

**Future Literacy 100-1****Unit 1. The Unicorn of the Sea**

Narwhals can be found in the Canadian Arctic, Greenlandic, and Russian waters. They usually move in groups of about five to ten. If the groups only consist of females and babies, they are referred to as “nurseries.” In the winter, they eat mostly flatfish. In the summer, narwhals eat Arctic cod and Greenland halibut. Sometimes, they eat polar cod, too. Narwhals can dive up to 1,500 meters in depth and last up to 25 minutes underwater. They communicate with one another using a series of “clicks” and “whistles.” Typically, Narwhals can live up to 50 years. Common causes of death include suffocation when the surface of the ocean freezes over. Younger narwhals are hunted by orcas. Narwhals are also hunted by Inuit people in Northern Canada and Greenland because they are a good source of meat and ivory.

**Unit 2. The Fastest Punch**

The mantis shrimps are not actually shrimps. They are, in fact, members of the order Stomatopoda and have gills on their abdomens. They are very fast creatures that kill their prey by attacking them at high speed. Some like to use spiny limbs with pointy tips to stab and snag their prey. Other mantis shrimp use a different way of killing, such as smashing their prey using a club-like hand. They also use a simpler spear. The spear is quite sharp and can even be used to fight other mantis shrimps. In the case of the club, the mantis shrimp can swing and hit things with the speed of a bullet. They are one of the fastest responses known. In fact, they hit so fast that they can generate bubbles between their own weapon and their prey. The collapse of these bubbles hits their prey as well. This means that the prey is hit twice: once by the actual weapon and then by the collapsing bubble.

### **Unit 3. Animals That Clean!**

Sea cucumbers have longish bodies and leathery skin. They live on the floor of the sea and scavenge for food on the ocean bottom. They eat using tentacles around their mouth. Using these tentacles, the sea cucumber collects animal poop and small organisms to eat. There are about 1,500 different species of sea cucumbers. Sea cucumbers have the ability to communicate with each other by sending hormone signals through the water. Although sea cucumbers might appear defenseless, they can defend themselves by spitting out sticky thread-like tubules at the enemy. Sometimes, these tubules are followed by a discharge of a toxic chemical. Sea cucumbers are often compared to earthworms who live on land. Earthworms also feed on the decaying matter of other animals. Both sea cucumbers and earthworms are important to the environment as they break down organic matter.

### **Unit 4. The Gecko Lizard**

Geckos come in many different sizes. The smallest species of gecko are only about three-quarters of an inch in length. These geckos are called dwarf geckos. On the other hand, tokay geckos can grow up to fourteen inches long. They are the longest among gecko species. In addition to length, geckos vary in color. Their body color depends on their environment as they use a change in body color as camouflage. This is important for the survival of geckos because of the number of predators. Geckos are preyed upon by snakes, birds, mammals, and spiders. Thanks to their camouflage, geckos can stealthily move about to get their own meals. They usually eat different types of fruit, flower nectar, insects, and worms. After a big meal, geckos will store some of their fat in their tails. When they are in danger, they can throw away their tails to distract the predator while the gecko escapes to safety.

## **Unit 5. Amazing Ancient Egypt!**

A pyramid is a large structure that was usually built out of stone. The word “pyramid” is derived from the Greek word *pyramis*, which means “wheat cake.” In Ancient Egypt, pyramids were built as tombs for kings and queens (called “pharaohs”) and their families. Egyptians believed that a person’s soul survived in the afterlife even after they had died. This was why they preserved dead bodies by turning them into mummies. They believed that mummification would allow the souls to live on in the afterlife forever. To mummify a body, the dead body would be wrapped in bandages. Wrapping one body required a lot of bandages. In fact, the length of bandages used for just one Ancient Egyptian mummy was around 1.6 kilometers! After the bodies were properly mummified, they were sealed inside their tombs. Valuable items were also buried with the bodies in the hopes that they would carry them into the afterlife and remain prosperous.

## **Unit 6. The Tomb of Tutankhamun**

Tutankhamun is sometimes referred to as King Tut. He was a pharaoh of Ancient Egypt from approximately 1334 BCE to 1323 BCE. When he ascended the throne, he was only nine years old! Tutankhamun is one of the most famous Egyptian kings known today. Ironically, he was not considered an important king during his actual rule. His fame stems from how he was discovered after his death. In 1922, his tomb was discovered. It was remarkably well preserved. Because it had been well hidden from thieves, all the precious treasures such as gems, statues, and paintings were still intact. This was an important discovery for historians and archaeologists. They could study all the items they found in the tomb to understand what life as an Ancient Egyptian king had been like. Thanks to this discovery, Tutankhamun is now a celebrity pharaoh known by many around the world.

## **Unit 7. A Queen's Mystery**

Cleopatra is famously known as the last female pharaoh of Egypt. She took her own life instead of surrendering when the Roman Empire attacked Egypt in around 30 BCE. Some people believe that she smuggled a snake into her pre-made tomb and used its venom to kill herself and two of her servants. The story of Cleopatra suggests that she was able to smuggle a cobra into the tomb by hiding it inside a small basket. However, some snake experts argue that this would not have been possible. Because a cobra typically grows to about 1.5 meters long, snake experts say that it would have been impossible for Cleopatra to sneak a cobra into the tomb. Furthermore, snakes do not always release venom when they bite. Thus, it is unclear as to how Cleopatra really died and scientists are still trying to figure it out!

## **Unit 8. The Gods of Ancient Egypt**

Ra is one of the most well-known gods in Egyptian mythology. Ra was the god of the sun and creation. He also had many names such as Re, Amun-Ra and Ra-Horakhty. Ra had many forms. He was best known for taking the form of a man with the head of a hawk and a sun disk hovering over him. He has also been known to take the form of a scarab beetle or a regular man. Ra also had a family. His daughter was Hathor, the goddess of love. He also had two other children called Shu, the god of air, and Tefnut, the goddess of morning dew. Ra's children went on to have more children of their own. Anubis, the famous god of embalming, is a descendant of Ra. Ra was also known to be the most powerful Egyptian god. He had the power to make anything, including humans, the Earth and the heavens.

## **Unit 9. The Longest Tennis Match**

The Isner-Mahut match at the 2010 Wimbledon Championships was the longest match in tennis history both in terms of the recorded time and the number of games played. The match began on Tuesday, 22<sup>nd</sup> of June, 2010 at Wimbledon at 6:13 p.m. Nearly three hours later at 9:07 p.m., the game was suspended because the sunlight was fading. This was just before the start of the fifth set which took place the following day at 2:05 p.m. The game went on for many hours because there was no tiebreaker for the fifth set at Wimbledon. The players kept tying until the game was suspended again at 9:09 p.m. due to the fading light. At this point, the record for the longest tennis match had already been broken. The following day on the 24<sup>th</sup> of June, Isner won at 4:47 p.m. The final set alone lasted eight hours and eleven minutes.

## **Unit 10. Most Red Cards in a Soccer Match**

In a soccer match, a referee can call a foul to make sure that players play the game in a fair manner. Fouls include actions such as kicking an opponent, tripping, pushing, tackling, and holding the ball with your hands (if you are not a goalkeeper). Depending on the severity of the foul, a referee can choose to give a yellow card or a red card. The yellow card is given to players as a warning. You may get a yellow card for arguing with the referee, fouling repeatedly, delaying the game, or leaving the game without telling the referee. The red card is given to players for more severe actions. When a player is given a red card, the player must leave the game. You may get a red card for acting violently towards other players or the referee and using bad language.

## **Unit 11. Most Wins by an NBA Team**

The Golden State Warriors is an NBA (National Basketball Association) team that is based in Oakland, California. One of their most famous players is Wardell Stephen “Steph” Curry II. Curry plays the point guard position and is well-known for being a great shooter. Curry began his basketball career early on, as many of his family members are or were athletes. His father is the former NBA player Dell Curry and his mother played college volleyball. His sister, Sydel, also played volleyball at Elon University. In college, Steph Curry played basketball for the Davidson College Wildcats. His performance earned him the title of Southern Conference Player of the Year. He also set a scoring record for both Davidson and the Southern Conference. By his second year of college, Curry had set the single-season NCAA (National Collegiate Athletic Association) record for three-point shots.

## **Unit 12. How We Measure Sports Records**

Even though many field and track records are only published to the hundredth of a second, timing rules require timekeeping to be accurate to the millisecond. It’s almost impossible to achieve this level of accuracy with human eyes and stopwatches alone. That’s why the Olympic Games use high-tech equipment. During the 2012 London Olympic Games, the Quantum Timer was introduced for the first time. The Quantum Timer has increased the resolution of recorded time to one millionth of a second. This is one hundred times more accurate than the technology that was previously used in the Olympics. There are also fail-safes to prevent athletes from starting before the signal is given. This is measured through the starting blocks that have electronic pressure plates. If the plates detect pressure before a tenth of a second has passed after the signal, the clock stops and the competitor is disqualified from the race.

## Unit 13. Surveillance Cameras

Surveillance cameras have been around since the 1940s and can now be found in public and private places all over the world. Surveillance cameras have a number of uses, including monitoring areas that are dangerous for humans to enter, such as chemical or industrial works. However, the main use is monitoring human activities, specifically crime and anti-social behavior. Police can use video footage to catch and prosecute criminals. Some recent studies have found that surveillance cameras reduce crime by an average of 20%, with the biggest impact in areas such as parking lots, sports stadiums, shopping malls, and public transport. In recent years, cameras have become cheaper and more advanced, with features such as facial recognition. There are a number of criticisms of video surveillance. Many people believe that they should be allowed privacy, even in public places. There are now an estimated 750 million surveillance cameras worldwide, 65% of which are in Asia.

## Unit 14. The Story of Door Alarms

There are guard animals, an interesting and natural way to keep places safe before the invention of door alarms. Guard animals, like loyal dogs, noisy geese, protective llamas, and even vigilant donkeys, have been used by humans for centuries to alert them to any dangers or intruders. These animals are chosen for their sharp senses, strong loyalty, and natural instincts to protect their territory. Unlike electronic alarms, guard animals offer a blend of security, companionship, and a touch of nature's intuition. They need proper training and care to do their job well, but in return, they provide a cost-effective and environmentally friendly way to keep homes and farms safe. Understanding how guard animals work gives us a glimpse into the clever ways people have kept their spaces secure throughout history, enriching our appreciation for the deep bond between humans and animals in working together to create safer communities.

## **Unit 15. Present Home Security**

Home security includes much more than complex locks. It includes systems inside your house so that the people who are allowed can also be watched. For example, if you want to make sure that the maintenance staff or nanny that you hired isn't stealing or breaking any of your possessions, it's important to have home security cameras inside your home. Many home security services now offer 24/7 home surveillance. When something unusual is detected inside your house, a surveillance professional will contact the local police departments to investigate. There are also devices that allow the owner to watch their homes on their mobile devices. All you need is to set up some cameras and sensors that are connected to your home Wi-Fi network. You can also set up cloud systems that will record everything in a place that's safe from thieves who might want to tamper with the footage.

## **Unit 16. The Future of Home Security**

As technology develops at a rapid pace, experts predict that homes will be able to monitor and fix themselves without the owner's help. One such example is when alarms or cameras malfunction. Instead of a human having to check the system for bugs or errors, the smart home system could detect the malfunction and take action. It could automatically order spare parts online. It could also detect carbon monoxide and fire in the dead of the night and set off an alarm while simultaneously calling the fire department. This could potentially save all the members of the household. Another example of smart home security involves the use of drones. Instead of having a camera that is locked in place with blind spots, a drone could routinely fly around and check not just the inside of the home but the yard and front gate as well. One thing is clear: home security technology will continue to develop to keep people safe.