞ Teacher will tie a magnet with a thread, suspend it, rotate it gently, and ask students to observe the direction in which it comes to rest.

Activity 2: Read-Aloud + Understanding

Type: Intellectual

☞ Teacher will read aloud the section explaining north-south direction and explain how Earth behaves like a magnet while students follow in the book.

Activity 3: Compass Demonstration

Type: Intellectual

☞ Teacher will show a compass, explain its parts, and demonstrate how it indicates direction.

Activity 4: Making a Compass

Type: Physical + Emotional

☞ Students will magnetize a needle, place it on cork, float it in water, observe direction, and record observation.

Activity 5: Spiritual Activity: Direction in Life

Type: Spiritual + Intellectual

☞ After teaching how a compass helps in finding direction, teacher will ask students to sit quietly and think for one minute about what "direction" means in life, then initiate a discussion by asking "Just like a compass shows direction, what guides us in life?", allow students to share answers like parents, teachers, values, and honesty, and finally ask students to write in their notebook *"Who or what helps me choose the right direction in life?"* in 3–4 sentences.

Bonus
☞ Draw and label a compass.
Support
☞ Teacher provides ready model and guides step-by-step.

End-of-Day Assessment (10 minutes)

☞ Teacher will show a compass or suspended magnet and ask students orally "In which direction does the magnet rest?", "What does the red needle show?", then instruct students to write a short answer in their notebook explaining *"How does a compass help us find direction?"*, and finally randomly select 2–3 students to explain their answer aloud while checking notebook responses for correctness.

DAY 5: ATTRACTION & REPULSION

Activity 1: Experiment

Type: Physical

☞ Students will bring two magnets close in different combinations, observe movement carefully, and note what happens.

Activity 2: Recording

Type: Intellectual

☞ Students will write observations in a table (Poles–Result).

Activity 3: Read-Aloud + Rule Formation

Type: Intellectual

☞ Teacher will read aloud the concept and guide students to conclude that like poles repel and unlike poles attract.

◆ Activity 4: Role Play

Type: Emotional

☞ Students will act as poles and physically show attraction and repulsion.

Bonus

☞ Predict results before testing.

Support

☞ Teacher demonstrates individually.

End-of-Day Assessment (10 minutes)

☞ Teacher will write 3 situations on the board such as "North–North", "North–South", "South–South" and ask students to predict whether they attract or repel, then instruct students to write these answers in their notebook along with one rule sentence *"Like poles _____ and unlike poles _____"*, and finally conduct rapid oral questioning to ensure all students understand the concept.

DAY 6: MAGNET THROUGH MATERIALS + FUN

Activity 1: Barrier Experiment

Type: Physical

☞ Students will place materials like wood, plastic, or glass between magnet and compass and observe whether the needle still moves.

Activity 2: Read-Aloud + Conclusion

Type: Intellectual

☞ Teacher will read aloud the conclusion that magnetic force can pass through materials and students will write it.

Activity 3: Fun Stations

Type: Physical + Emotional

☞ Students rotate in groups through stations like maze game, paper clip in water, and magnet cars, observing and discussing each.

Bonus

☞ Design a new magnet game.

Support

☞ Teacher assigns only one station and guides slowly.

End-of-Day Assessment (10 minutes)

☞ Teacher will ask students to recall the barrier experiment and orally answer "Did the magnet work through wood/plastic?", then instruct students to write a conclusion in their notebook *"Magnetic force can/cannot pass through materials because…"*, followed by asking a few students to read their answers aloud while the teacher checks for conceptual understanding.

Revision

DAY 7: Revision Activities

Activity 1: Group Read-Aloud

Type: Intellectual

☞ Students will read key points from textbook aloud in turns while others follow.

Activity 2: Spiritual Activity: Like Poles & Unlike Poles (Human Behaviour)

Type: Spiritual + Emotional

☞ Teacher will relate the concept of attraction and repulsion to human relationships by asking students to think about how similar attitudes (kindness, respect) bring people closer and negative attitudes (anger, selfishness) push people away, then conduct a short discussion where students give examples, and finally ask students to write *"What kind of person do I want to be so that people feel attracted to me?"* in 3–4 sentences.

Activity 3: Quiz

Type: Emotional + Intellectual

☞ Teacher conducts rapid-fire quiz.

End-of-Day Assessment (10 minutes)

☞ Teacher will conduct a short written quiz. (Scan the QR code for the quiz sheet)

DAY 8: FINAL ASSESSMENT

☞ Students will complete written test, perform one experiment, and answer viva questions explaining concepts clearly. (Scan the QR code for the assessment sheet)

Additional references for concept clarity:

Videos:

https://youtu.be/7HHs98PBgk0

https://youtu.be/MKahoS0mUr4

DIY for children:

https://youtu.be/DBNRvPmJfLc

Reading material for children:

1. Young scientist – Magnet
2. Child Craft – Discovering Science

Ideas for chart: