Light-Up GLOBE

Instruction Manual

KIDS FIRST

THAMES & KOSMOS

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WARNING!

This is not a toy. This is a lamp in the form of a globe. It is a functional educational product for use only with adult supervision.

Safety Information:

This light-up globe is not a toy. Children may only use it under adult supervision. Make sure that the globe is securely positioned so that it cannot tip over or fall. If the electric cord is damaged, please consult the manufacturer or a qualified specialist. If the globe is defective or does not light up, please make sure that the light bulb is correctly screwed in, as described in the instruction manual under the section on replacing the light bulb.
Never pull on the cord when you want to unplug the globe from the outlet. Do not hang anything on top of the globe when the light is on.
Keep the packaging and instructions as they contain important information.

Disposal of Electronic Components

When the electric components in this product have reached the end of their lifespan, they should not be disposed of through normal trash collection. Instead, they should be taken to a collection center for recycling electric and electronic devices. The symbol on the product, the manual, or the packaging indicates this. The materials are recyclable according to their labeling. By making the material in old products available for reuse or recycling, you are making an important contribution to protecting our environment. Please ask your municipal administration about existing collection centers.

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We reserve the right to make technical changes.

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›››› IMPORTANT INFORMATION

Advice for parents and supervising adults

During the day, this globe will help your child learn about our planet, including the continents, countries, and more. The countries are printed in different colors to help children learn the locations of the political boundaries. Special animals, interesting landmarks, and other exciting things printed on the globe will invite your child on a voyage of discovery. At night or in a darkened room, a completely different world will appear: nocturnal animals, mysterious lighting phenomena, and creatures from underwater realms will appear when the globe's light comes on. In addition to the information about the globe and a guide to the illustrations, this manual provides stories to read aloud to your child to stimulate his or her sense of exploration and discovery.

Before use, please discuss the operation of the globe with your child, insert the globe's plug into an appropriate wall socket, and show your child how to turn the globe's light on and off. Be sure to put the globe in a stable position so that it doesn't tip or fall, and do not let it get switched on without supervision.

We hope you and your child enjoy using the Kids First Light-Up Globe.

Replacing the light bulb

Only an adult should change the light bulb.

To tighten or replace the light bulb, please note:

Remove the power cord from the outlet. Set the globe onto a pillow to avoid scratching it. Carefully pull the meridian arm out from the North Pole. Remove the time dial with its small guiding sleeve. Tilt the globe slightly to the side. You'll see the light bulb through the opening at the South Pole. Tighten the bulb or replace it, and put the globe back together by reversing the steps above. Put the time dial and its guiding sleeve back on.

Please only use the type of light bulb indicated here: LED filament light bulb, E12 socket size, max. 2W.

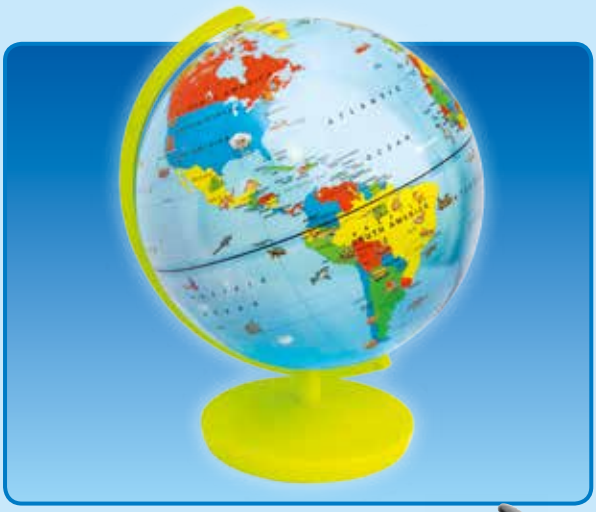
See also the label on the underside of the globe base.

Our final quality inspection entails putting all models through an additional 5000-volt capacity test. The electrical equipment is made to accommodate continuous operation.

Care instructions:

Your globe doesn't need any special care or maintenance. To clean the globe, just use a cloth to wipe away any accumulated dust. Use a little lukewarm water if necessary, but don't use soap. The plastic parts usually stay glossy for many years. You can polish the surface by rubbing it with a slightly damp cloth every now and then. Never expose the globe to direct heat, like a heater or direct sunlight.

Please note that the tape with the printed blue line marks the equator but also serves to prevent light from shining through the area where the two hemispheres meet.



Description	Item No.
Globe	720 246

You will also need:

To replace the light bulb:
LED filament light bulb, E12 socket size, max. 2W.

Instructions for "reading" the globe

Picture story with exciting background information

How does the Earth look at night?

What are all the interesting things you can discover on your globe?

Discover the underwater world!

World of Knowledge

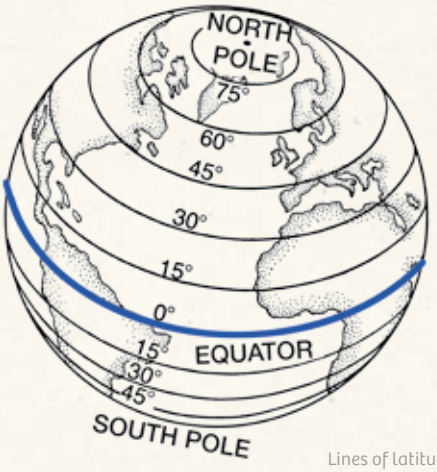
What can the globe tell you?

North and South

The globe is made of two hemispheres: the Northern Hemisphere and the Southern Hemisphere. North and south refer to two of the four points of the compass. The others are east and west. The northernmost point on Earth is the **North Pole,** and the southernmost point is the **South Pole.** You can see these two poles on your globe.

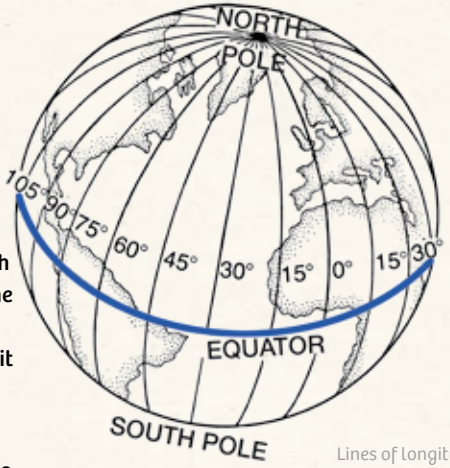
Geographic Coordinate System

You can see various lines on your globe. The most obvious is the **Equator:** This is the thick blue line spanning the "belly" of the globe. All of the lines running horizontally around the globe — like the Equator — are called **lines of latitude.**



Lines of latitude

There are also lines running from the North Pole to the South Pole. These are called **lines of longitude.** The time zones around the world are arranged according to the lines of longitude. If you take a look at the small transparent disk at the North Pole, you will be able to see that the time is not the same everywhere throughout the world. This has to do with the fact that the sun can't rise everywhere at the same time. In North America, it will still be dark when Europeans are just starting to wake up, while in Asia it will already be lunchtime.



Lines of longitude

Together, lines of longitude and latitude form the **geographic coordinate system** of Earth. This system is crucial for ships and airplanes to find their way.

Polar Circles

In addition to the Equator, there are two other special lines of latitude: the **polar circles.** On your globe, they are shown as dotted lines running all the way around the two poles. There is one in the north (the Arctic Circle) and one in the south (the Antarctic Circle).

Where do polar bears live?

Above the Arctic Circle, there is hardly any sun in the winter. The farther north you go, the more days there are when the sun doesn't shine at all. At the North Pole itself, there are six months of uninterrupted darkness. Can you imagine that?

On the other hand, in summer the sun doesn't set at all and it stays light all night long there. Near the South Pole, it's exactly the opposite.

Oceans and Continents

Our Earth is very old. It was created about 4.6 billion years ago along with the rest of the Solar System. The Earth is also sometimes called **"the blue planet"** because it appears to shine with a blue color from space. The reason for that is that, unlike the other planets, ours is covered with oceans. But the Earth did not always look like this. Shortly after its formation, it was covered by nothing but molten rock. The oceans only appeared later.

On your globe, you will see six large land masses: Africa, America, Antarctica, Asia, Australia, and Europe. These land masses are called **continents,** and they are always in motion. They move very slowly across our globe. A long time ago — about 250 million years ago — all the land was in one piece. In other words, there was only one single giant continent. It is called **Pangaea.**

Supercontinent Pangaea

How do you think the Earth will change in the next 250 million years?

Illustrated Journey

Living around the world

Have you ever wondered what life is like for children in other countries?

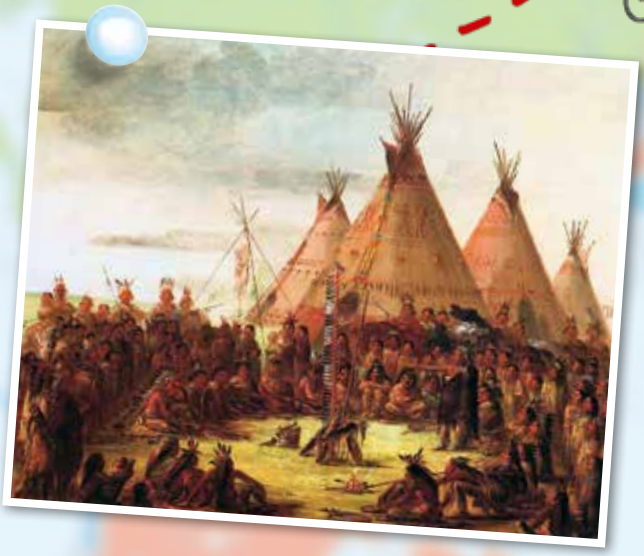
To find out, let's go on a **tour of homes around the world.** You will see that people live in all sorts of different ways on the continents of the Earth. Tents, wooden houses, brick buildings, and huts made out of reeds provide children with cozy and warm places to live all around the world.

Can you count all the different types of homes around the globe?

See if you can find the homes that we visit in this manual on your globe!

The **first multi-story houses** were built 800 years ago in Germany. A lot has changed since then, as high-rises have grown taller and taller. Currently, the tallest skyscraper in the world is **Burj Khalifa** in Dubai. The second-tallest is the **Shanghai Tower.** Can you find it on your globe?

Living in Africa: Africa is the second-largest land mass after Asia. It contains 55 countries. There are many different kinds of people living in Africa. Even today, some of them still live as **nomads.** That means that they move from place to place with their herds of cattle. Along with these many different population groups, there are lots of different housing styles that have developed there. Nomads use tents, which they can easily set up and take down again as they move. A very unusual kind of habitation are the **Haru Oms.** These are small, transportable reed huts that can be folded up. See if you can find them on your globe.



Floating islands: The Uru are an indigenous people of South America who also traditionally build houses and boats out of reeds. An interesting thing about the Uru is that they do not just live on the shores of **Lake Titicaca.** They also build floating islands from reeds on which they construct their houses. These islands are so big that five families can live on a single one of them. Alas, there are only a few Uru still living on the floating islands. Life on the islands is quite a bit more complicated than life on land: There is no electricity or drinking water, and food always has to be brought from land by boat.

Searching the Globe

What can you find?

The Globe by Day

There are lots of exciting things to discover on your globe. You can find out where the animals pictured make their homes and how they live. There are also lots of fascinating things from the worlds of nature, science, and technology!

At **8,848 meters,** **Mount Everest** in the Himalayas is the highest mountain on land. It was named after the surveyor **George Everest**, even though he never actually saw the mountain. If however, underwater height is allowed to count, Hawaii's Mauna Kea is the highest mountain, measuring **10,205 meters.**

Off the northern coast of Australia lies the **Great Barrier Reef.** This is the largest coral reef on Earth, consisting of more than 300 coral species. Over **8,000 different animal species** live there. Regular visitors include dugongs (a relative of the manatee), humpback whales, and sea turtles. Can you find a sea turtle on your globe?

The **Axolotl** is an amphibian only found in two lakes in Mexico. Animal species that only occur in a small, delimited area are known as **endemic species.** Can you find another animal species on your globe with this same quality? The small Mexican amphibian has a very special ability: If it loses a leg, for example, it can easily grow another one.

Cape Agulhas marks the southernmost point of Africa and the boundary between the Atlantic and Indian oceans. The convergence of different ocean currents makes the waters off Cape Agulhas very hazardous for ships. Reminders of this can be found in the various **shipwrecks** lying off this coast. Can you find another well-known shipwreck on your globe?

The **cherry tree** has special significance in Japanese culture. When its flowers start to bloom, the Japanese people celebrate the **end of winter.** The cherry blossom festivals last about ten days and are celebrated not just in Japan but in other parts of the world as well.

In the southeast Pacific lies **Easter Island.** This island has become known for its remarkable figures made out of stone. The figures were presumably created around 600 years ago. There are around 900 of them scattered across the island. The largest is almost **ten meters** tall. Can you find any other formations made of stone?

HURRICANE, WINDSTORM, OR TORNADO?

There's one thing all three have in common: When they happen, things get really **windy**.

Windstorms most commonly occur in the **northern latitudes**. They arise due to temperature differences between warm ocean air and cold air from the polar regions.

Tornadoes are mostly observed in North America, but they can occur anywhere in the world that has thunderstorms. They usually form on land. If warm air rises up beneath a thundercloud, it causes a spiral-shaped suction effect. Wind speed in a tornado can reach **up to 500 km/h**. That is more than double the speed of a high-speed rail train and faster than a top Formula One racecar.

Tropical storms arise exclusively from **large, warm ocean surfaces**. In late summer and autumn, a lot of ocean water evaporates and rises up. Because the Earth is turning on its own axis, it results in a large **vortex** (a **swirl** of air). Tropical storms only occur between northern and southern latitudes of 30 degrees. In the Caribbean and Gulf of Mexico, these storms are called **hurricanes**, while in the western Pacific they are known as **typhoons**, and around India they are called **cyclones**. The Australians have their own special name for this kind of vortex: They call it a **Willy-Willy**.

Stonehenge is one of the oldest human-made structures in the world. It was built during the **Stone Age.** It is believed to have been a temple complex or an astronomical observation site. Can you find a modern astronomical observatory on your globe?

The **Kookaburra** is a bird with a distinct call that sounds something like a raucous kind of laughter. It's a sound that can be heard echoing through the Australian eucalyptus forests in the early morning and evening. The Indigenous Australians believe that kookaburras laugh to wake people up so they do not miss the sunrise. Can you find Australia on your globe?

The **green sea turtle** is a type of sea turtle found in all tropical and subtropical oceans. It owes its name to the fact that it often appears in an olive green color. Since it can survive a long time without food, it used to be carried on ships as a kind of **"living provisions."**

The longest railway line in the world runs straight across Russia: From Moscow, you can take the **Trans-Siberian Railway** 9,288 kilometers east to Vladivostok. Since the trip takes **144 hours,** or six days, there are **sleeping cars and couchettes** as well as ordinary train cars. In addition to the main line (shown in red in the picture), there are also several connecting lines.

While some North American and European fern species remain fairly small, the **silver fern** can grow to be **ten meters** tall. Ferns are among the most ancient plant types on Earth. They already existed over **400 million years ago.** The silver fern is the national plant of New Zealand. What kind of animal can you find on the globe there?

This **dung beetle** is one of the most important symbols of Egyptian culture. Its name, **scarab,** can refer to the beetle itself or to artistic amulets crafted in its image, used to symbolize rebirth or regeneration. The significance of the scarab may derive from the legend of their ability to sense the annual flooding of the Nile in advance, thus warning people of impending high waters by fleeing to higher ground. Can you find another special beetle?

The **Artic fox** makes its home in northern Europe, Siberia, northern Canada, Greenland, and Alaska. This omnivore will travel great distances in search of food, sometimes even up to **2000 kilometers.** For camouflage, the Arctic fox will change the **color of its coat** in accordance with the seasons — white in the snowy Arctic winter, and brown in the summer.

Keas are a species of New Zealand parrot. They are highly **intelligent** and very **curious**. Cars, bags, and trash cans will arouse their interest and tend to be taken apart by these skillful birds. If there is snow on the ground, you might be able to watch them have fun "skating," sliding playfully down a snow-covered hill on their backs or bellies.

Around the latitude of the Equator, the Earth is encompassed by a belt of tropical **rainforests.** All around the world in these regions, you can find lush forests with an awe-inspiring array of plants and animals. Large forests are important for our **climate.** Trees produce oxygen, which all animals need to breathe. Long ago, vast forests covered much of the globe, with the plant remains turning into coal as the trees died. **Coal** is primarily used to produce energy. Another important energy source is petroleum, created by ancient deposits of marine organisms. Can you find where petroleum is extracted from Earth on your globe?

In the world of science, there are often **races** to make discoveries. For example, there was a race to the South Pole in 1911. On December 14, 1911, the Norwegian Roald Amundsen became the first person to reach the South Pole. Since then, many nations such as Argentina, China, Germany, England, Japan, the USA, and Russia have built their own **research stations** in **Antarctica.** The research involves Antarctic flora and fauna, the climate, and the Earth's magnetic field.

Petroleum, also known as oil, is one of our most important **natural resources,** forming the basis for almost all fuels for cars, planes, and ships. Many oil reserves lie in hard-to-reach locations under the ocean floor. To get to these **marine reserves,** engineers build **oil platforms,** which are used to bring the petroleum from deep under the ocean to the surface. Oil platforms pose a very high risk to the environment, with frequent accidents resulting in the release of large quantities of petroleum into the ocean.

The **boomerang** was invented by the original inhabitants of Australia. It's a **throwing weapon** traditionally made out of wood or bone and used in hunting. An unusual feature of some boomerangs is that they will come back whenever you throw them. This can be a handy feature when hunting birds, for example. Today, boomerangs are mostly used for recreation.

The Globe at Night

If you switch on your globe in the evening or in a darkened room, there are all sorts of remarkable things that will show up.

NOCTURNAL ANIMALS

Nocturnal animals (animals that are active at night) form an especially fascinating collection of creatures. **Sleeping during the day,** they wait for dusk before coming out of their hiding places. At night, they do all the things done by other animals that are active during the day — in particular, looking for food and eating. Most of all, **small animal species** such as mice prefer to move around at night in order to protect themselves from predators that hunt during the day. But some hunters have adapted to a nighttime rhythm as well. You can find nocturnal animals everywhere in the world. Do you see any?

In addition to nocturnal animals, there are also **some plants** that unfurl their flowers at night. These plants, such as the yellow-flowering evening primrose, use light-hued and strongly perfumed flowers to attractive nocturnal insects and bats.

The **Fossa** is a cat-like predator found only on the island of Madagascar. Fossas hunt during the day as well as at night, feeding mostly on lemurs, which are also among the animal species found only on Madagascar. Like many other animals on this remarkable island, this makes them an **endemic species**.

The **aardvark** is an animal with a curious appearance: its compact build, arched back, and long nose all make an extremely odd impression. With its nose snuffling along the ground, the aardvark spends its nights hunting for **ant and termite mounds**. During the day, it has to watch out for lions, spotted hyenas, leopards, and cheetahs, so it hides in its underground burrow. Can you find another animal that lives in holes in the ground?

Fireflies, also known as **lightning bugs and glowworms**, are widely distributed across the world, with over 2,000 species of this night-glowing insect. Some species display a constant glow, while others blink on and off. These light signals help them **communicate** with one another.

Worldwide, there are over 900 **bat species** spread all across the globe. During the day, most of them sleep in trees, caves, or houses. They are highly **social animals** and prefer to be in large groups. At night, they go hunting in swarms. Bats navigate mainly with their ears. As they fly, they constantly emit high-pitched sounds. When these sounds hit prey or obstacles nearby, they bounce back as an **echo**. This is how the bat can perceive its surroundings. Do you know what bats eat?

Armadillos are the only mammals still in existence with **external armor**. In the past, there used to be many species of armored mammals. Most are now extinct, however. Fossils can offer evidence about their skeleton, armor, and body size. All the armadillos still living today are found throughout the South American continent and parts of southern North America.

The **wombat** is a nocturnal marsupial native to southern and eastern Australia as well as Tasmania. Wombats spend the day sleeping in their burrows. At night, they go in search of food, grazing mainly on young plant shoots and mosses. One of their little peculiarities is their excrement, which they produce in the shape of rounded **cubes**.

The **dormouse** is a nocturnal rodent most common in Europe. It inhabits many man-made living spaces. You can sometimes hear one scratching away at night in old attics, barns, and garden sheds. Its name, which means "sleeping mouse," is highly fitting. Its eight-month hibernation period is longer by far than that of any other mammal.

The **barn owl** can be found across the entire globe. Its bright white feathers make it easy to distinguish from other owl species. It spends the day in old barns, hollow trees, or empty caves. At night, it goes hunting for mice and other small mammals. Owls can fly almost **completely silently** due to the design of their feathers. Their feathers have a very soft surface with delicate segmentations at the ends. This helps the **air flow** noiselessly across them.

Moths belong to the butterfly family. In total, there are over 2,000 moth species around the world. In contrast to brightly colored butterflies, most moths looks fairly inconspicuous. Although humans often view them as pests, moths are an extremely significant part of the **food chain**. Birds, smaller mammals, and especially **bats** rely on them as an important protein-rich food source.

With a body just 16 centimeters long, the **tarsier** is one of the smallest primates on Earth. Weighing about as much as a chocolate bar, it inhabits the islands of Southeast Asia. It is the only exclusively-carnivorous primate, hunting insects, spiders, and crabs. Even though tarsiers are very small, they can jump **up to 5 meters**. If a human were able to jump an equivalent distance in terms of body size, it would correspond to a distance of about 50 meters.

Scorpions are native to warm regions all around the world. During the day, they hide under rocks, waiting for dusk before becoming active. Scorpions are true survival artists and are able to live up to a year without food. They are among the **oldest animal groups** in existence, having been around since before the dinosaurs. On top of that, they are able to put on quite a show under a full moon. The moon reflects the UV light of the sun to make the scorpion exoskeleton **glow in the dark.**

The **ball python** spends the day in termite mounds and animal burrows. This African constrictor snake grows up to two meters in length and can live to be 40 years old. One special thing about snakes is their exceptional sense of smell. Odors are carried by their tongue to the gums, where a special organ known as the Jacobson organ perceives them.

SECRETS OF THE NIGHT

At **night,** there are a lot of exciting things to discover on our Earth. If it's really dark, you can see how extensively humans have spread themselves across the planet. Brightly-lit cities, streets extending like veins through the darkness, and the points of light made by ships on the oceans are all easy to recognize. You can see things like this particularly easily from an airplane during a nighttime flight.

At night, you can sometimes see the ocean glowing. This **mysterious glow**, which can be seen off the coast of Scandinavia, for example, comes from the depths of the oceans and occurs all around the world. **Marine phosphorescence,** sometimes called the "milky seas effect," is caused by plankton. Because these tiny organisms appear in huge quantities, it can look as if there is a gigantic glowing cloud in the ocean. Can you find any other glowing creatures in the ocean?

In polar regions, the **polar lights** can often be viewed at night. In northern latitudes, they are called the northern lights, or aurora borealis. In southern latitudes, they are called the southern lights, or aurora australis. Auroras are caused by the sun: The sun is constantly emitting tiny charged particles in all directions. When these "solar winds" strike the **magnetic field of the Earth**, it creates the colorful polar lights in the Earth's atmosphere we call auroras.

There are many islands that are created by **volcanoes.** Hawaii's Kilauea is one of the most active volcanoes on Earth. An interesting phenomena is caused by the flow of some of the lava directly into the ocean, constantly creating large clouds of vapor over the coast. At night, the **lava** shows off its beautiful, multifaceted glowing colors.

MAGMA OR LAVA?
Magma and lava are both names for molten rock. If the molten rock is found beneath the Earth's surface, it is called **magma**. If it emerges to the Earth's surface in a volcanic eruption, for example, it is called **lava**.

Volcanoes can be found all across the Earth. **Volcanism** is especially common along the edges of continental plates. There are approximately **1,500 active volcanoes** on land masses around the world. They are created when hot magma rises up from the Earth's interior to the surface. It is impossible to predict when and how powerfully a volcano will erupt. It is only possible to perform precise observations of their activity.

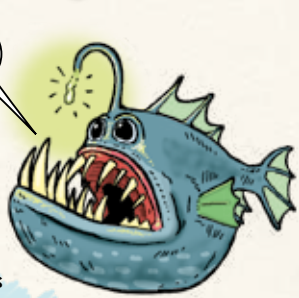
Around the world, there are about 70 **species of mushrooms** that glow in the dark. With mushrooms, this kind of glow is also known as foxfire (false fire), and its purpose is presumably to attract insects. When organisms are able to produce light, it is known as **bioluminescence**. On your globe, you will be able to discover a few other creatures with this ability.

Chile's Atacama Desert is the site of the **Paranal Observatory** of the European Southern Observatory. About 130 scientists and engineers perform their observations and research there using the most modern technology. An important component of the observatory is the **Very Large Telescope (VLT)**, which allows the researchers to look deep into the expanse of space. Their observations focus on the way that light and other things move through space.

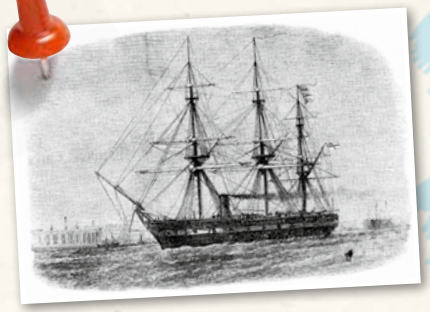
There are also other places that are working to bring space within reach. **Kennedy Space Center** is NASA's space mission launch center. This is where the rocket was launched in 1969 that put the first men on the moon. The topic of space was of great political importance at the time. In fact, there was a real **space race** underway. The first human in space, in 1961, was the Russian cosmonaut Yuri Alekseyevich Gagarin. The first woman in space, two years later, was Valentina Vladimirovna Tereshkova. Today, researchers from many countries work together to study space. Since 1998, they have been doing this on the **International Space Station, or ISS**.

Deep-Sea Expedition

Amanda's trip into the abyss



Amanda is a **deep-sea anglerfish.** She is one of the bizarre creatures of the deep sea, and today she will take you on a trip into undiscovered worlds. The deep sea is immense, with only very little of its territory having been investigated so far.

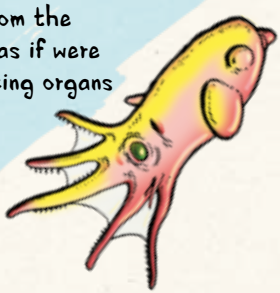


"Our trip into the mysterious underwater worlds begins in England in the year 1858. The ship **HMS Challenger** passed by me on its 130,000-kilometer ocean voyage, while I was indulging myself in a little snack off the Cape of Good Hope. On board were scientists who were taking samples from the ocean and studying deep-sea creatures."

In the deep sea, Amanda has already swum through many parts of the world's oceans. She has run into a lot of scientists on the way.

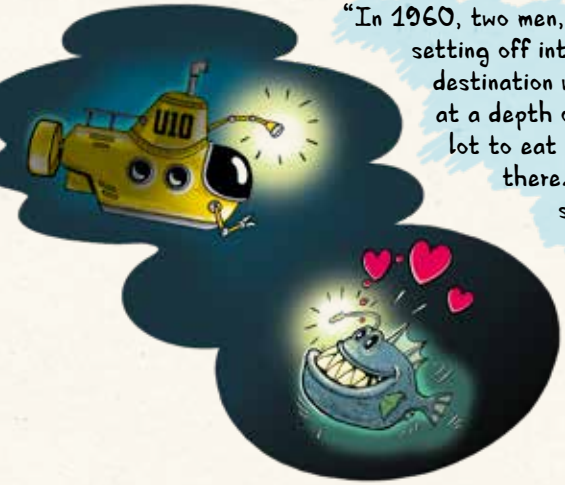
"In 1898, I saw the deep-sea explorer **Carl Chun** cruising through the oceans on the Valdivia. I swam alongside at a safe distance to see what the scientists were investigating.

They brought back a lot of **new insights** about the deep sea from their expedition and even surveyed portions of the ocean floor. Carl Chun is the person who discovered the **vampire squid,** a bioluminescent creature that gets its name from the pieces of skin stretched between its arms, which make it look as if were wearing a vampire's cape. In addition to the many light-producing organs distributed across its skin, the vampire squid can even emit a **bioluminescent cloud** of mucus to confuse would-be predators."



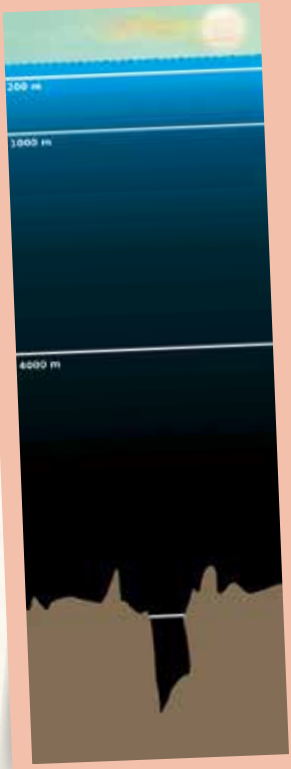
Can you find a vampire squid on your globe?

Many years after the Valdivia expedition, Amanda observed something remarkable:



"In 1960, two men, **Jacques Piccard** and **Don Walsh**, were setting off into the deep sea in a kind of capsule. Their destination was the **Mariana Trench.** I prefer to remain at a depth of about 3,000-4,000 meters. I find a lot to eat at that depth, and I generally feel best there. But the two men dove even deeper in their submarine, all the way down to the bottom of the Mariana Trench – oh man, that's really deep!"

Expeditions such as this one have taught us quite a bit about the deep sea. But most of it is still cloaked in mystery.



WHAT IS THE DEEP SEA?

Over half of Earth's surface is covered with **water.** And most of that is **salty sea water.**

The deep sea is what we call those regions of the ocean that have a depth **of 200 meters** or greater.

Most of the water in the world's oceans is in the deep sea.

The deep sea comprises several **layers.** You can see that in the illustration.

The deepest point measured so far is in the Mariana Trench, at about **11,000 meters** under the ocean surface.

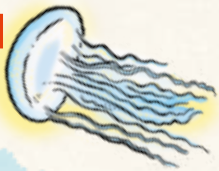
There are still presumed to be over **one million** undiscovered animal species in the deep sea.

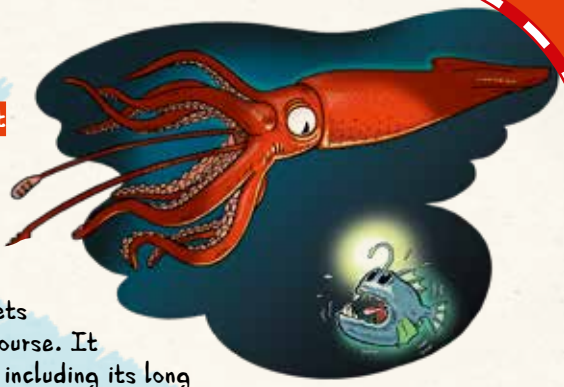
"Life really isn't easy for us in the deep sea! Have you ever dived into the ocean or a swimming pool and noticed the **pressure in your ears** underwater? It's caused by the mass of water exerting pressure on your body. The deeper you dive, the greater the **water pressure.** Deep-sea creatures like me have bodies that are mostly composed of water, in fact. That is the only way that we can endure these pressures."

Where Amanda lives, it is always cold and dark. The temperatures range from -1 °C to 4 °C, and there are no algae or other plants to eat below around 200 meters due to the **eternal darkness.**

"As a female, I am lucky to have my very own **light** with me. I can use it to lure little fishes for my dinner, as well as to send signals to others of my own species. You really have to be very resourceful in the deep sea. The extreme living conditions make survival difficult. Some species of animals have developed **special mechanisms** to be able to live here. Let me introduce a few of my friends:"

"Glow-in-the-dark jellyfish are able to generate light through bioluminescence. They use these light signals to communicate with one another. They can also use light effects to confuse predatory enemies by breaking off an **illuminated body part,** which the predator chases while the jellyfish swims off in a different direction. Pretty clever, don't you think?"



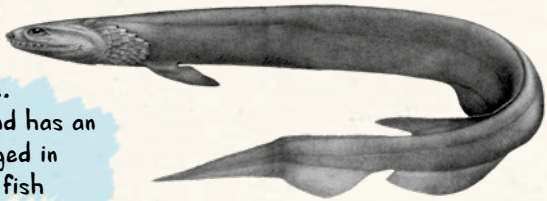


"In the deep sea, animals are also able to grow a lot larger than elsewhere: The giant squid lives in ocean regions around the Antarctic. As with many other sea animals that live most of their lives at great depths, there is very little known about the giant squid. It gets its name from its body size, of course. It can reach **14 meters** in length including its long tentacles. The details of its way of life are just one of the many secrets of **deep-sea research**."

"Giant marine isopods inhabit ocean floors all around the world. They can grow up to 45 centimeters in length and weigh 1.7 kilograms. One of their most unusual features is their eyes. While many deep-sea animals are blind, these large crustaceans have extremely light-sensitive **compound eyes**, which allow them to see quite well in dim conditions."

"Very creepy, but not dangerous to me, are my friends from the spookfish family. There are about 20 species in the world's oceans. Their bodies are almost **transparent**. Spookfish grow up to 50 centimeters in length and live solitary lives at depths of up to 2,500 meters. Some species have **light-emitting organs** on their skin, just like me, which can in fact make them look pretty spooky."

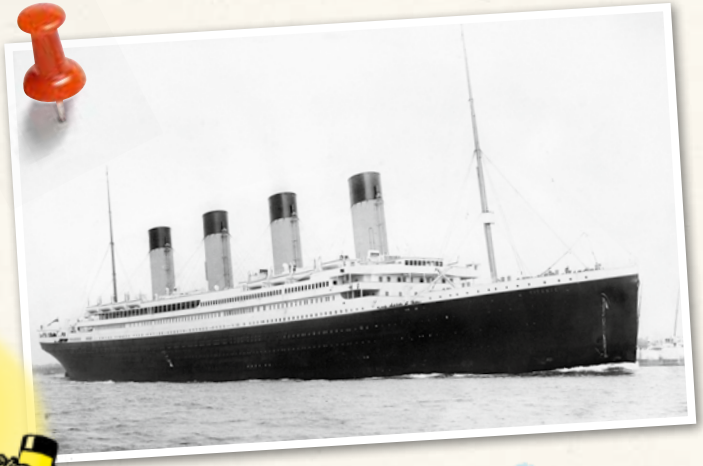
"Even though the frilled shark really is a shark, its elongated body makes it look more like an eel or snake. It grows up to two meters in length and has an impressive bite, with **300 teeth** arranged in rows of 25. Large squid and deep-sea fish are on its usual menu."

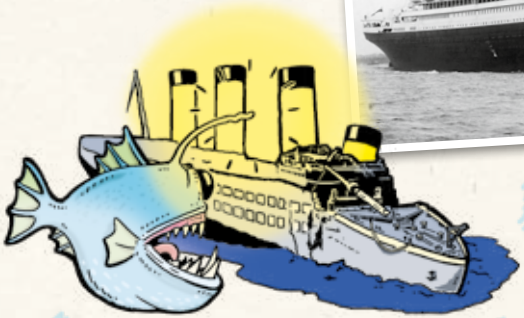


There is a lot to discover in the deep sea in addition to this mysterious animal world. The ocean floor is littered with exciting curiosities, and sometimes Amanda will even find unexpected treasures!

"There really are a lot of **sunken ships** all over the world. In the Caribbean alone, there are more than 100,000. There used to be a lot of pirates there, and they sank countless ships on their raids. Along with the ships, some astonishing **treasures** went down, too. Gold, diamonds, and all sorts of other jewels lure treasure hunters to seas all over the world."

When Amanda swims through the oceans, she sometimes discovers things that don't actually belong there. Often they are things that provide evidence of times long past, with astonishing stories behind them:





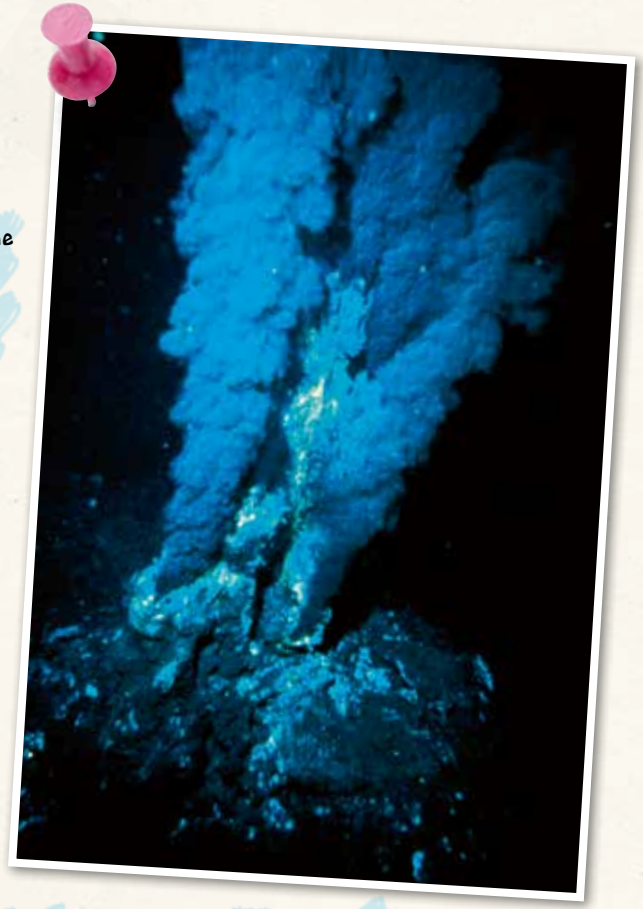
"In the Atlantic, I discovered the wreck of the Titanic. On April 10, 1912, the ship began the long voyage from England to America. During its passage, the **Titanic** collided with a large **iceberg** and sank in the cold Atlantic within a few hours. Even today, the badly corroded wreck still lies on the floor of the Atlantic Ocean. Can you find the Titanic on your globe?"

Come on, I'll show you!

The ocean floor shows that the surface of our Earth is composed of **plates**, just like a mosaic. They are always in motion, so the map of the Earth's surface is constantly changing. The plates can even collide and slide over or under one another. In other areas, the plates are moving away from each other. This creates gaps through which magma can flow from the Earth's interior and create giant underwater mountain ranges called **mid-ocean ridges**.

And here is where Amanda has another interesting phenomenon to show you:

"There's a lot happening around the mid-ocean ridges. There are countless hot springs there, known as hydrothermal vents. Hydrothermal vents under the water are also called **black** or **white smokers.** They look like little volcanoes. But instead of lava, what flows out of them is hot, mineral-rich water at temperatures of over **300°C.** The **minerals** make them look like little smoking chimneys. There is a lot of activity around these hot vents, with fish, mollusks, crustaceans, and countless other sea animals bustling around."



"And now you know a little more about the ocean, its treasures, its inhabitants, and its endless depths. Maybe we'll run into each other during your next vacation by the sea!"

My Travel Log

Use this page for notes or drawings of what you found on the globe!


Giant redwood


Manioc


Wild horses


Matryoshka dolls


Mouse lemur


Mayan Pyramid


Monarch butterfly


Moray eel


Rhea


Narwhal


Proboscis monkey


Orangutan


Ocelot


Puffin


Parthenon


Persepolis


Piranhas


Flatfish


Pyramid


Giant crab


Giant manta ray


Sea eagle


Ray


Rodeo


Lionfish


Sawfish


Dog sledding


Black marlin


Sea snail


Starfish


Sea wasp


Paddle-boarding


Tae-kwondo


Taj Mahal


Tasmanian devil


Temple


Whale shark


Warthog


Willow-herb


Bald eagle

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Acacia


Albatross


Alpaca


Beluga


African penguin


Great Wall of China


Dolphins


Dragon


Arabian camel


Ice-breaker


Elephant


Meerkats


Indian fig cactus


Fennec fox


Flying Fish


Galapagos tortoise


Geese


Prayer flags


Ginkgo


Grizzly bear


Leafy seadragon


Shark


Field hockey


Lobster


T. rex skeleton


Cacao


Kangaroo


Caribou


Celtic cross


Koala


Hummingbird


Puffer fish


Salmon


Iguana


Lotus blossom


Lion


Lynx


Machu Picchu


Sea lion


Maned wolf