

1. What are the Olympics?

The Olympics are a big international sports event where athletes from different countries come together to compete. Winners get medals - gold, silver, or bronze as a reward

2. How often do the Olympics happen?

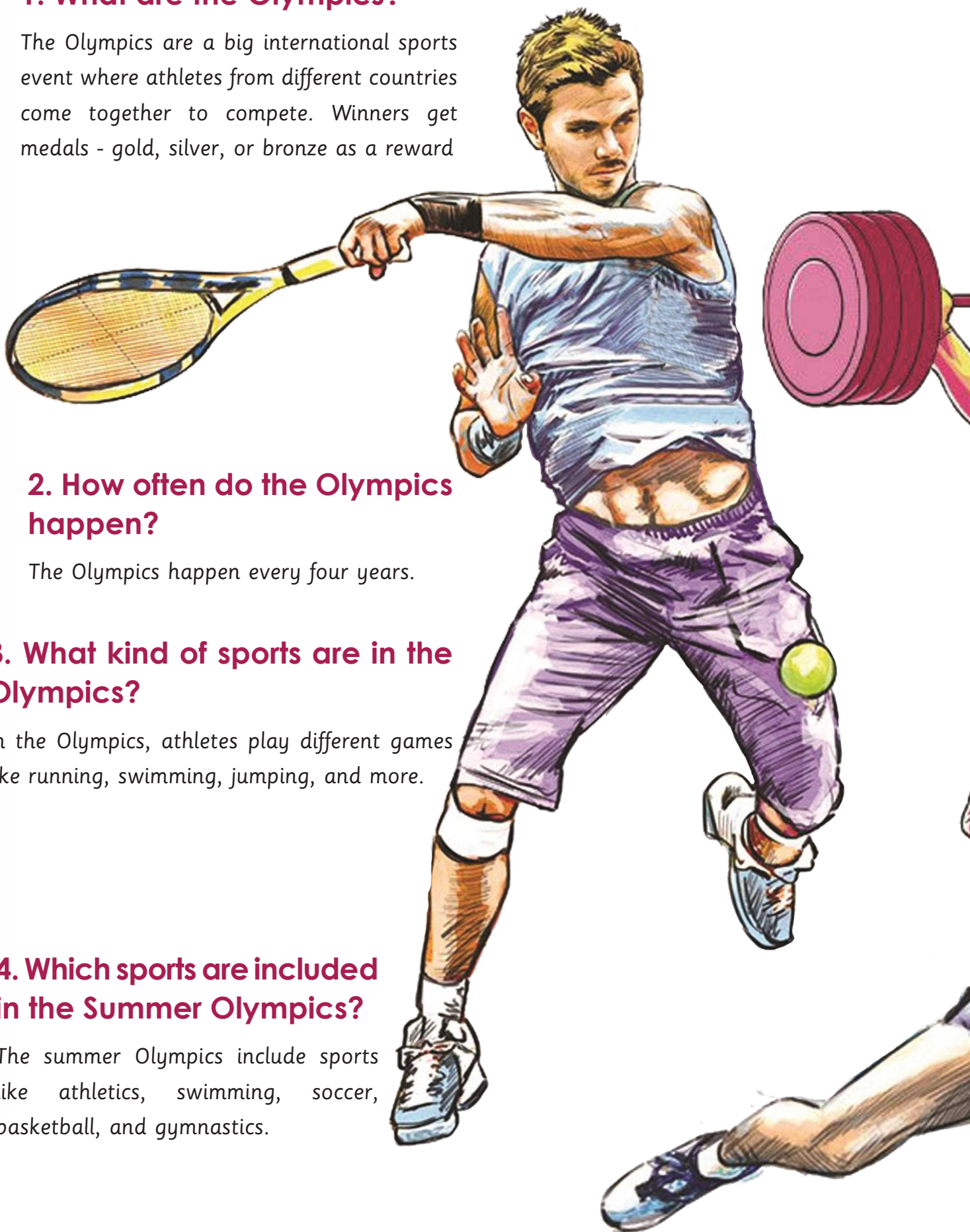
The Olympics happen every four years.

3. What kind of sports are in the Olympics?

In the Olympics, athletes play different games like running, swimming, jumping, and more.

4. Which sports are included in the Summer Olympics?

The summer Olympics include sports like athletics, swimming, soccer, basketball, and gymnastics.



5. Which sports are included in the Winter Olympics?

The Winter Olympics include sports like skiing, snowboarding, ice hockey, and bobsleigh,

6. Are there special symbols for the Olympics?

Yes, the Olympic Rings and the Olympic Flame are special symbols.



7. What is the meaning of the Olympic Rings?

The Olympics symbol represents the five continents - Africa, the Americas, Asia, Europe, and Oceania. They use the colors blue, yellow, black, green, and red because these colors are on almost all the flags of the countries in the world. It reminds us of friendship and togetherness.

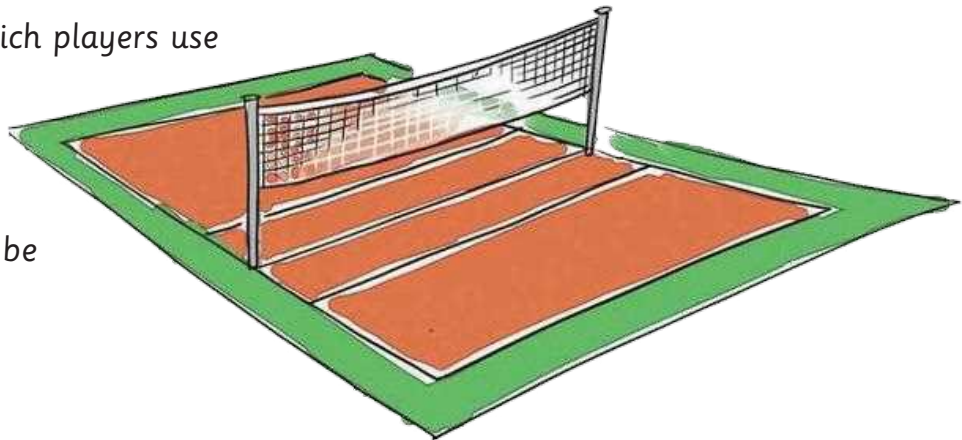


8. Who organizes the Olympics?

The International Olympic Committee (IOC) organizes the Olympics.

1. What is volleyball?

Volleyball is a team sport in which players use their hands or arms to knock a ball over a net. There are two teams, each team has usually got six players. Volleyball can be played indoors or outdoors.



2. What do you need to play volleyball?

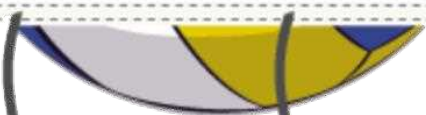
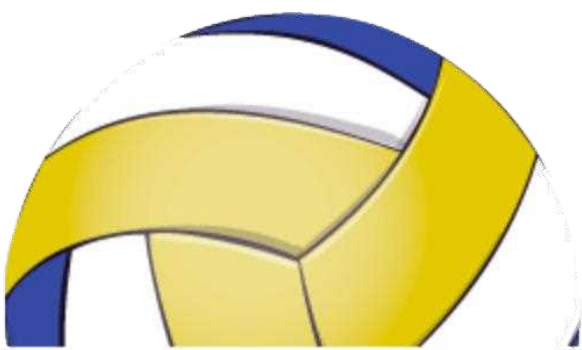
Volleyball: It's a soft, bouncy ball. It weighs around 270 grams.

Net:

A tall net that divides the court into two sides. Your team plays on one side, and the other team plays on the other.

Volleyball Court:

Volleyball is played on a court that is 9 meters wide by 18 meters long. Knee Pads (Optional): If you want extra protection for your knees, you can wear knee pads while playing.



3. What are the main rules to play volleyball?

Serving:

One team starts the game by serving the ball over the net to the other side.

Passing: After the serve, the other team must pass the ball between each other using their hands or arms to get it over the net.

Three Hits:

Each team has up to three hits to return the ball over the net. No

Holding: You cannot catch or hold the ball. It must bounce off your hands cleanly.

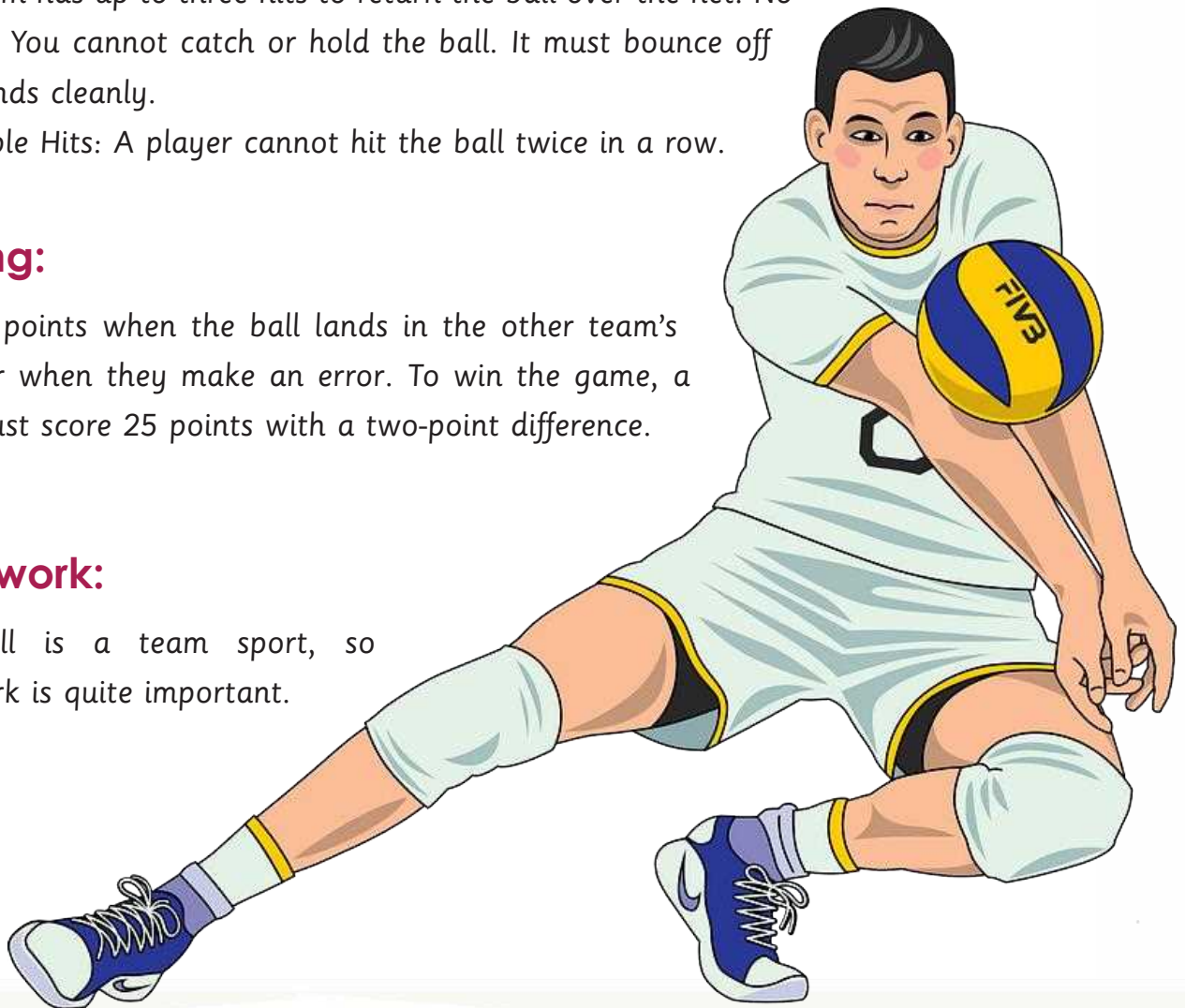
No Double Hits: A player cannot hit the ball twice in a row.

Scoring:

You get points when the ball lands in the other team's court, or when they make an error. To win the game, a team must score 25 points with a two-point difference.

Teamwork:

Volleyball is a team sport, so teamwork is quite important.




1. What is ice hockey?


Ice hockey is a team sport. It is usually played on an ice surface called a rink. Hockey players wear ice skates and move with great speed on the ice. There are two teams. Each team has six players. A team scores when it moves the puck a small, hard disk-into the opponent's goal.


2. What do you need to play volleyball?

Hockey Stick: It's a long stick made of wood or other materials. You use this stick to hit the hockey puck.


Hockey Puck: The puck is a small, black, flat disk.

 Ice Rink: Hockey is usually played on an ice rink, a smooth, frozen surface.

 Ice Skates: You wear ice skates to move quickly and smoothly on the ice.

 Hockey Helmet: Players always wear a helmet to protect their head while playing hockey.



 Protective Gear: Some players wear extra padding, like shoulder pads, elbow pads, and shin guards, to stay safe during the game.



3. What are the main rules to play volleyball?

Face-off: At the beginning of the game and after a goal, there's a face-off at the center of the rink. The referee drops the puck, and players from each team try to get it.

Passing and Shooting: Players use their sticks to pass the puck to their teammates and shoot it into the net.

- ✎ Skating: You move around the ice rink by skating on your ice skates.
- ✎ Goalie: The goalie has a special job to defend the net.
- ✎ Teamwork: Hockey is a team sport, so teamwork is quite important.

Appendix 3.0

1. Cornea:

The cornea is like a clear window at the front of your eye. It helps to focus light onto the inside of your eye.

2. Iris:

The iris is the colored part of your eye. It's like the curtain of the eye. It can open and close to control how much light enters the eye.

3. Pupil:

The pupil is the black spot in the middle of your eye. It's a small hole that can get bigger or smaller to let in more or less light.

4. Lens:

The lens is behind the pupil. It's like a little magnifying glass that helps to focus the light on the back of the eye.

5. Retina:

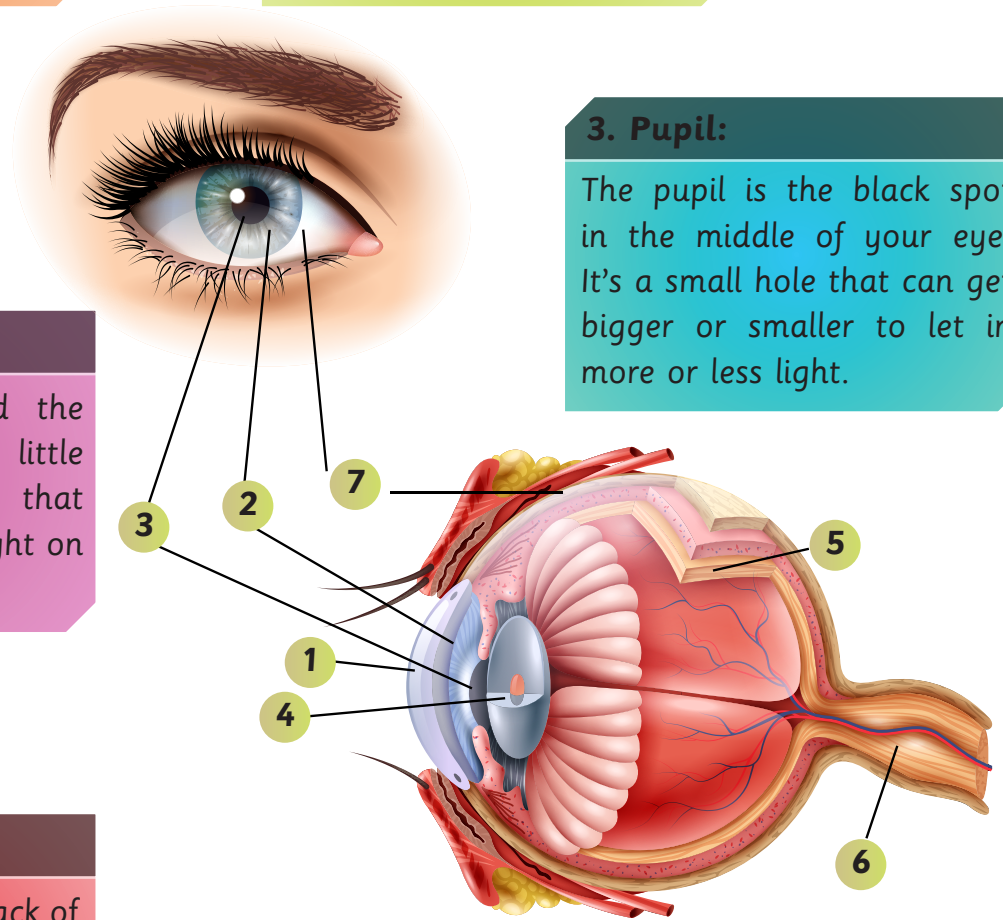
The retina is at the back of your eye. It's like a screen that collects the light and turns it into signals that go to your brain.

6. Optic Nerve:

The optic nerve is like a cable that carries those signals from the retina to your brain so you can see and understand what you're looking at.

7. Sclera:

The sclera is the white part of your eye. It's like the protective outer covering of your eye.



Appendix 3.1

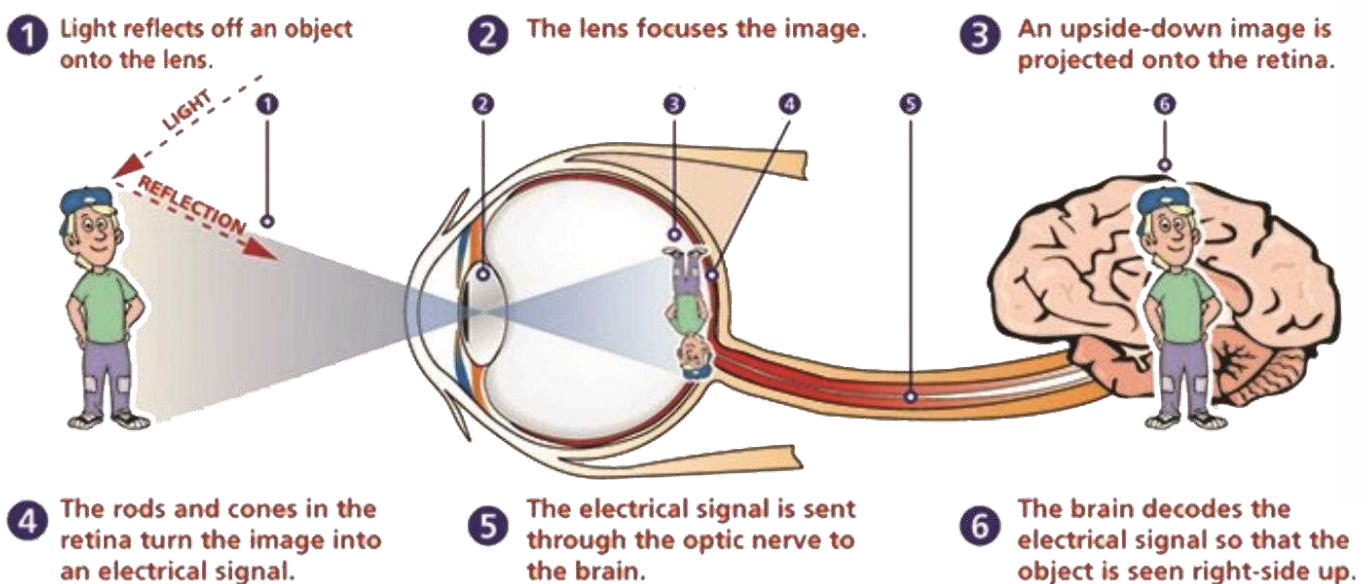
How do we see things? Well, it's actually more complicated than you might think! When we look at something, light from that object enters our eyes through the front window, which is called the cornea. Think of the cornea as a shield, like the glass of a camera lens. It helps to bend the light rays so that they go into the eye properly.

The amount of light that enters the eye is controlled by two other important parts: the iris and the pupil. The iris, the colored part of our eye, acts like a curtain that can open or close to let in more or less light. The pupil, a small black spot in the center, acts like a tiny adjustable window that can get bigger or smaller to control how much light comes into the eye.

After passing through the cornea, the light reaches the lens which is located just behind the pupil. It is like a magnifying glass that makes the light focus just right, so we can see things clearly at the back of the eye.

The back of the eye is where the magic happens. Here, there is a special layer called the retina, which is similar to the film or sensor in a camera. The retina's job is to convert the light into signals. It has lots of tiny cells that act like pixels, capturing different parts of the image. These cells then send signals through a bundle of nerves known as the optic nerve.

The optic nerve is like an information highway that carries all the signals from the retina to the brain. Once the signals reach the brain, it puts all the signals together, like puzzle pieces, and forms a complete picture of what we're looking at. This allows us to see and understand the world in front of us. It's absolutely amazing, isn't it?



Appendix 3.2



What is a prosthetic eye?



A prosthetic eye, also known as an artificial eye, is a special kind of eye made by doctors to help people who don't have a real eye.



How is it similar to a real eye?



Both artificial and real eyes can look similar from the outside, so they appear natural.



How is it different from a real eye?



Prosthetic eyes don't see like real eyes. They're not able to see or send signals to the brain. Real eyes can see and send information to the brain to understand what we see.



Can it move like real eyes?



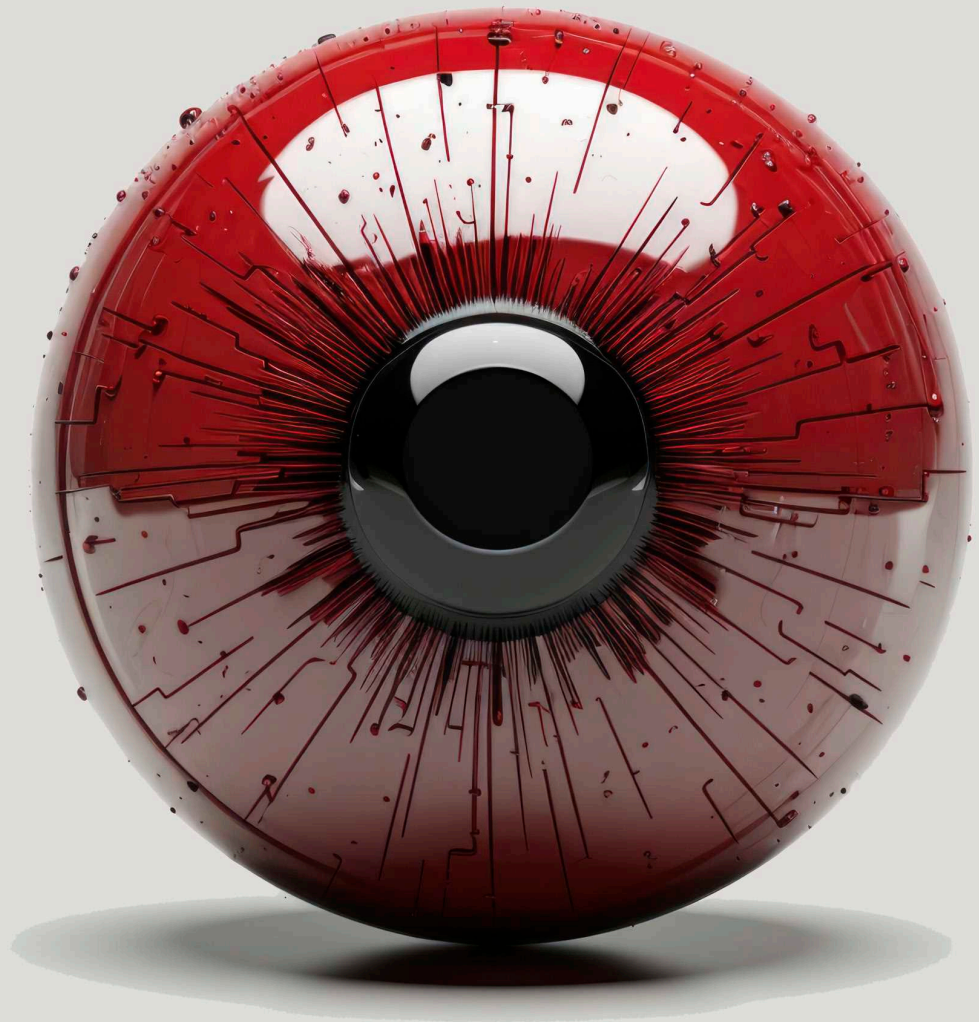
Prosthetic eyes usually can't move on their own like real eyes. Real eyes can move in different directions to look at things.



How does it work?



An artificial eye doesn't work like a real eye. It's a replacement for a missing or damaged eye. It looks like a real eye but can't see. It stays in place, helping the person look more natural. Scientists are still researching and testing new models to



A vibrant clownfish with orange and white stripes is swimming near a dense cluster of purple sea anemones. The background is a deep, dark blue, suggesting an underwater environment.

Deep into the Blue

What is Marine Biology?

Marine biology is the study of life in the ocean. It's like being a scientist for all the creatures and plants that live in saltwater, like fish, corals, and seaweed.

What Does a Marine Biologist Do?

Marine biologists explore oceans to understand how animals and plants live, grow, and interact. They might study different species, their habitats, behaviors, and how they adapt to changes in their environment.

Also, they work to protect marine life and ecosystems from things like pollution and overfishing.

Seas and oceans can be polluted in various ways, primarily due to human activities. Some common sources of pollution include:

Chemical Pollution:

Industrial runoff and pesticides can contaminate marine environments with chemicals like heavy metals, oil, and harmful pesticides.



Plastic Pollution:

Plastic waste, such as bottles, bags, and microplastics, is a significant problem in the oceans.



Noise Pollution:

Human activities such as shipping, drilling, and underwater construction produce underwater noise pollution, which can disrupt communication and navigation for marine animals like whales and dolphins.



Marine biologists play crucial roles in addressing these pollution issues:

Research:

They conduct studies to assess the impact of pollution on marine ecosystems and investigate the ecological consequences of pollution.



Conservation:

Marine biologists work to develop conservation strategies to mitigate pollution's effects on marine life.

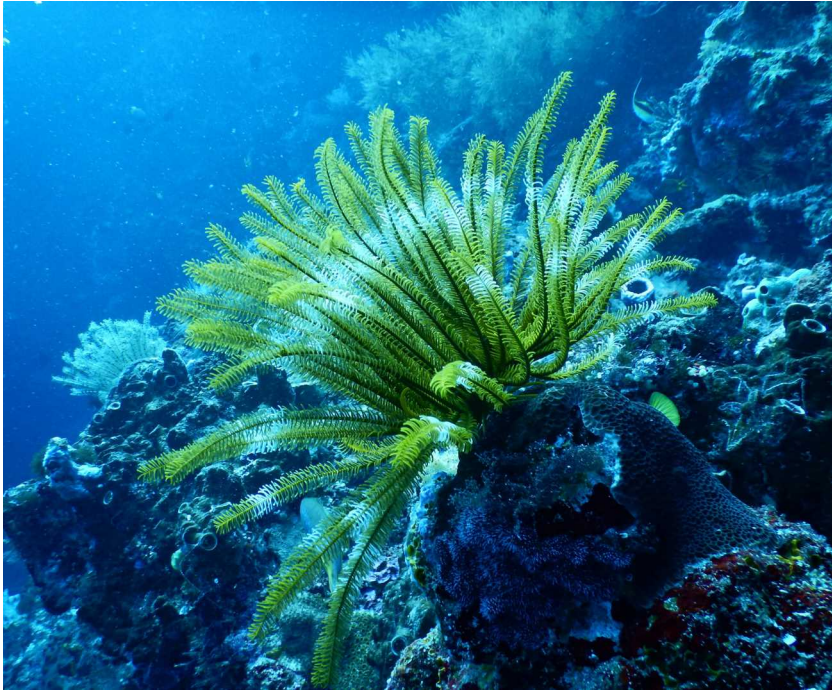


Technological Innovation:

Marine biologists collaborate with engineers and technologists to develop solutions for mitigating pollution in the oceans.



Most Important Marine Animals and Organisms



1. Coral Reefs

Coral reefs are like underwater cities made of tiny animals called coral polyps.

They're quite important because they provide homes and food for thousands of marine species.

Example: Great Barrier Reef in Australia.



2. Sharks

Sharks are top predators in the ocean, helping maintain the balance of marine ecosystems.

They come in all shapes and sizes, from the huge whale shark to the tiny dwarf lantern shark.

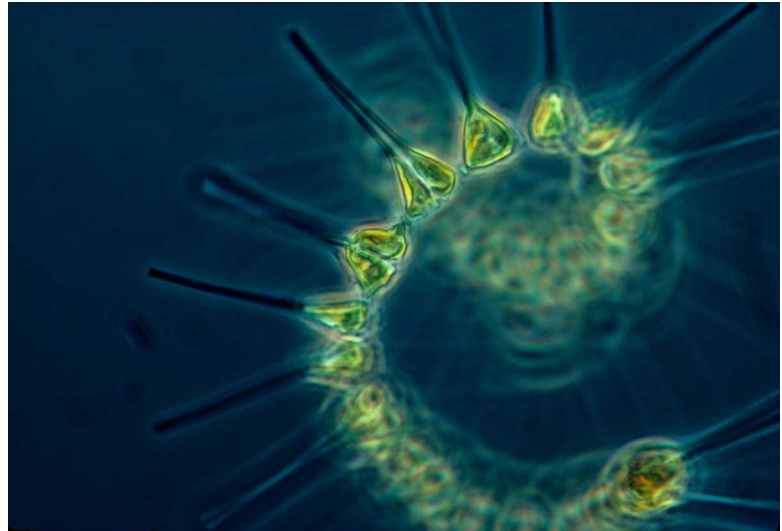
Example: Great White Shark.

3. Phytoplankton

These are tiny plants that float in the ocean and are eaten by others.

They produce oxygen and absorb carbon dioxide, playing a crucial role in the Earth's climate.

Example: Diatoms.



4. Fish

Fish are diverse aquatic animals found in almost every aquatic environment, from freshwater to the deepest parts of the ocean. They come in various shapes, sizes, and colors, ranging from small clownfish to large tuna.

Examples: Clownfish, Tuna, Salmon.



5. Marine Mammals

Creatures like dolphins, whales, and seals that live in the ocean but breathe air.

They're highly intelligent.

Example: Bottlenose Dolphin.

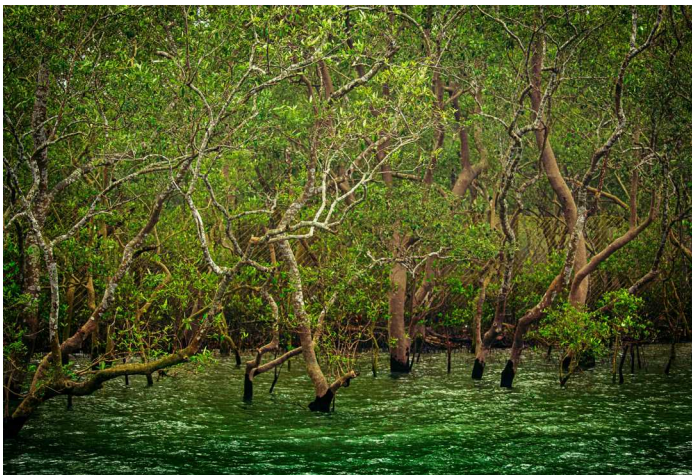


Most Interesting Marine Ecosystems

1. Deep Sea

The deep sea is the largest habitat on Earth, with fascinating creatures adapted to extreme pressure and darkness.

Weird and wonderful animals like anglerfish, gulper eels, and giant squid live here.

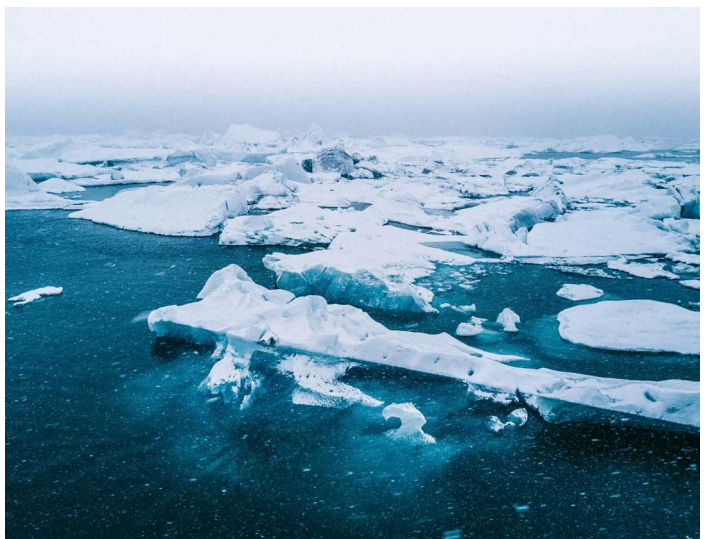


2. Mangrove Forests

Mangroves are coastal trees and shrubs that grow in saltwater.

3. Polar Regions

The Arctic and Antarctic are home to unique marine life, including polar bears, penguins, and seals.



These ecosystems are rapidly changing due to climate change, making them critical areas of study for marine biologists.



Lines are fundamental elements in geometry, characterized by their length and direction. Here are some common types of lines:

Straight Line:

A line that extends indefinitely in both directions and does not curve.



Curved line:

A curved line is a type of line that does not follow a straight path



Ray:

A part of a line that has one endpoint and extends infinitely in one direction.



Line Segment:

A part of a line that has two endpoints.



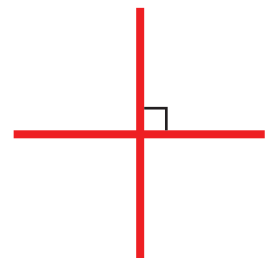
Parallel Lines:

Lines in the same plane that do not intersect. They remain equidistant from each other at all points.



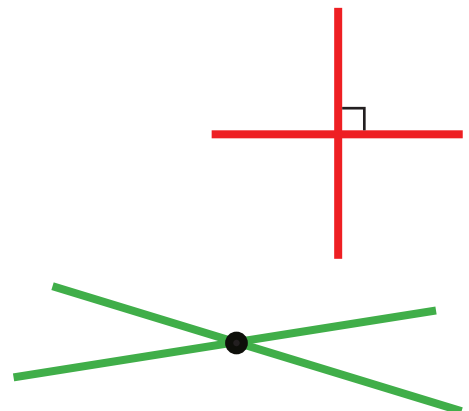
Perpendicular Lines:

Lines that intersect at a right angle (90 degrees).



Intersecting Lines:



Lines that cross or meet at a common point.



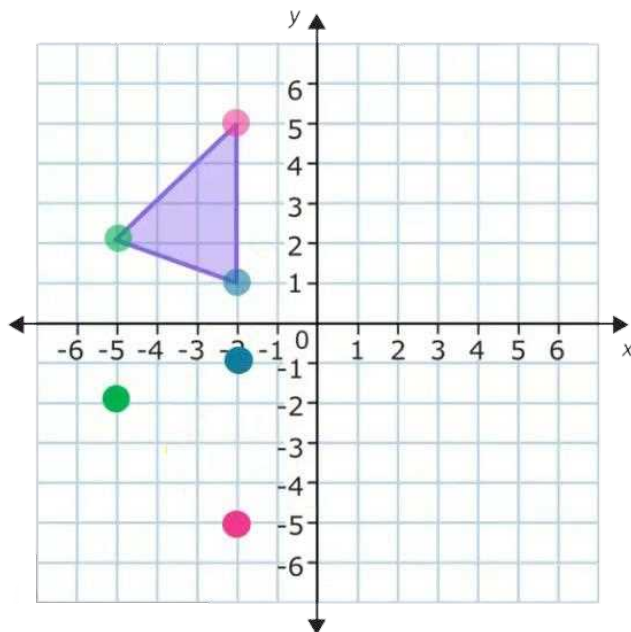
Axis

In math and geometry, an axis is like a guide line we use to find where things are located. Think of it as a ruler that helps us measure distances and positions.

In a flat picture called a «Cartesian plane,» there are two axes:

-  The X-Axis: This line goes from side to side, like how we read a book.
-  The Y-Axis: This line goes up and down, like climbing stairs.

These axes help us figure out where points, lines, and shapes are in the picture. They're like the "directions" on a map that tell us where things are located.



Original

| X | Y |
|----|---|
| -5 | 2 |
| -2 | 5 |
| -2 | 1 |




→

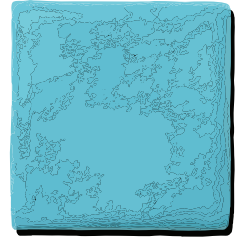
Image

| X | Y |
|----|----|
| -5 | -2 |
| -2 | -5 |
| -2 | -1 |




Common 2D shapes include:

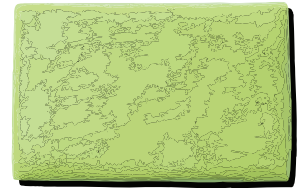
Square

-  All sides are equal in length.
-  All angles are right angles (90 degrees).
-  Opposite sides are parallel and equal in length.






Rectangle:

-  Opposite sides are equal in length.
-  All angles are right angles (90 degrees).
-  Opposite sides are parallel.






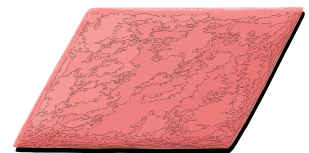
Circle:

-  No straight sides; consists of a curved boundary.
-  No angles.
-  All points on the boundary are equidistant from the center.






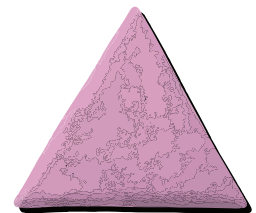
Parallelogram:

-  Opposite sides are equal in length.
-  Opposite angles are equal.
-  Opposite sides are parallel.





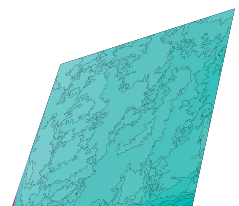
Triangle:

-  Three sides.
-  Three angles.
-  The sum of interior angles is always 180 degrees.



Trapezoid

-  At least one pair of parallel sides.
-  No sides are equal in length (unless it's an isosceles trapezoid).



Area

Area is the amount of space inside a shape.

For example, if you want to find the area of your bedroom, you're measuring how much space is inside the room.

Perimeter

Perimeter is the distance around the outside of a shape.

For example, if you want to know how much fencing you need to enclose your garden, you're measuring the perimeter of the garden.

Square



$$\text{Area} = \text{Side} \times \text{Side}$$

$$\text{Perimeter} = 4 \times \text{Side}$$

Rectangle



$$\text{Area} = \text{Length} \times \text{Width}$$

$$\text{Perimeter} = 2 \times (\text{Length} + \text{Width})$$

Circle



$$\text{Area} = \pi \times \text{Radius}^2$$

$$\text{Perimeter} = 2 \times \pi \times \text{Radius}$$

Triangle



$$\text{Area} = \frac{1}{2} \times \text{Base} \times \text{Height}$$

$$\text{Perimeter} = \text{Side1} + \text{Side2} + \text{Side3}$$

Parallelogram



$$\text{Area} = \text{Base} \times \text{Height}$$

$$\text{Perimeter} = 2 \times (\text{Base} + \text{Side})$$

Trapezoid

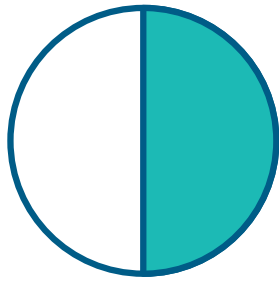


$$\text{Area} =$$

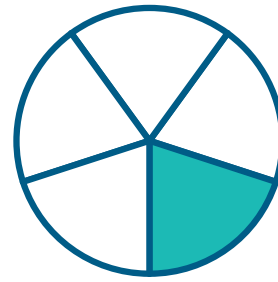
$$\frac{1}{2} \times (\text{Sum of parallel sides}) \times \text{Height}$$

$$\text{Perimeter} = \text{Sum of all four sides}$$

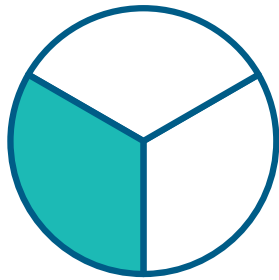
This is how we read fractions:



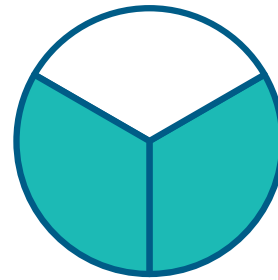
$\frac{1}{2}$: half / one half



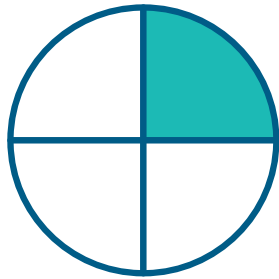
$\frac{1}{5}$: one fifth



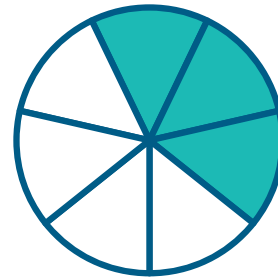
$\frac{1}{3}$: a third/ one third



$\frac{2}{3}$: two thirds




$\frac{1}{4}$: a quarter/ one quarter



$\frac{3}{7}$: three sevenths


This is how we read mathematical equations.



Addition

$$2 + 3 = 5$$


Two plus three equals five



Subtraction

$$8 - 4 = 2$$


Eight minus four equals two.



Multiplication

$$2 \times 3 = 6$$

Two times three equals six.
Two multiplied by three equals six.



Division

$$4 \div 2 = 2$$

Four divided by two equals two.

$$25 = 2 \times 2 \times 2 \times 2 \times 2 = 32$$

Two to the power of five equals thirty two.

$4^2 = 16$: Four squared equals sixteen

$4^3 = 64$: Four cubed equals sixty four

$$2 \times (\text{Length} + \text{Width})$$

Two times open parenthesis length plus width close parenthesis.

Two times the sum of the length and width.

$$\frac{1}{2} \times \text{Base} \times \text{Height}$$

one-half times base times height

This is how we read points equations on a coordinate system.

On a two-dimensional coordinate system, numbers are read using the x-axis and the y-axis. The x-axis is the horizontal axis, and the y-axis is the vertical axis. To read numbers on these axes:

X-Axis (Horizontal Axis):

The x-axis typically extends from left to right.

Numbers increase from left to right along the x-axis.

The origin (0,0) is usually located at the center or leftmost point on the x-axis.

Positive numbers are to the right of the origin, and negative numbers are to the left.

For example, if you have a point labeled (3,0), it means the point is located 3 units to the right of the origin.

Y-Axis (Vertical Axis):

The y-axis typically extends from bottom to top.

Numbers increase from bottom to top along the y-axis.

The origin (0,0) is usually located at the center or bottommost point on the y-axis.

Positive numbers are above the origin, and negative numbers are below.

For example, if you have a point labeled (0,4), it means the point is located 4 units above the origin.

To read the point (1, 2) on a two-dimensional coordinate system:

The first number, 1, represents the position along the x-axis. Since it's positive, it means the point is 1 unit to the right of the origin.

The second number, 2, represents the position along the y-axis. Since it's positive, it means the point is 2 units above the origin.

So, when reading (1, 2), you would say:

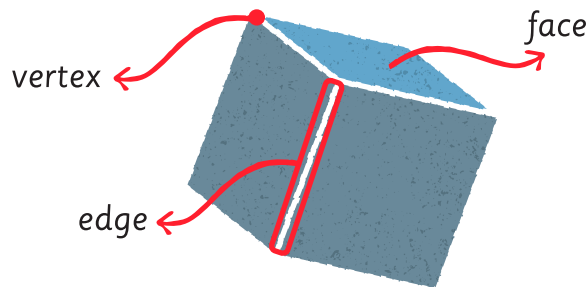
1. «The point is located 1 unit to the right and 2 units above the origin.»
2. «The point is at coordinates one, two.»

For the point (-1, 3), you can say:




1. «The point is located 1 unit to the left and 3 units above the origin.»
2. «The point is at coordinates negative one, three.»

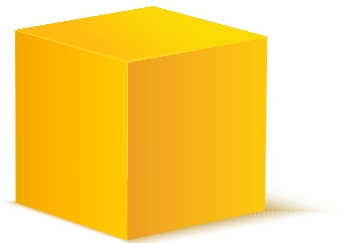
Common 3D shapes include:

Three-dimensional (3D) shapes, also known as solids, are geometric figures that have length, width, and height. They occupy space and have volume. Here are some common examples of 3D shapes:






Cube:

-  All faces are squares.
-  All edges are equal in length.
-  All angles are right angles.






Sphere:

-  A perfectly round shape.
-  No edges or vertices.
-  All points on the surface are equidistant from the center.






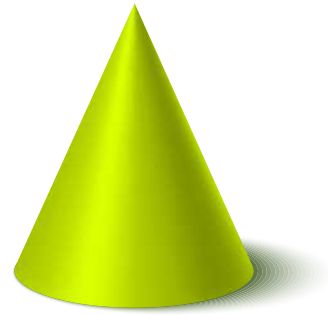
Cylinder:

-  Two circular faces connected by a curved surface.
-  No vertices.
-  The height is perpendicular to the circular faces.






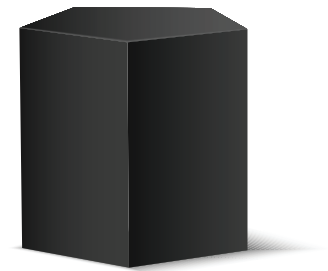
Cone:

-  A circular base tapering to a point (apex).
-  One curved surface.
-  One vertex.






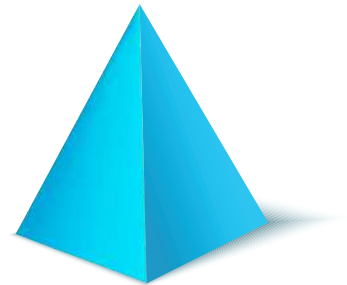
Rectangular Prism:

-  Six faces, each a rectangle.
-  Opposite faces are parallel and congruent.
-  Twelve edges and eight vertices.





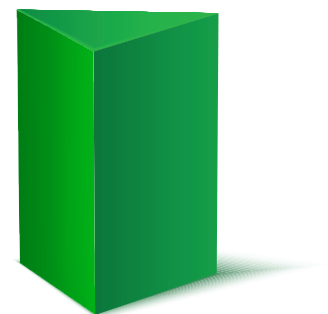
Pyramid:

-  A polygonal base connected to an apex.
-  Triangular sides meet at the apex.
-  Number of edges and vertices depend on the base polygon.



Triangular Prism:

-  Two triangular bases connected by three rectangular faces.
-  Six faces, nine edges, and six vertices.










7 wonders (Modern)

The term “Seven Wonders of the World” refers to a list of extraordinary and amazing structures or creations that people from around the world consider to be very special and impressive. These wonders can be ancient buildings, monuments, or natural features that showcase human creativity, engineering skills, or the beauty of nature. There are two main lists: the Ancient Seven Wonders, which includes remarkable constructions from ancient times, and the New Seven Wonders, which are more recent wonders chosen by people through a global vote. Overall, these wonders are celebrated for their uniqueness and the awe they inspire in people who see or learn about them.



What are the Ancient Seven Wonders of the World?








The original seven wonders, also referred to as the Seven Wonders of the Ancient World, were remarkable, humanly-constructed landmarks from ancient, classical civilisations:

-  The Great Pyramid of Giza, Egypt;
-  The Hanging Gardens of Babylon;
-  The Statue of Zeus at Olympia;
-  The Temple of Artemis at Ephesus;
-  The Mausoleum at Halicarnassus;
-  The Colossus of Rhodes;
-  The Lighthouse of Alexandria.

The Great Pyramid of Giza is the only ancient wonder that still exists today. The other six have either disappeared or are in ruin.

What are the New Seven Wonders of the World?

In 2000, a campaign was started to decide on seven new world wonders. Over 100 million people cast their votes in order to whittle over 200 places down to just seven. Then, in 2017, the new modern list of the Seven Wonders of the World, featuring landmarks that are still in existence today, was finalised.

-  The Great Wall of China (China)
-  Petra (Jordan)
-  Christ the Redeemer (Brazil)
-  Machu Picchu (Peru)
-  Chichen Itza (Mexico)
-  The Roman Colosseum (Italy)
-  The Taj Mahal (India)

The Great Wall of China

- ✎ The Great Wall of China stretches over to 20,000 kilometres (13,000 miles) across northern China, from east to west.
- ✎ Construction of the wall began over 2,000 years ago.
- ✎ The wall was built to protect China from invasions by tribes from the north.
- ✎ It is made of various materials, including stone, brick, and wood.
- ✎ The wall has watchtowers, signal towers, and barracks along its length.
- ✎ The wall is not a single continuous structure but rather a series of walls built over centuries.
- ✎ It is a symbol of Chinese civilization and has become a popular tourist destination, attracting millions of visitors from around the world each year.
- ✎ The Great Wall of China is one of the most impressive architectural feats in history and is recognized as a UNESCO World Heritage Site.





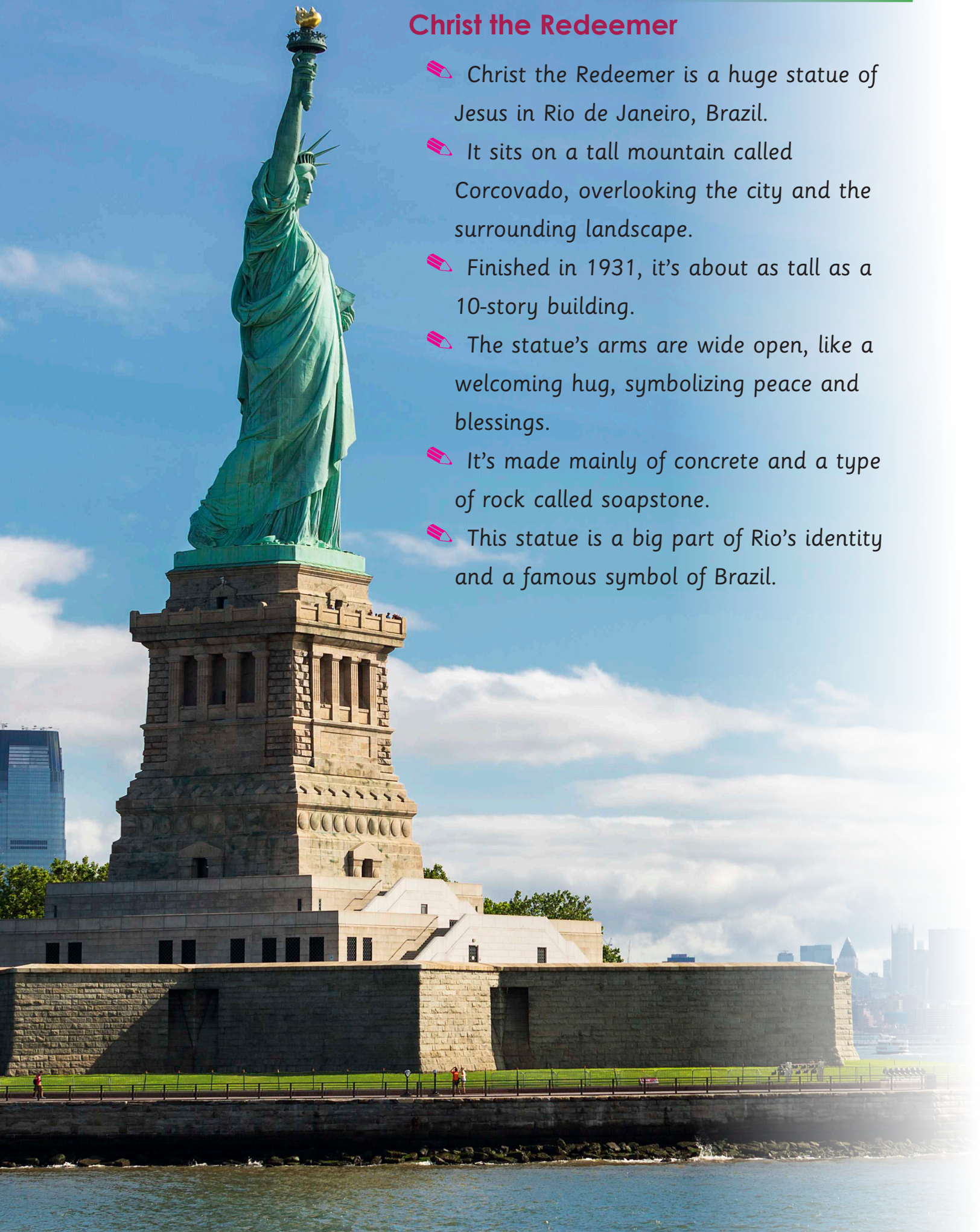
Taj Mahal

- ✎ This magnificent landmark is located in Agra, India.
- ✎ It took 16 years and 20,000 workers to build.
- ✎ It was built in the 17th century by the emperor Shah Jahan in memory of his beloved wife, Mumtaz Mahal, who died during childbirth. This is why the monument is regarded as a symbol of true love.
- ✎ The Taj Mahal was designed by a team of architects under the supervision of the Mughal emperor Shah Jahan. It is believed that the chief architect was Ustad Ahmad Lahauri, an Indian architect of Persian descent.
- ✎ The Taj Mahal is renowned for its exquisite beauty and symmetrical design
- ✎ Due to reflection of the sky on the white marble, Taj Mahal appears to be of different colours during different times of the day, it appears little pinkish in the morning, white during the day and little blueish during the night.
- ✎ Today, the Taj Mahal is a UNESCO World Heritage Site and one of the most visited tourist attractions in India.

Petra

- ✎ Petra is an ancient city located in modern-day Jordan.
- ✎ It was the capital of the Nabatean Kingdom around 2,000 years ago.
- ✎ The city is famous for its remarkable rock-cut architecture and water distribution system.
- ✎ The most iconic structure in Petra is the Treasury, also known as Al-Khazneh, which is carved into the rose-colored sandstone cliffs.
- ✎ The city features numerous tombs, temples, and other buildings carved directly into the rock.
- ✎ Petra's location in a desert canyon adds to its mystique and beauty, with towering cliffs and narrow passageways.
- ✎ Petra is a UNESCO World Heritage Site and was voted as one of the New Seven Wonders of the World.





Christ the Redeemer

- ✎ Christ the Redeemer is a huge statue of Jesus in Rio de Janeiro, Brazil.
- ✎ It sits on a tall mountain called Corcovado, overlooking the city and the surrounding landscape.
- ✎ Finished in 1931, it's about as tall as a 10-story building.
- ✎ The statue's arms are wide open, like a welcoming hug, symbolizing peace and blessings.
- ✎ It's made mainly of concrete and a type of rock called soapstone.
- ✎ This statue is a big part of Rio's identity and a famous symbol of Brazil.



Machu Picchu

- ✎ Machu Picchu is an ancient city high in the Andes Mountains of Peru.
- ✎ It was built about 600 years ago.
- ✎ Machu Picchu is famous for its stone buildings and terraces, which were used for farming and religious ceremonies.
- ✎ It's believed to have been a royal estate or a sacred place for the leaders.
- ✎ The site was abandoned and hidden from the outside world for centuries until it was rediscovered in 1911.
- ✎ Today, Machu Picchu is a UNESCO World Heritage Site and one of the most visited tourist destinations in the world.
- ✎ People come from all over to hike and explore this ancient wonder.
- ✎ Visitors are amazed by the incredible stonework and the natural beauty of the surrounding mountains.

Chichen Itza

- ✎ Chichen Itza is an ancient city located in Mexico's Yucatan Peninsula.
- ✎ It was built by the Maya civilization over a thousand years ago.
- ✎ The city is known for its impressive pyramids, temples, and other stone structures.
- ✎ Chichen Itza was an important religious and political center for the Maya people.
- ✎ Today, it is a UNESCO World Heritage Site and one of the most visited archaeological sites in Mexico.
- ✎ Visitors can explore the ruins and learn about the fascinating history and culture of the ancient Maya civilization.
- ✎ It's a popular destination for tourists interested in archaeology and ancient civilizations.



The Roman Colosseum

- ✎ The Roman Colosseum is an ancient amphitheater located in the center of Rome, Italy.
- ✎ It was built by the ancient Romans over 2,000 years ago.
- ✎ The Colosseum was used for gladiator contests, animal hunts, and other public events.
- ✎ It could hold up to 80,000 spectators, making it one of the largest amphitheaters ever built.
- ✎ It was a symbol of Roman power and entertainment culture during the Roman Empire.
- ✎ Today, the Colosseum is a UNESCO World Heritage Site and one of Rome's most popular tourist attractions.
- ✎ Visitors can explore the ruins and learn about the ancient games and events that took place here.
- ✎ The Colosseum has inspired countless works of art, literature, and film, making it an iconic symbol of ancient Rome.



