GENERAL KNOWLEDGE I GRADE 6

THE BOOK OF EVERYTHING

Our vision is to transform the General Knowledge period in every school into a Global Citizenship Education (GCEd) period, that will enable schools to create the next generation of smart, world-aware, and empathetic global citizens.

This Teacher Tools document pertains to the General Knowledge module of the GCEd programme only. A final project has to be undertaken to mark the closure of the programme. Project details will be shared in due course. Global Citizenship graduation certificates for students and medals for best projects will be distributed at the end of the programme.

The Book of Everything Grade 6 is divided into 8 sections and 12 chapters. Each chapter has content followed by activities. These activities are of two types: logical ( ) and creative ( ).

QUIZ TIME — Fun quizzes of different types that test concepts from the book.

ACTIVITY — Activities range from research to creation. All are based on the application of concepts learnt.

HOW TO USE TEACHER TOOLS

LEARNING OUTCOMES

A quick introduction to each chapter with expected learning outcomes

TEACHER SUPERPOWER

Additional content that can be discussed in class which is adjacent to the content in the books

SUGGESTED ACTIVITIES

Interactive ways to disseminate content in the book via activities or reflection sessions

MEDIA RESOURCES

Videos and images to be shared in classrooms that complete the learning journey

INDIA CONTEXT

Wherever necessary, book content will be supported with contextual India-based content to know more about the country

video

You can access all media resources, teacher tools, question banks via the pen drive given to your school, or our website, or google folder by scanning this QR code



Team MysticLand supports teachers with media resources, teacher manuals, sample assessment papers, answer keys, lesson plans, and more! You have access to all via the MysticLand portal.

1. Visit www.mysticlandinschool.com
2. Click the login link
3. Enter the school code MYSTICALS2025
4. You will then have access to all digital resources

THE INDEX

GRADE 6

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Total # of classes: 31 (1 for introduction to the book and settling down, followed by 30 classes of teaching)

SECTION I: THE WORLD

Chapter 1 - All about countries



LEARNING OUTCOMES

In this chapter, learners will be introduced to 48 countries, their capitals, currency, and flags. These countries are spread across continents. The questions following the content have additional facts about the countries. The learning outcome is for students to know basic facts from the book and gain the ability to draw a mental picture of the country from the facts. This chapter will help them develop their multi-dimensional learning ability.



SUGGESTED ACTIVITIES

For maximum interaction, please divide the class into teams. A quiz master (teacher) can read the quiz questions aloud. Each team refers to the content in the book to answer these questions. The team that gets the right answer will be asked to locate the country on the Planet Earth map (given as an aid to your classroom by MysticLand). Supplement this learning by asking them to find neighbouring countries and water bodies.

The corresponding fact of the country from Teacher Superpower can be read out as an additional “did you know!”



There is a creative task in this chapter where learners will have to design a parliament house for MysticLand. You can email or WhatsApp the best work to us for online showcase.



TEACHER SUPERPOWER

A fact about each of the 48 countries is given. This can be discussed in class as the students complete the quiz in the book.



MEDIA RESOURCES

Image

Planet Earth map

Credits: MysticLand



INDIA CONTEXT

Let's take a look at the new parliament house of India

Why was a new parliament house built? Well, there are many reasons. Firstly, the old building structure (almost 100 years old) was starting to cause problems. There were water seepage issues in various rooms. Further, there were concerns about the old building being in an earthquake-prone zone. Also, the fire safety system wasn't very reliable. The old building also lacked accessibility for the physically disabled. The new parliament house addresses all these concerns.

If we look at the size, the old building could seat only 543 Lok Sabha members- the new parliament house has a seating capacity of 888. Rajya Sabha seats have been increased from 250 to 300. Additionally, each seat is equipped with modern technology and touch screens.

Let's talk about the unique features. The new parliament house was designed by Architect Bimal Patel. Its construction began in 2020 and it was inaugurated in 2023. The new parliament house is triangular in shape. The Lok Sabha Chamber bears a resemblance to India's national bird, the peacock, in its carpets and ceiling. The Rajya Sabha draws design inspiration from India's national flower, the lotus.

Since sustainable living is deeply rooted in Indian culture, that concept has not been left out of the new structure. Reports say that the new parliament house was built with minimum wastage. Its centralised air-conditioning system aims to bring down electricity consumption by 30%. Harvested rainwater is used to water plants and flush toilets. The new parliament house has become an example of clever, and of course, eco-friendly architecture.

INDIA: The Magnetic Hill in Ladakh is an anti-gravity zone where cars start moving forward on their own if the brakes aren't applied! Mawsynram in Meghalaya is the wettest place on the planet. It receives over 11,000 millimetres of rainfall every year.

AFGHANISTAN: In the caves of Afghanistan's Bamiyan Valley, the world's oldest oil paintings were discovered. They were from the 7th Century and had images of Buddha. The painters used substances like natural resin, animal protein, plant gum, and dry oil usually derived from walnuts or poppy seeds.

THE BAHAMAS: Junkanoo, a festival filled with masquerades, colourful costumes, and music, has been celebrated every year in the Bahamas since the 17th Century! At that time, to secretly participate in the festival, slaves would cover their faces with flour paste. Eventually, flour paste was replaced with masks.

CHILE: Cueca is a famous Chilean dance where people wave handkerchiefs in the air with their right hand and dance to a lively beat. It depicts the love story between a rooster and a hen. The handkerchief symbolises their feathers.

THE DOMINICAN REPUBLIC: Christopher Columbus discovered an island in 1492 and named it Hispaniola, meaning "little Spain". That island was named the Dominican Republic in the 19th Century.

HUNGARY: Ernö Rubik, the inventor of the super-famous Rubik's Cube (invented in 1974), was born in Budapest, Hungary. A Hungarian film producer, Adolph Zukor, was one of the main founders of Paramount Pictures, one of the oldest film studios in the world. Paramount Pictures produced amazing movies such as Iron Man, Shrek Forever After, Star Trek, etc.

PAKISTAN: Pakistani squash player Jahangir Khan is viewed as the greatest squash player of all time, with 555 consecutive wins from 1981 to 1986. The world's largest Earth-fill dam (the Tarbela Dam) is in Pakistan. Earth-fill dams are dams built with natural materials such as clay, rocks, or soil.

BOLIVIA: The world's highest navigable lake by ships, Lake Titicaca, is located on the borders of Bolivia. It is 3,800 metres above sea level and the largest lake in South America.

DENMARK: There are no mountains in Denmark! But the country has over 12,000 kilometres of cycle tracks for cyclists to enjoy. The world's oldest functioning amusement park is located in Klampenborg, Denmark. It is called Bakken or Dyrehavsbakken in Danish, the official language of Denmark.

GUINEA: The Keita Fodeba Centre for Acrobatic Arts in Conakry, Guinea produces some of Africa's finest acrobats and contortionists. They recruit street children and youth and train them to become the best in the world. A contortionist is someone who can bend and twist their body in different positions without breaking any bone!

IRAN: Iran has its own calendar. You can find three dates for each day in an Iranian calendar: 1) Gregorian date, 2) Iranian date (solar calendar), and 3) Islamic date (lunar calendar). The Iranian solar calendar is based on the Earth's movement around the Sun.

LEBANON: Byblos, a city in Lebanon, is one of the oldest inhabited cities in the world. Byblos is believed to have been occupied during the Neolithic Period since 8000 BC! The English word Bible is derived from the Greek word Byblos, which means "the papyrus book".

LIBYA: Libya has the largest oil reserves in Africa. It has a storehouse of oil reserves of over 48 billion barrels! The historical dictator of Libya, Muammar Gaddafi, gave his officials a percentage of oil reserves to win their loyalty.

MAURITIUS: This island country was first named Dina Arobi in 975 by Arab traders. In the 16th Century, Dutch sailors named it Mauritius after Prince Maurice van Nassau, the then-stadtholder (a steward or provincial officer) of the Dutch Republic.

MOROCCO: A city named Chefchaouen in Morocco is called the Blue City, as the buildings and homes here are all painted in different shades of blue. Similarly, the Marrakesh city in Morocco is called the Red City. However, it is not painted red. The clay and red sandstone used in the old buildings give a red shade to the city.

OMAN: Muttrah Souq in Oman is one of the oldest markets in the world. It is located in Muscat, the capital of Oman. Here, people can buy traditional handicrafts and outfits, spices, luban (frankincense), and *khanjar* (traditional dagger).

PARAGUAY: The Itaipu Dam located in Paraguay and Brazil is one of the world's largest hydroelectric power plants. It was opened in May 1984 and cost around ₹1,60,000 crore to build. It can generate over 14,000 megawatts of electricity.

PORTUGAL: Livraria Bertrand located in Lisbon, Portugal is the oldest operating bookstore in the world. It was founded in 1732 and opened by French bookseller Pedro Faure.

QATAR: Qatar Airways won the Best Airlines of the Year title for a record seventh time in 2022! In 2023, it came second but swept many awards for the World's Best Business Class airways.

SERBIA: The world's most expensive and rare cheese, pule, is found only in Serbia. It is made from the milk of an endangered species, the Balkan donkeys. It costs over ₹1,00,000 for one kilogram of pule cheese!

SYRIA: A city named Jinwar in Syria is a women-only village. Women and children live here, excluded from society and the community. Jinwar means "women's land" in the Kurdish language. The village was opened in November 2018.

THAILAND: In Thailand, it is illegal to drive around the country shirtless. You can get a penalty if the police catch you driving shirtless! Also, you should be careful not to step on the Thai baht currency; that, too, is illegal. It disrespects the king as the king's face is printed on the currency.

UGANDA: One should never drink water in Uganda unless it is boiled. The tap water is contaminated. More than 21 million people in Uganda don't get safe drinking water. If someone says, "You've grown fat" in Uganda, it is a compliment!

UKRAINE: Ukraine is the second largest country in Europe by land area. Russia is the largest. Ukrainians have a national costume called Vyshyvanka. It is a plain white dress with beautiful Ukrainian embroidery sewn all over.

VENEZUELA: The lightning capital of the world is in Venezuela. Maracaibo Lake is called the lighthouse of Venezuela. The amazing feature of this lake is that lightning strikes it 300 days of the year!

YEMEN: The men of Yemen show their social status not through their latest gadgets but with jambiya. Jambiya is a curved dagger which was frequently used for defence and fights in the olden times. It represents honour and wealth.

ZIMBABWE: Lake Kariba, which lies on the borders of Zimbabwe and Zambia, is the world's largest man-made lake. It has a maximum length of 223 kilometres. It contains over 180 billion tons of water! In April 2024, Zimbabwe introduced a new currency called the ZiG or Zimbabwe Gold. It replaced the previous Zimbabwe dollar. The new ZiG notes feature the beautiful landscapes of Zimbabwe.

ALBANIA: Don't be confused with the Albanian body language. Here, no means "yes" and yes means "no". Albanians nod their heads when they mean to say "no". They shake their head sideways when they say "yes".

AZERBAIJAN: Azerbaijan is called the Mud Volcano Capital of the world. There are over 400 mud volcanoes in this country! That's more than anywhere else in the world. A mud volcano means the eruption of mud and slurries due to the collision of tectonic plates.

BULGARIA: The world's oldest gold treasure was unearthed in Varna Necropolis, a Bulgarian city, in 1972. The treasure weighed over six kilograms and had over 3,000 items made of pure 24-carat gold.

CAMEROON: Cameroon is called "Africa in miniature" as it has a biodiversity of rainforests, deserts, beaches, swamps, and more. Also, there are unique species of plants, birds, amphibians, and reptiles here. It is also called "Africa in microcosm" and "Africa all in one".

COSTA RICA: One of the best places to experience an arribada is at the Ostional National Wildlife Refuge beaches in Costa Rica. Arribada is the mass arrival and nesting of olive ridley turtles. Over 6,00,000 turtles come to this beach and lay millions and millions of eggs!

GEORGIA: Georgia is home to the world's deepest cave. The Veryovkina Cave located in Abkhazia, Georgia is almost 6,800 feet deep! It was named after the cave diver Alexander Verëvkin who died in 1983 while exploring a siphon in Russia.

CYPRUS: Haloumi is a famous cheese of Cypriot origin made from sheep and goat's milk. It is soaked in mint and brine. It can be easily grilled or fried, which makes its texture squeaky.

FIJI: Fijians have a famous national drink called kava. It is made from the roots of the yaqona plant from the pepper family. People conduct a kava ceremony to welcome newcomers into their community. It is usually served in bowls made from half a coconut shell.

GABON: Gabon is home to the Loango National Park, described as Africa's last Eden. It stretches to over 1,550 square kilometres. The park has diverse wildlife, beaches, savannahs, and rainforests.

HONDURAS: Comayagua, a city in Honduras, is home to one of the oldest clocks on the planet. The clock was built in 1100 AD by the Moors, a group of North African Muslims. Today, the ancient gear clock can be seen at the Comayagua Cathedral. It is known to be the oldest clock in the Americas.

IRAQ: Baghdad, the capital of Iraq, was once known as the City of Peace. It was one of the most well-known places during The Golden Age. Baghdad is the second largest city in the Arab world.

IRELAND: Hundreds of years ago, the then-king of England, King John, landed in Ireland and noticed how skilful Irish harpers were. Since then, harps have become synonymous with the Irish identity. Ireland is the only country in the world with a musical instrument as its national symbol.

KUWAIT: Kuwait is famous for its falcons. The national bird, the falcon, can be seen everywhere in Kuwait. Pictures of falcons can be seen on its stamps and currency.

LATVIA: The widest waterfall in Europe, the Venta Rapid Waterfall, is located in Kuldiga, Latvia. The width of this waterfall is almost 250 metres. The width increases to over 275 metres during floods. However, the height of the waterfall is just about two metres.

MALTA: Valletta, the capital of Malta, is the smallest capital city in the European Union. It has only 0.8 square kilometres of land overall. It was named after Jean Parisot de Vallette, who defended Malta from the Ottoman invasion.

MONGOLIA: Mongolia has an equal population of horses and people. A famous phrase in Mongolia is "A Mongol without a horse is like a bird without wings". The horse is a source of pride and joy for the Mongolians.

MONACO: Monaco is the second most densely populated country after Macau. Its entire population (31,600 people as of 2023) lives on just two square kilometres of land! Monaco is also the second smallest country in the world by land area. Vatican City is the smallest.

MYANMAR: Myanmar is famous for its Burmese cats. King Thibaw, Myanmar's last king, had over 40 of these cats as royal pets. In the 1930s, these cats disappeared. Many years later, they were brought back to Myanmar from the the United States.

THE PHILIPPINES: The Philippines is the second largest archipelago in the world after the Malay Archipelago. Out of its 7,500 islands, only over 2,000 are occupied by humans. The remaining 5,000 are still to be explored and marked on maps! The local transport here is called the jeepney. They look like long colourful jeeps and carry 18 passengers at a time.

SLOVAKIA: The world's most accurate and the newest astronomical clock is found in Slovakia. Found in a small Slovakian village, it is called the Stará Bystrica Astronomical Clock. It was built in 2009.

SENEGAL: Senegalese people show utmost respect to griots. A griot is a West African storyteller and a musician. They pass down stories through generations. They also serve as advisors to the royal family. When a griot dies, they are buried inside a sacred baobab tree.

SUDAN: At one time, Sudan was the largest country in Africa by land area. After separating from South Sudan in 2011, it became the third-largest country in Africa. Ful Medames is Sudan's national dish. It is cooked with fava beans, vegetables, seasoning, and other spices.

SOMALIA: Bananas are an essential ingredient in Somali culture. Somalis eat bananas in almost every meal. A meal is considered incomplete without a banana. Earlier, Somalia's banana exports produced over ₹720 crore of revenue!

SECTION I: THE WORLD

Chapter 2 - The beginning of Earth



LEARNING OUTCOMES

In this chapter, learners will go back in time to 4.6 billion years and trace Earth's journey from then till now. They will stop in every eon and era to learn about key aspects that helped its evolution. The outcome is for them to understand how Planet Earth has evolved over time.



SUGGESTED ACTIVITIES

Allow learners to read the chapter and reflect on what Earth would have looked like in each eon and era. Together, they can create a timeline of Planet Earth. The supporting Media Resources includes pictures of each time period.



There is a creative task in this chapter where learners will have to draw their interpretation of Planet Earth from its early years.



TEACHER SUPERPOWER

The mountain ranges, hills, and rocks formed during the many eons of Earth's geologic time:

ARCHEAN EON
Dharwar Craton: A craton in southern India formed during the Archean eon known as the Dharwar Craton. A craton is a large, stable block of Earth's continental crust. The Dharwar Craton was formed between 3.6-2.5 billion years ago. It extends between Goa, Karnataka, and much of Andhra Pradesh. It is considered the oldest part of the Indian peninsula!

PROTEROZOIC EON
Aravalli Range: Have you heard of the famous Aravalli Range? This mountain range was formed in the Proterozoic eon. It is older than the Himalayas! The Aravalli Range is located in northwestern India. It extends between Delhi, Haryana, Rajasthan, and Gujarat. It is said to be the oldest range of fold mountains in India. It means the mountains in the mountain range were formed due to the collision of Earth's tectonic plates during the Proterozoic eon.

PHANEROZOIC EON
The Himalayas: Most of the Himalayas lie in China, Nepal, Bhutan, and India. In India, the Himalayas extend between Jammu and Kashmir, Ladakh, Himachal Pradesh, Ladakh, Uttarakhand, Sikkim, and other northern states. Some of the highest mountains on Earth are found in the Himalayas. And these majestic mountains formed in the Mesozoic era of the Phanerozoic eon! Around 40-50 million years ago, two large landmasses called India and Eurasia collided together. This collision thrust the rocks upward, forming the mighty Himalayan peaks.

Gilbert Hill: Did you know that there is an old mountain in the buzzing city of Mumbai? It is called Gilbert Hill and it is 66 million years old! The Gilbert Hill is a black basalt rock mountain. It was formed during the Mesozoic era of the Phanerozoic eon. During this era, molten lava from the cracks in the ground spread to the states of Maharashtra, Gujarat, and Madhya Pradesh. This molten lava cooled down to form the Gilbert Hill.



INDIA CONTEXT



MEDIA RESOURCES



Earth through continents and eras



Formation of the Earth
5:35 minutes

Guide learners through the formation of Earth through this interesting animated video.

SECTION II: ENVIRONMENT

Chapter 3 - All about Palaeontology



LEARNING OUTCOMES

After learning about the beginning of Earth in the previous chapter, learners continue their journey with a deep dive into the Mesozoic era. They learn about the different ancient mammals, reptiles, insects and fish. They will also understand the evolution of the current animal kingdom.



SUGGESTED ACTIVITIES

Allow learners to read the content and complete the crossword.



Some of them can present their creative activity “Let’s make a dinosaur!” in the class.



TEACHER SUPERPOWER

Let’s deep dive into what we know about the ferocious Tyrannosaurus rex (T.rex).

If you have watched the Jurassic Park movies (the first movie released in 1993), you must have a fair idea of what T.rex was like. Studies show that T.rex was a big beast, almost 39 feet long from mouth to tail and about 20 feet tall. It could run at a speed of 20 kilometres per hour to catch its prey. It had 50 to 60 teeth the size of bananas!

And when its prey was close, T.rex would dig its teeth into the animal’s soft flesh and rip out 100 kilograms of meat in that one powerful bite! Then like a movie hero showing off his hair, T.rex would throw its head back, toss the fresh, tasty meat into the air, and open its jaw wide to catch it and swallow it whole! You can actually picture this in your head when you see dino skeletons in museums.

T.rex’s brain was twice the size of other dinosaurs. Hence, we can safely assume that it was cleverer than the others and had a better sense of smell and vision. So far, humans have found over 20 almost-complete T.rex skeletons.

Coming back to the Jurassic movies, have you wondered where they got the sound of the dinos? I mean archaeological evidence doesn’t tell us what ancient creatures “sounded” like. So, what were those roaring sounds? The T.rex roar in the movie is the sound recording of a baby elephant screaming! Imagine that!

But guess what? The movie makers may have been overambitious in scaring us here. In reality, a predator like T.rex wouldn’t roar just before sneaking up on its prey. That would only invite the others towards the delicious snack, and alert the prey to run for its life. Instead, T.rex would have opened its mouth and made loud sounds during distress calls or when it was arguing with others of its kind.

Anyhow, we cannot overlook the fact that the Jurassic Park movies helped us imagine and learn about dinos in a fantastic way.



MEDIA RESOURCES



What did dinosaurs look like?



Dig into palaeontology
4:11 minutes

Dig into palaeontology, fossils, and the work of palaeontologists.



What happened to the dinosaurs?
4:38 minutes

What happened to the dinosaurs?



INDIA CONTEXT

Dinosaur and other ancient animal and tree fossils found in India:

Tharosaurus: In the Thar Desert of Rajasthan, Indian researchers found a new species of dinosaur. They named it the Tharosaurus indicus after the Thar Desert. This fossil is 167 million years old. Palaeontologists studied the fossil and found that the dinosaur lived during the Jurassic era. It had a long neck and it ate plants. It was one of the oldest plant-eating dinosaurs in the world!

Rajasaurus: Rajasaurus was a large meat-eating dinosaur. It lived around 70 million years ago during the Cretaceous period in what is now India. Rajasaurus had a single short horn on the top of its head. The fossils of Rajasaurus were found in Gujarat.

Ichthyosaur: Ichthyosaur was an ancient marine reptile that lived in the oceans around the world. Its fossils were found in North America and Europe. But, a few years ago, Ichthyosaur fossils were found for the first time in Gujarat, India! The fossil is 152 to 157 million years old. This sea monster had a vertical tail and huge basketball-sized eyes.

Ancient tree fossils: The National Fossil Wood Park in Tamil Nadu holds the fossils of 200 ancient trees. These fossils don't have any branches or leaves. They are fossilised trunks. The fossils are 20 million years old. Scientists believe they were formed due to a massive flooding.

SECTION II: ENVIRONMENT

Chapter 4 - Unusual animals and insects



LEARNING OUTCOMES

This chapter aims to give learners a peek into insects and animals that are unknown and unique. The idea is to introduce etymology and pique their interest in knowing and appreciating scientific discoveries in this field.



SUGGESTED ACTIVITIES

Allow learners to read the content in the book. Support their learning via the PPT shared in Media Resources with real images of each insect and animal mentioned in the book.



There is a creative task where learners will have to go outside and note down their observations about a bug or insect they see.



TEACHER SUPERPOWER

BIGGEST INSECT
While it's hard to determine which is the biggest insect in the world, we need to introduce you to the giant weta. While being one of the biggest insects, it is the heaviest in the world! It lives on the Little Barrier Island of New Zealand and is a close relative of the grasshopper. It is 10 cm in length and can weigh up to 70 grams.

LONGEST INSECT
The Phryganistria 'chinensis' belongs to the stick insect species. It was discovered by researcher Zhao Li in China in 2014. As the name suggests, these insects look like sticks, or better yet, dried twigs. The longest one was captive-bred which reached a length of 64 centimetres- that's the size of an adult human's arm! The Phryganistria 'chinensis' can live for about a year.

WIDEST WINGSPAN
Queen Alexandra's birdwing has a wingspan of 25 centimetres! But wait, let me clarify something. Queen Alexandra's birdwing isn't a bird but a butterfly! Undoubtedly, it is the biggest butterfly in the world. It lives in Papua New Guinea. What about moths? Taking wingspan into consideration, the white witch moth has the largest wingspan stretching to 30 centimetres. It is majorly seen in Mexico.



MEDIA RESOURCES



Nature is filled with unusual creatures



10 amazing beetles looking like jewellery
6:52 minutes

Marvel at 10 amazing beetles that look like jewels!



Ridiculous planthopper nymphs in action
0:47 minutes

Watch a wildlife explorer trying to catch a wax tailed bug before it flies away.



Blue sea dragon do not touch this creature!
0:54 minutes

Witness a blue dragon flipping on its stomach and take a look at what it feeds on!



INDIA CONTEXT

Indian pangolin
The Indian pangolin is found almost everywhere in India, except in the Thar Desert and some parts of the Northeast. They are great environmentalists as they help to aerate the soil and cycle its minerals due to their habit of digging burrows into the ground for shelter. Unfortunately, it's an endangered species since it is threatened by habitat loss and hunting for its scales and meat.

Indian cobra
The Indian cobra's scientific name *Naja Naja* is taken from the Sanskrit word *naga* which translates to "snake" or "cobra". This species is responsible for most snakebites in India. It attacks its prey by first biting it and injecting it with its dangerous venom. Once the venom paralyses the prey, the cobra swallows it whole! These snakes can grow to about five feet in length.

Indian moon moth
The nocturnal Indian moon moth is one of the biggest moths from the Actias family. It can grow as big as an adult human's palm! It's a beautiful, light green moth with light pink patches. It has eye spots on its wings. Its long delicate tail is one of its most striking features. The Indian moon moth is also a silkmoth, meaning that its cocoon is made of silk fibre!

Peacock mantis shrimp
The peacock mantis shrimp is found in the Indian and Pacific oceans. As its name suggests, its hard-shelled body takes on the shades of a peacock. Its head and little feet are a vibrant indigo. It's about 17 centimetres in length. With its two front appendages, it can deliver powerful punches to its prey at jet speed. So powerful and quick its punches are that they can break glass!

Bengal monitor
The Bengal monitor is also called the common Indian monitor. It is a type of lizard which is about 175 centimetres long. These heavy lizards can be seven kilograms in weight! Babies are more colourful than adults. Once all grown up, they don a greyish-brown scaly body. Like most reptiles, the Bengal monitor has a forked tongue, meaning its tip is slit in half like a fork.

SECTION III: SCIENCE AND TECH

Chapter 5 - The what, how, and why of inventions



LEARNING OUTCOMES

Learners will trace 10 different inventions that have paved the way for future advancements. The outcome is to pique their interest and enable them to research inventions around them.



SUGGESTED ACTIVITIES

Allow learners to read the content and complete quiz time.

Class reflection: What inventions around us do we want to research? It can be as simple as a chalk piece or technical such as projectors.
Why do we want to know more about these inventions?



TEACHER SUPERPOWER



THE INDIA CONTEXT

Let's look at how Indians contributed to the world with their inventions.

Zero
This important number without which you can't perform basic calculations was developed in India. Astronomer and mathematician Aryabhata from ancient India came up with the decimal system and used the number zero (or nothingness) just as a placeholder. Another ancient mathematician Brahmagupta demonstrated how zero can be used in calculations.

Edible cutlery
Back in 2010, groundwater researcher Narayana Peesapati from Hyderabad began developing edible cutlery! After discovering the harmful effects of plastic on human and planet health, Peesapati decided he had to banish plastic cutlery. He founded the company Bakeys and produced spoons and forks made from a mix of rice, wheat, and sorghum (jowar) flour! You can eat them at the end of your meal.

Yoga
Yoga is believed to have originated in Northern India some 4,700 years ago. The word yoga comes from the Sanskrit word *yuj* which means "to unite" or "to join". Rishikesh in Uttarakhand is called the Yoga Capital of the World. People from all over the world travel to Rishikesh to study yoga and meditation.

YinMn
In 2009, chemist Mas Subramanian and his team of experts in the United States (US) accidentally created a shade of blue, YinMn. They were originally trying to make materials used in electronics. YinMn is more vibrant than cobalt blue! The US government approved the use of YinMn colour for industrial coatings. The colour became so famous that a crayon company made a crayon colour inspired by YinMn and named it Bluetiful.

Wireless communication
Sir Jagadish Chandra Bose from India invented a radio wave receiver which demonstrated microwave transmission. It laid the foundation to build wireless technology in radio, mobile phones, satellite communication, TV broadcasts, remote controls, WiFi, and so on.



MEDIA RESOURCES

Can a waterwheel generate electricity?
0:31 minutes
Look at the working of an old water wheel.

How does a parachute work?
0:57 minutes
How do parachutes work? Let's learn today!

How do 3D movies work?
2:00 minutes
Let's decode the mechanism of 3D movies and glasses.

SECTION III: SCIENCE AND TECH

Chapter 6 - What in the world is artificial intelligence?



LEARNING OUTCOMES

Learners will be introduced to the concept of artificial intelligence (AI). The learning outcome is to understand the role AI plays in their everyday lives. It will also help them in critical thinking and coming up with creative solutions to real-world problems.



SUGGESTED ACTIVITIES

Allow learners to read the content and complete quiz time. For the creative task “The AI World in 2040”, an open discussion can be held for students to bounce ideas and take inspiration from each other before scribbling down their notes.



TEACHER SUPERPOWER

AI in art
Artists are using AI to create artistic masterpieces. However, critics wonder whether art created using AI can really be called art or not. Who will be termed the “creator” of that piece, AI or the person that typed in the commands? And how do we determine the price of AI-generated art? On the other hand, AI is also being used to conserve art. The technology can detect decay in art pieces. It can also help to predict which materials will start to degrade over the years.

AI in healthcare
While healthcare professionals add a human touch of empathy and experience, AI takes care of tasks like expediting the discovery of new medicines, helping diagnose diseases with technology to scan and “look” into the human body, and so on. Further, since AI operates through machine learning, it can memorise a patient’s history and suggest a treatment course accordingly.

AI in finance
AI can detect suspicious transactions and alert companies to quickly examine them. Risks can be assessed which helps financial institutions revise their schemes and offerings. Based on market research, AI can also recommend suitable investment opportunities to clients.

AI in agriculture
Technology in the AgTech world assists farmers in monitoring crops, enhancing irrigation and fertilisation methods, minimising waste, etc. Further, AI’s self-driving tractors can do ploughing and seeding with precision. Scientists are using AI in agriculture to improve yields and come up with ways to assist farmers.

AI in education
Can you find examples of AI in your classroom? They help to bring alive the learning process. AI also has helped education reach even the remotest corners of the world. Language translation technology has broken down language barriers and opened doors to a variety of streams.



MEDIA RESOURCES

What cake can teach us about artificial intelligence
4:52 minutes

Learn what AI is with the help of cake!

Asking Sophia, Hanson's robotic human-like AI robot to show emotions
0:34 minutes

Meet Sophia, an AI humanoid robot, and see how she expresses emotions!



INDIA CONTEXT

The AI expenditure in India has increased in the last few years. According to the World Economic Forum, AI will add $1 trillion to India's economy by 2035. Let's see how India is using artificial intelligence in the healthcare sector.

NITI Aayog, India's public policy think tank, is testing the application of AI in early diagnosis of diseases like diabetes. It is also testing the use of AI in eye care.

3nethra is a portable eye screening device. It was developed by Bengaluru-based Kuppuswamy Chandrasekhar's Forus Health. The company combined portable technology with AI for the early detection of eye diseases and diabetes. The device can be taken across the country.

HealthifyMe is a digital health and wellness platform in Bengaluru. It uses Ria, an AI-powered virtual app, to answer questions about fitness, nutrition, and health. It does so in 10 different languages!

Staqu is a company based in Gurugram. It uses an AI-based camera to identify patients who have fever. The camera can identify multiple patients within a range of 100 metres.

Niramai uses an AI-based medical device for early detection of cancer in women. It can detect cancer at a much earlier stage than the traditional methods. It is also cheaper than other methods.

SECTION IV: FAMOUS PEOPLE

Chapter 7 - Entrepreneurs who changed the world



LEARNING OUTCOMES

Learners will be able to take inspiration from real-life examples laid out by successful entrepreneurs and their journeys. They will see that failure in the process is inevitable. The learning outcome here is that it is never too late to achieve your goals and that you mustn't give up.



SUGGESTED ACTIVITIES

Allow learners to read the content and complete quiz time. Get the learners started on their business idea for the creative activity. Once done, each of them must stand up and read out what their business idea is and the others can express their thoughts on it.



TEACHER SUPERPOWER

Four-year-old entrepreneur
An inspiring entrepreneur from the United States, Mikaila Ulmer started her lemonade business when she was just four. She named it Me & the Bees Lemonade. The name comes from a bee sting and a flaxseed lemonade recipe of great granny Helen she received around the same time. Even before she turned 18, supermarkets offered to stock their racks with her delicious lemonade bottles. Ten percent of each sale goes to bee rescue foundations.

But we shan't forget that it's never too late to chase your dreams. Let's look at entrepreneurs who started off in the latter half of their lives.

Selling noodles at 48
Chinese businessman Momofuku Ando invented instant ramen noodles at 48. After several errors and experiments, he successfully invented instant noodles in 1958 with the aim of ending hunger in Japan. It became an instant hit. Studies show that approximately 290 million people eat instant noodles every day.

A businesswoman at the age of retirement
At the age of 69 in 2011, Indian businesswoman Radha Daga started Triguni Eze Eats, a company for instant homecooked-like meals. When you travel on a plane the next time and purchase dehydrated biryani or dal chawal, read the name on the container and thank Radha Daga for it, while you wait for hot water to cook your food.

Youngest Indian entrepreneur
In 2018, at the age of 13, Tilak Mehta started Paper n Parcels to offer same-day delivery services in Mumbai. He took inspiration from Mumbai's dabbawalas, men who deliver food from homes to their loved ones on cycles. Paper n Parcels ties up with these dabbawalas to deliver parcels on the same day at efficient costs. The idea for this venture came from personal experience. One day, Mehta urgently needed a book he left at his uncle's home before his exams. He was unable to find companies that delivered couriers on the same day, that too, at an affordable fee. Thus Paper n Parcels was born.



MEDIA RESOURCES



Genius entrepreneurs you should meet



Mark Zuckerberg on how Facebook became a business
2:48 minutes

Hear Mark Zuckerberg narrate his inspirational story on the founding of Facebook.

SECTION V: SPORTS AND ENTERTAINMENT

Chapter 8 - Board games of the world



LEARNING OUTCOMES

In this chapter, learners are taken on a historical path to learn about the origins of classic board games. It may also spark interest among all to play more board games instead of reaching out for digital games. The learning outcome is to understand how people in the past created simple yet intriguing forms of entertainment which are still appreciated today.



SUGGESTED ACTIVITIES

Allow learners to read the content and complete quiz time. Learners must also showcase their imagination in designing their own chess piece in this chapter's activity. Then open the floor for the learners to collectively create their own board game. They can even go ahead and make cards, their own rule book, characters, and so on.



TEACHER SUPERPOWER

Pachisi: Often called the national board game of India
If you have played Ludo, you'll have no problem winning a round of Pachisi. This game, found in ancient texts in India, is often termed the national game of India. It is a cross-shaped board game with grid-like squares. It is played by four players, with pairs sitting opposite each other.



INDIA CONTEXT

Cowrie shells or dice are thrown to determine the number of moves you can make. Starting at the centre of the board, you move through the squares on the board and race to the centre again. The pair whose pieces reach the centre first, wins. Squares on the board marked with an X are safe spots- castles, in which if you land, safeguard you from being captured by opposing players. If an opponent captures you (lands on the same square as you) - which is not a castle square - they send your piece back to the centre. Then that piece must restart its journey.

Emperor Akbar in India enjoyed the game so much that he played a life-size version of it! He'd convert his court into a gigantic Pachisi board and ask his palace staff to play the role of the game pieces.



MEDIA RESOURCES

Why champion chess sets are so expensive
7:42 minutes

Making chess pieces is an art form in itself. Check out how chess sets for championships are made and understand why they're so expensive.

First person_a Monopoly Game made out of gold
0:52 minutes

Take a look at this man's craftsmanship in creating Monopoly out of gold!

Playing the world's smallest board game- mini Scrabble game
0:12 minutes

Let's unbox a mini Scrabble! Would you like to play?

SECTION V: SPORTS AND ENTERTAINMENT

Chapter 9 - Weirdest sports



LEARNING OUTCOMES

Learners will be introduced to unique sports played all over the world, which may still be unheard of as compared to popular sports such as football, basketball, hockey, cricket, etc. The outcome is to expand their knowledge of sports as well as the cultures of the world.



SUGGESTED ACTIVITIES

Allow learners to read the content and complete quiz time. For the creative activity, once learners have finished inventing their own sport, let them present it to the class. To make the activity more interesting, try to play any of the newly invented sports!



TEACHER SUPERPOWER



THE INDIA CONTEXT

Unusual sports in India

Mallakhamb
Malla means “wrestling” and *khamb* means “pole”. Mallakhamb is a type of Indian gymnastics. It started as training regime for wrestlers and warriors. It was performed on a pole made from an Indian rosewood tree which was greased with castor oil. Wrestlers warriors practised martial arts moves on the pole. People refer to mallakhamb as the Mother of all Ancient Indian Sports!

Kambala buffalo race
The festival of Kambala is celebrated every year by the farming community in Karnataka. It dates back to over a thousand years now. One of the main features of the festival is the buffalo race. A watery paddy field - called a track - is prepared and pairs of buffaloes are made to race each other with their owners participating with them. But don’t worry! The buffaloes are taken good care of with plenty of food and water and a vet on site. The local belief is that the buffalo race will please nature and bring a good harvest for all.

Hinam Turnam
Hinam Turnam is a sport from Arunachal Pradesh. Participants take up the roles of the hunter and prey and enact an entire hunting scene! Played among the tribals of Arunachal Pradesh, this is a fun sport for them as they know the forests in and out. The scene is set in a way where the hunter misses the opportunity to capture its prey but still tries to catch up to it.

Yubi Lakpi
Think of rugby or American football but with a coconut! Yubi Lakpi is a popular sport of the Meitei tribe in Manipur. In the Meitei language, Yubi Lakpi translates to “coconut snatching”. It enacts the snatching of the bowl of nectar by the demons in the Samundra Manthan, a famous story in Hindu mythology. Each team attempts to cross the boundary line of the pitch and hand over the coconut to the judges. The tricky part here is that the players as well as the coconut are thoroughly bathed in oil to make the coconut slippery to hold!



MEDIA RESOURCES

California's World Dog Surfing Championships are back!
0:10 minutes

Go surfing with a dog! Check out the Dog Surfing competition!

Giant pumpkin boat race
0:29 minutes

Let’s attend the West Coast Giant Pumpkin Regatta! Enjoy some glimpses of the pumpkin race.

Watch people chase a cheese wheel down a hill
1:38 minutes

Watch participants of Cheese Rolling chase a wheel of cheese down the hill!

SECTION VI: ART

Chapter 10 - Celebrating great artists



LEARNING OUTCOMES

In the era of digital art, we mustn't forget brushstrokes and paint blotches of the past. Learners will be introduced to art legends in this chapter and will also be able to see some of their work on the PPT. The learning outcome is to know where art originated and what it looked like before the digital era.



SUGGESTED ACTIVITIES

Divide the learners into groups of two and let them complete the two creative activities together. This will encourage an exchange of ideas.



TEACHER SUPERPOWER

Every Indian has uttered the name MF Husain at least once. Maybe jokingly as, "I can't do a better job. I'm not MF Husain!"

So, who was MF Husain? One of the finest painters in India's history, that's who.



INDIA CONTEXT

Maqbool Fida Husain was born in the town of Pandharpur, Maharashtra in 1915. In 1935, he moved to Bombay (now Mumbai) to study art. Later, he painted billboard advertisements for Bollywood movie promotions.

The subject matter of Husain's paintings was centred on Indian culture and society, for example, the Ramayana, Mahabharata, Mahatma Gandhi, British Raj, and the likes. They even had a dash of history, mythology, and rural life. However, his painting style reflected the European art movement Cubism, created by Picasso. Undoubtedly, he was dubbed the "Picasso of India".

Husain's paintings were bold and colourful with the use of water, oil, and acrylic colours. He could paint humorous as well as serious themes. It it estimated that he produced more than 50,000 masterpieces in his lifetime.

In 1947, Husain won an award for his work on the Bollywood movie posters. That same year, he met artists SH Raza, FN Souza, and SK Bakre and founded the artistic movement named the Bombay's Progressive Artists' Group. It gave recognition to Indian artists.



MEDIA RESOURCES



Artists and their masterpieces



How luxury paint is made
3:16 minutes

Do you know how luxury paint is made? Let's check it out!



The history of the paintbrush
1:30 minutes

Travel back in time and learn the history of the paintbrush.

SECTION VII: THE INDIA STORY

Chapter 11 - India's Digitisation story



LEARNING OUTCOMES

The world is quickly going digital and the youth must stay abreast with the latest technologies and how they are using them every day. The learning outcome is to know what India is doing for its Digital Public Infrastructure and why it has gotten other countries talking about it.



SUGGESTED ACTIVITIES

Allow learners to complete quiz time.



TEACHER SUPERPOWER

CoWin
India's successful vaccine-delivery website CoWin for COVID-19 was taken up by countries such as Sri Lanka, the Philippines, Jamaica, and Indonesia to launch their vaccination programmes.

India's DPI
All digital technology that falls under the umbrella of India's Digital Public Infrastructure is built as an open source app, meaning it can be used by any country that wants to go digital. This is called the India Stack. Recently, the Indian government signed an agreement with eight countries - Suriname, Sierra Leone, Antigua, Trinidad and Tobago, Mauritius, Papua New Guinea, Barabados, and Armenia - to share the India Stack. To give you an example, 76 million of the Philippines' 110 million people have been allotted Aadhaar card-like digital identities.



MEDIA RESOURCES

What is digital public infrastructure
2:37 minutes
Let's learn what Digital Public Infrastructure means with the help of an example.

SECTION VIII: VALUES

Chapter 12 - Don't be a bully



LEARNING OUTCOMES

In order to become global citizens of tomorrow, learners must be aware of important social issues such as bullying. The learning outcome is to understand what bullying is, find out whether or not you're a bully, and learn how to stand up against bullying.



SUGGESTED ACTIVITIES

Allow students to complete the "It's okay to ask for help" activity. Then take up each task from the "Six-day anti-bullying challenge" chart and complete the activities.



MEDIA RESOURCES

Students speak_bullying
2:37 minutes

Hear students speak out against bullying and what they feel about it.