

# CBSE Class 6 Science Notes Chapter 13: Detailed Notes With Simple Explanations

*CBSE Class 6 Science Notes Chapter 13 has been provided in a simple and easy-to-understand way to help CBSE class 6 students in their preparations. Students can find all the detailed notes here!*

**CBSE Class 6 Science Notes Chapter 13:** CBSE Class 6 Science Notes Chapter 13 can help CBSE class 6 students a lot in their exam preparations. These CBSE Class 6 Science Notes Chapter 13 are crafted by expert Science educators from the most recent NCERT textbooks. Students can find all the detailed notes to chapter 13 on this page!

## CBSE Class 6 Science Notes Chapter 13 Fun with Magnets

**Natural Magnet:** Magnetite is called a natural magnet.

**Uses of a Magnet:** A magnet is handy in various places. For instance, it's used on refrigerator doors, in certain pencil cases, lots of toys, magnetic stickers, soap holders, pin holders, all rely on a magnet for their operation.

**Shapes of Magnets:** Magnets are made of different materials and in different shapes.

**Effect of a magnet on materials:** A magnet pulls in certain things, but there are some that don't get pulled toward it.

**Magnetic materials:** Objects that are drawn to magnets are called magnetic materials. Examples include iron, nickel, and cobalt.

**Non-magnetic materials:** Materials that do not get attracted to magnets are called non-magnetic materials. Examples include leather, plastic, cloth, and paper. **Magnetic poles:** The strongest magnetic attraction occurs near the ends of the magnet, which are known as magnetic poles.

When hanging without support, a magnet consistently lines up in a north-south (N-S) orientation.

**Lodestone:** It was a rock that sailors used in ancient times to find their way when they were at sea.

**Compass:** This is a tiny glass box with a magnetised needle balanced on a nail. The needle can spin easily. Wherever it's placed, the needle always points in the north-south direction. Usually, the red end of the needle indicates the north pole or some other mark is used to show north and south. So, with this needle, you can find out which direction is north and south.

**Attraction between two poles:** Opposite ends of two magnets pull towards each other. This is known as attraction.

**Repulsion between two poles:** When two magnets have poles that are alike, they push away from each other. This is known as repulsion.

**Magnetic effect can pass through screen:** Magnetic power can travel through barriers like fabric, plastic, paper, glass, and so on. Magnets can lose their abilities if they're heated, hit, or dropped with force.

To protect them, bar magnets should be stored in pairs with their opposite poles together. They should be separated by a wooden block, with soft iron pieces placed at each end. For a horseshoe magnet, it's advisable to place an iron piece across its poles.

**Compass:** This is a tiny glass box with a magnetised needle attached to a nail. The needle can move easily and always points in a north-south direction.

**Magnet:** A magnet is a metal object that pulls in iron or things that are magnetic. **Magnetite:** It's a type of iron ore that can be magnetic.

**North pole:** When hanging without any support, one end of the magnet consistently points in the direction of the north. This is called the north pole.

**South pole:** When a magnet is hanging freely, its end points toward the south, which is called the south pole.

Examine the images below. Place a 'V' mark next to the object you believe would attract a magnet, and 'X' next to the object that wouldn't.

Now, let's delve deeper into magnets. Answers: 1. Incorrect, 2. Correct, 3. Correct, 4. Incorrect, 5. Incorrect, 6. Correct.

## Discovery Of Magnets

Legend has it that a Greek shepherd named Magnes stumbled upon the first magnet. It's said that the nails in his shoes and the iron tip of his staff stuck to a big black rock he stood on. This odd rock was later called 'magnetite' by the Greeks. The Chinese were also familiar with magnets. Old-time Chinese sailors relied on magnets to navigate their way.

## Magnets

Magnets are crafted from materials that draw objects made of specific substances such as iron, cobalt, and nickel. They come in different shapes and sizes, including horseshoe, ring, cylindrical, or bar forms. Not every object responds to magnets. Those drawn to magnets, like iron and nickel, are called magnetic, while those unaffected by magnets, like wood and plastic, are termed non-magnetic.

## Poles Of a Magnet

When magnetic materials, like iron filings, are brought near a magnet, they don't stick evenly to all parts. They stick more to certain areas, known as the poles. Magnetic forces are strongest at these poles. For instance, the two ends of a bar magnet are its poles.

In every magnet, regardless of its shape, there are two types of poles: the North Pole (N) and the South Pole (S). These poles always come in pairs and cannot exist independently.

If we were to break a bar magnet in half, we would have two pieces, each with a North Pole and a South Pole. Breaking it further into smaller pieces would still result in both poles in each piece.

### **Using a Magnet To Find Directions**

Today, magnets serve various purposes. In ancient times, people mainly used magnets to find directions. When a magnet can move freely, it naturally settles in a direction very close to the Earth's North-South direction. Travellers used this property of magnets to navigate on Earth's surface. A tool with a magnet used for finding directions is called a magnetic compass. It features a small magnetic needle at its centre that can freely rotate and always points in the Earth's North-South direction. The compass is marked with different directions like north, south, east, and west.

Have you ever wondered why a freely suspended magnet always aligns itself with the Earth's north-south direction? It behaves as if it's being influenced by another magnet. But where is this other magnet? It's actually the Earth itself. This alignment occurs due to the Earth's influence, which acts like a massive bar magnet. The Earth's magnetic field influences all magnets within its reach to align along its North-South direction.

### **Attraction And Repulsion**

When two magnets come near, they either pull together or push apart. When they pull together, it's called attraction. When they push apart, it's called repulsion. Whether they attract or repel depends on which poles are facing each other.

When similar poles (like N-N or S-S) come near, they push away. This is repulsion. When opposite poles (like N-S or S-N) come near, they pull together. This is an attraction.

### **Types Of Magnets**

There are two kinds of magnets: temporary and permanent. Magnets that only hold onto their magnetic power for a short while are temporary magnets. Those that keep their magnetic strength for a long time are permanent magnets.

Temporary magnets are typically crafted from iron, cobalt, or nickel. They act like magnets only when they're close to a powerful magnet. But once the strong magnet's effect is gone, they quickly lose their magnetic ability.

Permanent magnets are created from blends of iron, cobalt, or nickel mixed with other substances. These produce strong magnets and maintain their magnetic properties for a long duration.

## Care Of Magnets

A magnet can lose its properties due to the following activities.

- Dropping from a height
- Hitting with a hammer
- Applying heat
- Improper storage can also cause loss of magnetic properties.

Bar magnets ought to be kept together in pairs, ensuring that opposite poles are adjacent when they are not in use. Similarly, a horseshoe magnet should be stored with a piece of soft iron placed across its poles.

## Uses Of Magnets

Magnets have several uses:

- Credit cards, ATM cards, and identity cards contain a magnetic strip storing data.
- Magnets are used in television and computer monitors.
- Computer hard disks and audio and video tapes utilise magnetic materials for storing data.
- Magnets are handy for collecting iron substances from scrap yards.

**Magnet:** A magnet is something that pulls in materials like iron, cobalt, and nickel.

A magnetic compass is a tool with a magnet that helps in finding directions.

**Temporary magnets:** Magnets that keep their magnetic properties for only a brief time are known as temporary magnets.

**Permanent magnets:** Objects that maintain their magnetic characteristics over an extended period are referred to as permanent magnets.

Only materials that possess magnetism are drawn to magnets.

Each magnet possesses a pair of poles: the North Pole and the South Pole.

The magnetic force is most potent at the poles of a magnet.

A magnet left to hang freely will align itself with the Earth's North-South orientation.

Similar poles of two magnets push away from each other.

Opposite poles of two magnets draw towards each other.

Magnets may lose their magnetism if subjected to dropping from a height, hammer impacts, heating, or improper storage.

# Important Questions on CBSE Class 6 Science Notes Chapter 13 Fun with Magnets

## 1. What are the types of magnets?

There exist three categories of magnets: permanent magnets, temporary magnets, and electromagnets.

## 2. How can a magnet/magnetic object lose its magnetism?

- Heating
- Hammering/hitting
- Dropping from heights

## 3. What are inseparable poles?

The two ends of a magnet push away from each other when their similar ends face each other and pull towards each other when different ends are brought close. These two ends of a magnet are known as inseparable ends.

## 4. What is a magnet?

Chapter 13 in Class 6 Science, titled "Exploring Magnets," explores the idea, varieties, characteristics, and uses of magnets. It offers insights into the magnetic realm, aiding in comprehending the significance and utilisation of magnets. The initial discovery of magnets is credited to a German individual named Magne. Magnets are identified as objects capable of drawing in materials like iron, nickel, and cobalt, playing various roles in our everyday routines.

## 5. What are magnets used for according to Chapter 13 Class 6 Science?

Magnets are items that can draw in various materials. They're handy in many everyday situations and serve various purposes. For instance, magnets help sailors navigate by pointing to the North Pole. They're also useful in scrapyards and factories for moving large iron pieces. Additionally, magnets play a role in doorbells and chimes due to their electromagnetic traits. Moreover, they're essential components in TVs, speakers, and computers. In manufacturing, magnets help sort out iron and steel from materials that aren't magnetic, which is crucial for making telephones and similar gadgets.

## 6. What are magnetic and non-magnetic substances given in Science Chapter 13 of Grade 6?

Chapter 13 of Class 6 Science discusses magnets and their characteristics. It explains how substances are categorised as magnetic or non-magnetic depending on their response to magnets. Materials that are readily attracted to magnets are termed magnetic substances, with iron, nickel, and cobalt being prime examples. Conversely, materials such as wood, plastic, paper, rubber, and many metals that do not exhibit magnetism are referred to as non-magnetic substances. For further information, students can explore the Physics Wallah app or website.

## 7. What are the different types of magnets?

Magnets are well-known for their ability to attract things and are used in many ways. They come in various shapes such as bar, horseshoe, disc, dumbbell, cylindrical, compass needles, and artificial magnets. They can be categorised into temporary magnets, which are used briefly, and permanent magnets, which are used for a long time, depending on how they work.

## 8. What is a magnetic force according to Chapter 13 Class 6 Science?

In Chapter 13 of Science, it is explained that a magnet can pull other objects towards it. This pulling force is known as magnetic force. When two magnets are near each other, they attract each other, similar to how electric charges attract. This attraction between magnets is also called magnetic force.

## 9. What are the properties of a magnet?

Magnets show different characteristics and exist in various forms. Typically, magnets possess two poles that attract: the north pole and the south pole. Similar poles, such as two north poles or two south poles, push away from each other. On the contrary, opposite poles, like the north and south poles, pull toward each other. Magnetic poles are consistently found in pairs. Magnets differ from unipolar magnets as they are always bipolar. For further understanding of this topic, students can freely access the revision notes on the Physics Wallah website.

# Benefits of CBSE Class 6 Science Notes Chapter 13

CBSE Class 6 Science Notes for Chapter 13 cover the topic of 'Fun with Magnets'. These notes are designed to aid students in comprehensively understanding the concepts presented in this chapter of their curriculum. Here are several benefits of utilising these notes:

1. **Clarity of Concepts:** The notes provide a clear and concise explanation of the fundamental concepts related to magnets, such as magnetic poles, magnetic materials, and the properties of magnets. This clarity helps students grasp the theoretical foundations of magnetism effectively.
2. **Organised Content:** The notes are structured in a systematic manner, presenting information in a well-organised format. This organisation assists students in following the sequence of topics, facilitating better understanding and retention of key concepts.
3. **Key Points Highlighted:** Important points and definitions are highlighted within the notes, making it easier for students to identify and remember crucial information. This feature aids in focused study sessions and revision efforts.
4. **Illustrations and Diagrams:** Visual aids such as diagrams and illustrations are included within the notes to elucidate complex concepts. Visual representations of magnetic fields, magnetic lines of force, and magnetic materials enhance comprehension and enable students to visualise abstract ideas.

5. **Examples and Applications:** The notes incorporate real-life examples and practical applications of magnetism, demonstrating the relevance of the concepts discussed in the chapter. This approach helps students appreciate the significance of magnetism in various phenomena encountered in everyday life.
6. **Practice Questions:** CBSE Class 6 Science Notes often include practice questions at the end of each section or chapter. These questions enable students to assess their understanding of the material and reinforce their learning through application.
7. **Exam Preparation:** By consolidating important information and concepts from the chapter, the notes serve as a valuable resource for exam preparation. Students can use these notes to review the entire chapter efficiently and focus on areas that require additional attention.
8. **Time-Saving Resource:** Accessing well-prepared notes saves students time that would otherwise be spent on compiling information from textbooks and class lectures. This time-saving aspect allows students to allocate more time to understanding concepts deeply and practising problem-solving.
9. **Complementary Learning Tool:** CBSE Class 6 Science Notes complement traditional teaching methods by providing an additional resource for students to reinforce their learning outside the classroom. Students can use these notes for self-study, revision, or clarification of doubts.
10. **Encourages Self-Reliance:** By offering comprehensive explanations and guidance, the notes empower students to become more self-reliant learners. Students can use the notes to review material independently, thereby fostering a sense of academic autonomy and responsibility.

The benefits of CBSE Class 6 Science Notes for Chapter 13, 'Fun with Magnets', include clarity of concepts, organised content, visual aids, practice questions, and exam preparation assistance. These notes play a crucial role in enhancing students' understanding of magnetism and fostering effective learning outcomes.

## How to Prepare with CBSE Class 6 Science Notes Chapter 13

Preparing with CBSE Class 6 Science Notes for Chapter 13 can significantly enhance your understanding and retention of the subject matter. Chapter 13 typically deals with topics related to "Fun with Magnets." Here's a detailed guide on how to effectively prepare with CBSE Class 6 Science Notes for this chapter:

### Understanding the Chapter Content

1. **Read the Chapter:** Start by reading the chapter thoroughly from your textbook to grasp the fundamental concepts and key points.
2. **Understand Basic Concepts:** Focus on understanding basic concepts such as magnets, magnetic materials, magnetic poles, and magnetic fields.
3. **Note Important Definitions:** Jot down important definitions and terminologies related to magnetism. Understanding these terms is crucial for answering questions accurately.

### Using CBSE Class 6 Science Notes

1. **Obtain Reliable Notes:** Ensure that you have access to reliable CBSE Class 6 Science notes for Chapter 13. These notes should cover all the essential topics and concepts in a concise manner.
2. **Organise Your Notes:** Arrange your notes systematically according to the topics covered in the chapter. This will make it easier to review and revise the material later.
3. **Highlight Key Points:** Use highlighting or underlining to emphasise important points in your notes. This will help you focus on crucial information during revision.
4. **Add Personal Annotations:** Incorporate your own explanations or examples alongside the notes to aid in better understanding and retention.

### Active Learning Techniques

1. **Summarise Each Section:** After reading each section of the chapter, summarise the key points in your own words. This will help reinforce your understanding of the material.
2. **Create Concept Maps or Diagrams:** Visual aids such as concept maps or diagrams can be incredibly helpful in understanding complex concepts like magnetic fields and magnetic properties.
3. **Solve Practice Questions:** Practise solving a variety of questions related to magnets and magnetism from your textbook or supplementary resources. This will help you familiarise yourself with different question formats and improve your problem-solving skills.

### Revision Strategies

1. **Regular Revision:** Schedule regular revision sessions to go over your notes and reinforce your understanding of the chapter content.
2. **Flashcards:** Create flashcards with key concepts, definitions, and equations related to magnetism. Use these flashcards for quick review sessions whenever you have spare time.
3. **Teach Someone Else:** Teach the concepts you've learned to a friend or family member. Explaining the material to someone else is an excellent way to reinforce your own understanding.

### Additional Resources

1. **Online Resources:** Explore online resources such as educational websites, videos, and interactive simulations to supplement your learning.
2. **Reference Books:** Consult reference books recommended by your teacher or ones that are aligned with the CBSE curriculum to gain additional insights into the topic.
3. **Previous Year Question Papers:** Practise solving previous year question papers to familiarise yourself with the exam pattern and gain confidence in tackling exam questions.

By following these strategies and utilising CBSE Class 6 Science Notes effectively, you can prepare comprehensively for Chapter 13 on "Fun with Magnets" and excel in your CBSE Science exam. Remember to stay consistent, stay organised, and practice regularly to achieve success in your studies.

## CBSE Class 6 Science Notes Chapter 13 FAQs

1. What are some common uses of magnets?



Magnets are used in various everyday applications, including refrigerator magnets, magnetic closures on doors, and speakers in electronic devices.

**2. Why does a compass point north?**

A compass needle aligns with Earth's magnetic field, with one end pointing toward the magnetic north pole and the other toward the magnetic south pole, allowing it to indicate direction.

**3. Can magnets attract non-magnetic materials?**

While magnets primarily attract magnetic materials like iron, they can induce a temporary magnetic field in certain non-magnetic materials, causing them to be attracted weakly.

**4. What is magnetic levitation?**

Magnetic levitation, or maglev, is a technology that uses magnetic fields to suspend and propel objects, such as trains, without physical contact with a track.

**5. Are all metals attracted to magnets?**

No, not all metals are attracted to magnets. Only ferromagnetic metals, such as iron, nickel, and cobalt, exhibit magnetic properties and are attracted to magnets.