

Reading Comprehension Activities

Year 5



The First Olympics

Go for the wreath? Well, it may not appeal to modern athletes, but during the days of the ancient Olympics, it was an honour! The laurel wreath was a symbol of pride and success.

Origins of the Ancient Games

The ancient Olympic Games began in honour of the Greek god, Zeus. The Olympics began in 776 B.C. They were held on top of Mt. Olympus in Greece every four years. The 5-day event was filled with celebrations, ceremonies, and rituals.

Structure of the Games

On the first day of the ancient Games, there were no sports events. This day was a celebration for Zeus. The athletes and judges swore an oath to Zeus. Both the athletes and the judges swore to play fair. They also promised not to tell any secrets they discovered about other athletes. The day was filled with ceremonies and huge feasts.

On the second day, some of the sports events began. Footraces and long jumping contests were two favourites. There was always an exciting chariot race.

The highlight of the third day was a grand parade. Everyone marched to the altar of Zeus. At the altar, 100 oxen were sacrificed to Zeus.

The fourth day was devoted to more sporting events. Discus and javelin-throwing contests showed the great skills of athletes. Gruesome boxing and wrestling matches were also part of the Olympics.

On the fifth and final day, the winning athletes received laurel wreaths. These wreaths were a symbol of honour and pride. The leaves were cut from an olive tree in the backyard of the temple of Zeus. One legend has it that the winners wore special ribbons around their heads until they received the wreaths on the fifth day.

End of an Era

The tradition of the ancient Olympics lasted for 1,200 years. The Games took place 320 times. The Romans conquered Greece and ended the Games in A.D. 394. They did not believe in the Greek gods and would not celebrate Zeus.



A laurel wreath of victory was given to the winners.

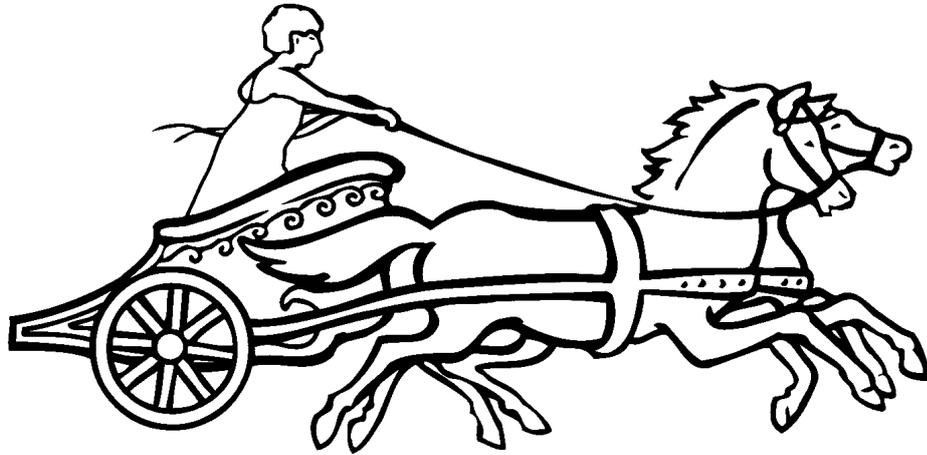
Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

The First Olympics Questions

1. What did ancient Olympic athletes receive as awards?
 - (A) gold medals
 - (B) olive trees
 - (C) laurel wreaths
 - (D) money
2. The ancient Olympics began in honour of _____.
 - (A) Athena
 - (B) Olympus
 - (C) Greece
 - (D) Zeus
3. The Olympic Games were originally _____ days long.
 - (A) 3
 - (B) 5
 - (C) 7
 - (D) 10
4. What happened to the 100 oxen on the third day of the ancient Olympics?
 - (A) Gladiators fought them in the bullpen.
 - (B) The athletes ran with them through the streets.
 - (C) They were sacrificed at Zeus's altar.
 - (D) They were set free on Mt. Olympus.
5. The tradition of the ancient Olympics lasted for _____.
 - (A) 500 years
 - (B) 700 years
 - (C) 900 years
 - (D) 1,200 years

Bonus: On the back of this page, make a 5-day calendar. List everything that happened on each day of the ancient Olympics.

Olympic Games



Up to 40 chariots, pulled by teams of two or four horses, raced 12 laps in a stadium called the hippodrome.

What would the Olympics be like without TV coverage? Imagine athletes training and competing with no hope of commercial deals! Believe it or not, that's how the first Olympics began.

Where did the first Olympics take place?

The ancient Olympics took place in Olympia, Greece, in 776 B.C. The site did not change with the start of new games as it does in the modern Olympics. Athletes and judges took their oath at an altar for the Greek god, Zeus.

What types of events were in the first Olympics?

The only event in the first Olympics was the stade race. It was a running race that was probably about 180 metres long. The race was run in nonstop heats. Athletes ran race after race until only one runner could go on. The last runner still standing was the winner. This was the only event for the first thirteen Games. Later, footraces increased to 366 metres long.

One of the later events was the pentathlon, which included five events: jumping, running, discus, javelin throwing, and wrestling. Some other added events were wrestling, footraces, horse racing, and chariot racing. Strangely enough, the winners of the chariot races were not the jockeys. They were the owners of the horses!

Some events were bizarre by modern standards. For example, in boxing, the two fought on and on until one boxer collapsed or died. Another oddity was a footrace that was run in full armour. Think of running under heavy metal armour, carrying a shield!

Why did the ancient Games end?

Many blame the Roman invasion for the end of the ancient Olympics. However, the Games were already losing interest before then. The Greeks were starting to focus more on the arts and books. Socrates was actually accused of corrupting the youth by turning them away from athletics. The Games officially ended in A.D. 394. It was not until A.D. 1896 that the modern Olympics resumed.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Olympic Games Questions

1. The only event in the first Olympics was the stade, which was _____.
 - Ⓐ a boxing match
 - Ⓑ a long jump
 - Ⓒ a horse race
 - Ⓓ a footrace
2. A synonym for the word *oath* is _____.
 - Ⓐ stade
 - Ⓑ discuss
 - Ⓒ promise
 - Ⓓ curse
3. The pentathlon consisted of _____ events, including jumping, running, discus, javelin, and _____.
 - Ⓐ 3, boxing
 - Ⓑ 5, wrestling
 - Ⓒ 7, chariot racing
 - Ⓓ 9, horse racing
4. Which of these sentences is not true about the ancient Olympics?
 - Ⓐ The ancient Olympics always took place in Olympia, Greece.
 - Ⓑ Both the athletes and the judges took an oath at the altar of Zeus.
 - Ⓒ Runners had to wear full armour in all the footraces.
 - Ⓓ The ancient Olympics ended in 394 B.C.
5. Socrates, a teacher and philosopher, was accused of _____.
 - Ⓐ corrupting the youth
 - Ⓑ fixing boxing matches
 - Ⓒ cheating at chariot races
 - Ⓓ leading the Roman invasion

Erik Weihenmayer, Mountain Climber

Close your eyes and picture yourself standing at the top of the world. How does it feel? Imagine that you climbed up that high wearing a blindfold. Now you must climb down. Erik Weihenmayer did just that, except he didn't wear a blindfold that he could take off whenever he wanted. He is blind!



Ears Leading the Blind

Erik Weihenmayer climbing Mt. Everest in the Himalaya Mountains

On May 25, 2001, Erik Weihenmayer became the first blind person to reach the summit of Mt. Everest. It is the highest peak in the world. Weihenmayer used special methods and techniques to make the climb. His teammates wore bells on their clothing. Weihenmayer followed the sounds of the bells up to the top. His teammates also gave him detailed descriptions of the trail ahead. Weihenmayer used a special hammer to hear the pitch of the ice. This helped him to decide if the path was sturdy enough to support him.

Top of the World

Mt. Everest is the greatest climbing challenge for any climber. The peak is 9 kilometres high. The weather can be treacherous. The peak is in the jet stream. The jet stream can cause winds of over 160 kilometres per hour. This, combined with the lack of sufficient oxygen, makes the summit out of reach for many climbers.

Climbing Around the World

Erik Weihenmayer doesn't let nature stand in his way. In addition to his summit of Mt. Everest, he has climbed the highest points of the other six continents as well. Fewer than 100 climbers have done this!

Blind Leading the Blind

The National Federation of the Blind in America sponsored Weihenmayer's climb. He sets an example for blind people everywhere. No goal is too high. Erik Weihenmayer is trying to show the world what blind people can do. He wants blindness to have a new meaning for the world.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Erik Weihenmayer, Mountain Climber Questions

1. On May 25, 2001, Erik Weihenmayer became the _____ person to reach the summit of Mt. Everest.
 - (A) first deaf
 - (B) first blind
 - (C) youngest
 - (D) first American
2. Erik's teammates wore _____ on their clothing to help guide him.
 - (A) reflective tape
 - (B) scented oils
 - (C) bungee cords
 - (D) bells
3. Which of these words is a synonym for *treacherous*?
 - (A) dangerous
 - (B) blind
 - (C) exciting
 - (D) easy
4. One of the dangers on top of Mt. Everest is _____.
 - (A) heat exhaustion
 - (B) lack of oxygen
 - (C) tidal waves
 - (D) no means of communication
5. Which of these organisations sponsored Erik's expedition?
 - (A) Juvenile Diabetes Research Foundation
 - (B) American Cancer Society
 - (C) National Federation of the Blind in America
 - (D) Special Olympics

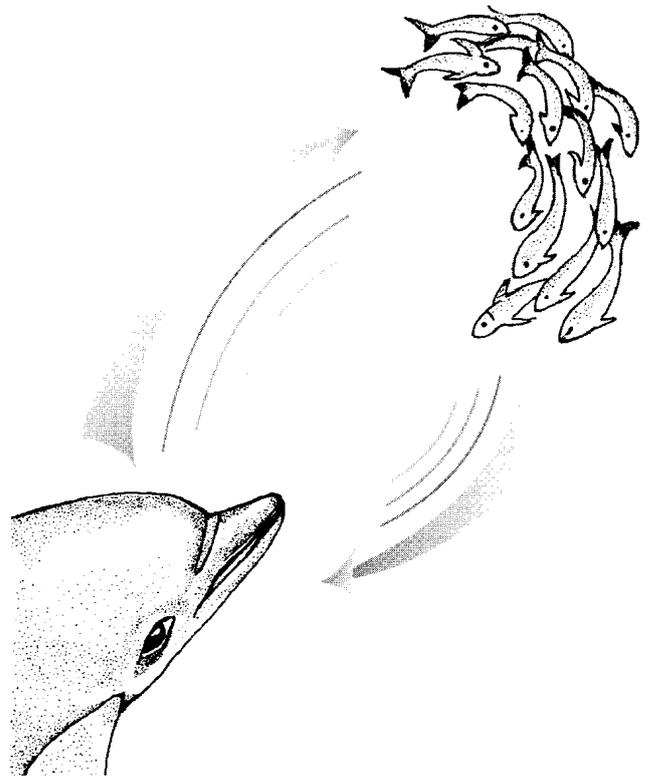
What Is Ultrasound?

Did you know that bats could hear higher sounds than any other animal? And, that includes you.

Hearing Sound

Sound is anything you hear. A sound is made when something moves backward and forward very quickly. This is called vibration. When an object vibrates, it makes the air around it vibrate, too. The vibrating air carries the sound you hear. The faster something vibrates, the higher the sound it makes. The slower it vibrates, the lower the sound it makes. *Pitch* is the name for how high or low a sound is.

The number of vibrations per second is called frequency. Scientists measure frequency using a unit called the hertz. One hertz is equal to one vibration per second. Most people hear sounds that have frequencies from about 20 hertz to 20,000 hertz.



Hearing High-pitched Sound

Sound that is too high-pitched for people to hear is called ultrasound. In other words, sounds with frequencies higher than 20,000 hertz is considered ultrasound. Different animals, such as bats and dolphins, can hear ultrasound. Many kinds of bats can hear 120,000 hertz. Some can even hear up to 210,000 hertz. Dolphins can hear sound as high as 150,000 hertz.

Using Echolocation

Bats and dolphins use ultrasound to locate things in the dark. Using sound to find things is called echolocation. Bats send out high-pitched squeaks. Then they listen to the echoes bouncing off insects. That helps them find the insects.

Dolphins also use echoes to find food. They make clicking sounds. Dolphins listen to the echoes that bounce off the fish. The shorter the time between the clicks and the echo, the closer they are to the fish. Dolphins can detect fish from 3 metres away.

Using Sonar

Fishing boats use ultrasound echoes to search for fish, too. The sonar instrument sends out a pulse of sound and receives echoes from fish and the ocean floor.

Bats and dolphins use ultrasound naturally. Fishermen have to rely on sonar equipment.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

What is Ultrasound? Questions

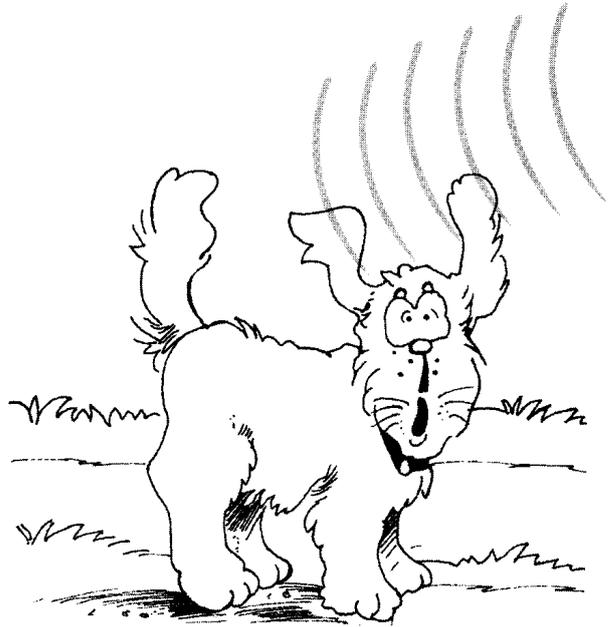
1. Sound is made when something vibrates, or moves _____.
 - (A) slowly through the air
 - (B) quickly through the air
 - (C) backward and forward very slowly
 - (D) backward and forward very quickly
2. Scientists measure frequency using the unit called _____.
 - (A) a second
 - (B) a foot
 - (C) a hertz
 - (D) a meter
3. People can hear sounds that have frequencies from about _____ to _____ hertz.
 - (A) 10; 1,000
 - (B) 20; 20,000
 - (C) 150; 150,000
 - (D) 7,000; 210,000
4. What is *sonar*?
 - (A) It is natural sound coming from the ocean floor.
 - (B) It is another word for the frequency of sound.
 - (C) It is an instrument that uses sounds and echoes to locate underwater objects.
 - (D) It is an instrument that helps keep dolphins away from the fishing boats.
5. Which of these statements is not true about ultrasound?
 - (A) It is sound with a frequency higher than 20,000 hertz.
 - (B) It is too low-pitched for humans to hear.
 - (C) It is too high-pitched for humans to hear.
 - (D) Bats and dolphins use ultrasound to locate food.

Seeing with Sound

Have you ever watched a dog perk up its ears and bark at the air? That dog has just heard a sound that is too high-pitched for you to hear.

The Science of Sound

Objects that are vibrating, moving back and forth quickly, make sounds. Rhythmic sound vibrations produce sound waves. Sound waves travel in every direction, like ripples in a pond after a rock is thrown in. The frequency of a sound is the number of waves that pass a given point each second. The more rapidly an object vibrates, the greater the frequency of sound it makes. Frequency is measured in hertz. One hertz equals one sound wave per second.



The frequency of sound determines the degree of highness or lowness of the sound. A high-pitched sound has a higher frequency than a low-pitched sound. Humans hear sounds that have frequencies from about 20 hertz to 20,000 hertz.

Seeing with Sound

Sound with a frequency higher than 20,000 hertz is called ultrasound. In other words, ultrasound is too high-pitched for humans to hear. However, many animals can hear ultrasound. Bats can hear higher sounds than any other animal. Some can hear up to 210,000 hertz. Bats send out lots of high-pitched squeaks and then listen to the echoes bouncing off things like insects. The shorter the time interval between the squeak and the echo, the closer they are to the insect. Using sound to find or “see” things is called echolocation.

Dolphin Sounds

Another animal that uses ultrasound is the dolphin. Dolphins can hear sounds up to about 150,000 hertz. Dolphins use sound waves to find food underwater. They make clicking sounds that hit whatever is around them and then bounce back to the dolphins. Dolphins can send as many as 2,000 clicks per second. Dolphins’ ultrasound ability is so sensitive that they can detect small fish from 3 metres away.

Now what about that dog that heard a sound that you did not? The sound was his owner using an ultrasonic whistle to call him home. Because dogs can hear up to 50,000 hertz, the dog at the park will head home.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Seeing with Sound Questions

1. The frequency of a sound is the number of sound waves that pass a given point each _____.
 - (A) second
 - (B) minute
 - (C) hour
 - (D) day
2. Which of these statements is true about the frequency of sound?
 - (A) Frequency is measured in hertz per minute.
 - (B) A high-pitched sound has a lower frequency than a low-pitched sound.
 - (C) People can hear sounds that have frequencies up to 20,000 hertz.
 - (D) Sound with a frequency higher than 20,000 hertz is called vibration.
3. To be able to hear ultrasound, you must be able to hear _____.
 - (A) less than 10,000 hertz
 - (B) less than 20,000 hertz
 - (C) exactly 20,000 hertz
 - (D) more than 20,000 hertz
4. Which animal can hear the highest ultrasound?
 - (A) a bat
 - (B) a dog
 - (C) a dolphin
 - (D) a human
5. Which of these statements is an example of *echolocation*?
 - (A) The bat caught the insect in midair and flew off to eat it.
 - (B) The dolphin made clicking sounds that bounced off the fish and back to it.
 - (C) The person heard an echo when he shouted into the canyon.
 - (D) The dog heard his owner's ultrasonic whistle because he used ultrasound.

Ultrasound and Its Many Uses

Ultrasound is sound that is too high-pitched for humans to hear. The highest sounds people can hear are around 20,000 hertz. So, frequencies higher than 20,000 hertz are considered ultrasound.

Echolocation

Although inaudible to humans, ultrasonic waves can be heard by some animals. For example, bats travel and locate their prey by echolocation. The bat emits ultrasonic squeaks and, from the echoes received by their large ears, senses the position and distance of the insect. Many bats can hear sounds from 120,000 hertz to 210,000 hertz. This high range gives bats a distinct advantage over the insect.

Dolphins also use echolocation to hunt for food underwater. Because sound travels five times faster under water than through air, echolocation is effective for them. Dolphins send out high-pitched clicking sounds. The clicking sounds reflect off the prey, producing echoes. Dolphins hear the echoes and use them to determine the direction and distance to the reflecting fish. Dolphins can send as many as 2,000 clicks per second. So, in one second, the dolphin can determine the size, shape, speed, and direction of its prey.

New Inventions

Bats and dolphins use ultrasound for survival. People have come up with ways to use ultrasound to create new inventions. Sonar is a device that uses sound energy. Sonar stands for sound navigation and ranging. The military uses sonar to locate ships, submarines, and underwater mines. Scientists use sonar to measure the depth of the ocean, and fishing boats use sonar to detect schools of fish.

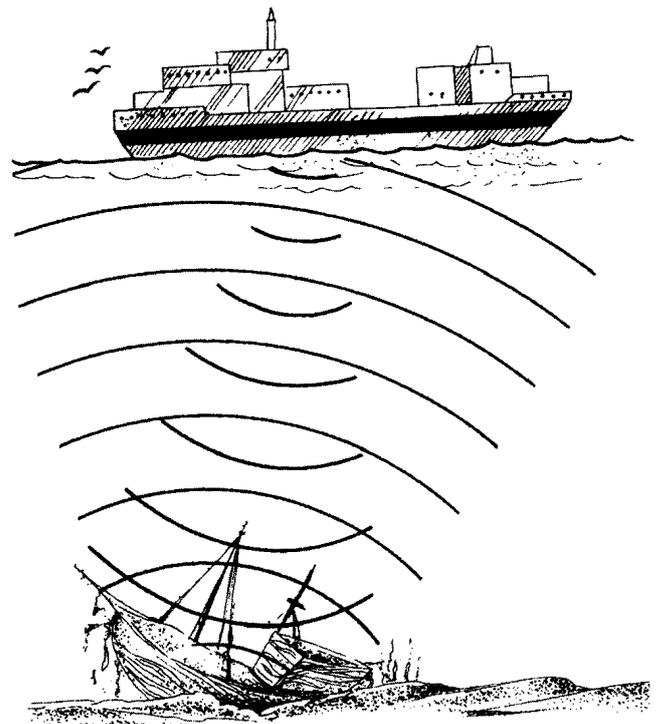
Medical Uses

Ultrasound machines are used to detect the heartbeat of unborn, developing babies. Other ultrasound machines produce images of the unborn baby to check on the baby's progress. Ultrasound machines can detect other problems such as cancer in adults, too. The advantage of the ultrasound is that no surgery is required to diagnose the problem.

Other Practical Uses

Burglar alarms, automatic door openers, and machines that cut metal all use ultrasound. Ultrasonic cleaning instruments use sound waves to loosen dust in many electronic components and to even clean your teeth.

Now that you know all about ultrasound, you need to research infrasound.



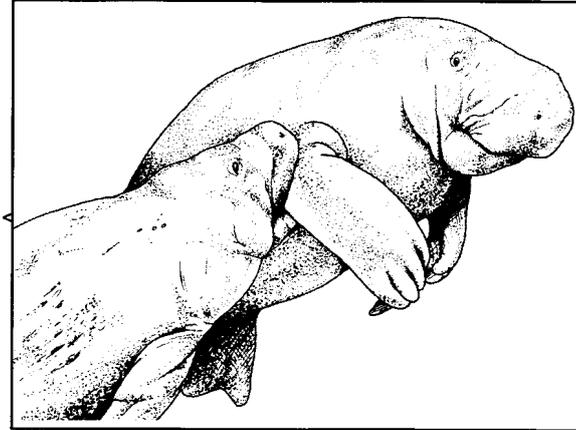
Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

What is Ultrasound Questions

1. What is *ultrasound*?
 - (A) It is sound that is too high-pitched for humans to hear.
 - (B) It is sound that humans, bats, and dolphins hear.
 - (C) It is echolocation without sonar.
 - (D) It is the same as infrasound.
2. Which group of words best describes the term *echolocation*?
 - (A) sonar, sound navigation, and ranging
 - (B) hertz, second, and distance
 - (C) ultrasonic waves, echoes, and reflection
 - (D) clicks, squeaks, and high-pitched sounds
3. Which is one way the military uses sonar devices?
 - (A) to calculate the depth of the ocean
 - (B) to locate underwater mines
 - (C) to detect schools of fish
 - (D) to clean the electronic components aboard ships
4. Which of these uses for ultrasound was not mentioned in the article?
 - (A) to produce images of unborn, developing babies
 - (B) to detect cancer and other diseases
 - (C) to clean instruments and teeth
 - (D) to detect flaws in metal parts
5. If ultrasound is sound that is too high-pitched for humans to hear, it must be _____.
 - (A) at a pitch that humans can hear
 - (B) too low-pitched for humans to hear
 - (C) too many sounds that blend together
 - (D) inaudible to any animals

Bonus: Navy ships use sonar along the migratory routes of whales. Ultrasound waves seem to disorient the whales. Environmentalists want them to stop using sonar along this route. The navy says it must use sonar to protect our coastline from threats of terrorism. On the back of this page, write your opinion about this problem and include any solution you think would solve this dilemma.

Dugongs of the Sea



A female dugong carries her calf for over a year before giving birth.

Dugongs are called the gentle giants of the sea. They are also known as sea cows. Unlike the dinosaurs, they have managed to survive for 60 million years.

Dugongs are found in the warm waters of northern Australia. This includes the entire Queensland coast, Northern Territory and the northern half of Western Australia starting at Shark Bay. Other types known are Manatees, found along the coasts of north eastern South America, western Africa, and the south eastern United States. They vary slightly in size and appearance.

Water Mammals

Dugongs are large slow-moving water mammals. They have light to dark grey wrinkled skin. Bristly hairs cover their bodies. Their front legs are paddle-shaped, and their tails are fluked. They do not have hind legs. Dugongs grow up to 3 metres long and weigh up to 400 kilograms.

For much of the day, dugongs lie on the seabed. They rise to the surface every couple of minutes to breathe. At night, they feed on aquatic plants and algae.

Good Mothers

Female dugongs give birth to a single calf only every three to seven years. Calves can weigh about 30 kilograms at birth. Calves drink their mother's milk. But a few weeks after birth, they are able to eat aquatic plants. Female dugongs show their calves how to breathe. They sometimes keep the calves near the surface to help them breathe. Dugongs can suffer if the water is colder than 20°C (68°F). So mothers also teach their calves how to migrate to fresh warmer waters.

Gentle Giants in Trouble

Dugongs are social animals and live in family groups. Because they are so gentle and slow-moving, dugongs are subject to dangers. Pollution is destroying their natural feeding areas. Speedboat accidents are the leading cause of death for dugongs. Without help, the dugongs may go the way of the dinosaurs.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Dugongs of the Sea Questions

1. A *dugong* is _____.
 - Ⓐ an amphibian
 - Ⓑ a fish
 - Ⓒ a reptile
 - Ⓓ a mammal

2. Dugongs are known to be _____.
 - Ⓐ gentle and slow-moving
 - Ⓑ vicious and fast
 - Ⓒ meat-eaters
 - Ⓓ small compared to fish

3. The largest dugongs can grow up to _____ long and weigh as much as _____.
 - Ⓐ 3 m; 400 kg
 - Ⓑ 4 m; 1,600 kg
 - Ⓒ 5 m; 1,800 kg
 - Ⓓ 6 m; 2,250 kg

4. Which of these sentences is not true about dugong calves?
 - Ⓐ Calves can weigh about 30 kg at birth.
 - Ⓑ Young calves drink their mother's milk.
 - Ⓒ Female dugongs can give birth to six calves.
 - Ⓓ Female dugongs teach their calves how to surface to breathe.

5. Which of these is the leading cause of death for dugongs?
 - Ⓐ speedboat accidents
 - Ⓑ pollution
 - Ⓒ shark attacks
 - Ⓓ human hunting

The Apollo 13 Mission

Imagine yourself 200,000 nautical miles (370,400 km) from Earth floating through space with no real plan for return. Now imagine being freezing cold, hungry, and dying of thirst. Sound hopeless? The crew of Apollo 13 faced these odds and lived to tell about it!

The Launch

When Apollo 13 launched into space on April 11, 1970, America was almost bored with space missions. Two other spacecrafts had already landed on the moon. Both had returned safely. No one was prepared for the drama about to unfold.

The Warnings

Training for the lunar mission was intense. Days before the Apollo 13 mission, the worst happened to the Command Module pilot. Ken Mattingly was pulled from the crew. He was exposed to the measles and had no immunity to the disease. Mattingly was replaced by a backup pilot.

Another bad sign was present. The No. 2 oxygen tank had trouble before the flight. In fact, it had been removed from Apollo 10. It failed tests before the launch of Apollo 13. Why didn't anyone fix it? NASA thought that it had.

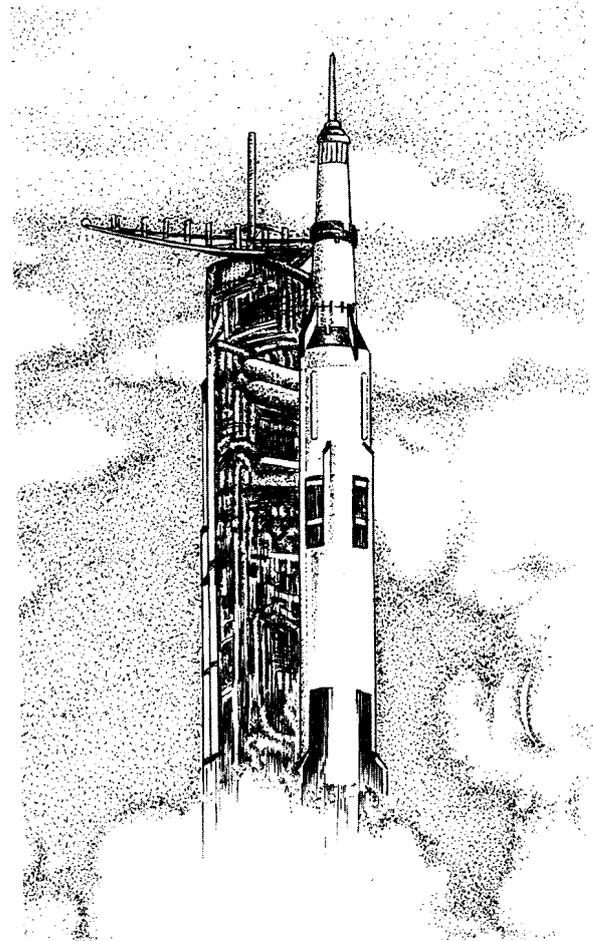
The Accident

Fifty-six hours into the mission, the No. 2 oxygen tank exploded in the Service Module section. The explosion damaged the No. 1 oxygen tank, too. The supply of electricity, light, and water was soon lost. The three astronauts—James Lovell, John Swigert, and Fred Haise—knew they were in serious trouble!

The biggest goal was to get the crew back to Earth alive. Ground Control in Houston had to think of a way to bring them home safely. The astronauts could only use supplies that were onboard to solve the problem.

The Landing

Ground Control and the astronauts did some quick thinking. The crew moved from the damaged Command and Service Module into the Lunar Module. They used the Lunar Module as their "lifeboat." Using the sun as a guide, the crew burst back into Earth's atmosphere. The crew landed safely in the South Pacific. The mission was a "successful failure" because the astronauts survived.



Apollo 13's mission was to land on the moon.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Apollo 13 Mission Questions

1. How many nautical miles from Earth was Apollo 13 when the explosion occurred?
 - (A) 2,000
 - (B) 20,000
 - (C) 200,000
 - (D) 2,000,000
2. Which of these is a synonym for the word *lunar*?
 - (A) sun
 - (B) star
 - (C) spacecraft
 - (D) moon
3. Which of these is true about the space crew of Apollo 13?
 - (A) The original training crew went into space.
 - (B) Three astronauts were part of the Apollo 13 crew.
 - (C) Ken Mattingly became the new Command Module pilot on the mission.
 - (D) The crew landed safely in the Atlantic Ocean.
4. Which gas leaked as a result of the explosion?
 - (A) carbon dioxide
 - (B) hydrogen
 - (C) carbon monoxide
 - (D) oxygen
5. The mission was labelled _____.
 - (A) a successful failure
 - (B) a disaster
 - (C) a success
 - (D) a failure

The Truth About Smoking

True or false? Nicotine can be as addictive as cocaine and heroin. Everyone tries it, right? So, what's the big deal? It can't be that bad for you! The answer is false. Nicotine is a powerful drug that steals lives.

What is nicotine?

Nicotine is a highly addictive drug that grows naturally in the tobacco plant. Tobacco is used to make cigarettes, cigars, and chewing tobacco. People have smoked tobacco for thousands of years, but it has only been in the last century that tobacco-related deaths have skyrocketed.

Why is it more deadly today?

Nicotine has always been a powerful drug. However, the invention of a machine that rolls cigarettes made tobacco easier for people to smoke. As the number of cigarette sales increase, so do the number of deaths caused by cigarettes.

Why do teens smoke?

Most people (even teens!) who smoke wish that they could quit. Most people who smoke begin long before they finish high school. In fact, the average new smoker is 13 years old. They may start smoking because they want to look cool or to fit in. They may also start smoking because a parent smokes. If a parent smokes, kids are 10 times more likely to become smokers.



Many non-smokers say that smokers smell bad.

Advertising has had a direct impact on teens. The media often portrays smoking as glamorous or cool, so young kids try to imitate the stars they see smoking. What they don't know is that many of those stars don't smoke in real life! Cigarette ads also associate smoking with independence, adventure, and physical beauty.

How can you avoid it?

It may seem like the odds are stacked against you. After all many kids start to smoke every day! Peer pressure can be very strong, but not everyone does it. In fact, 87 percent of adolescents don't smoke at all. If you can make it past high school graduation without lighting up, you probably never will!

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

The Truth about Smoking Questions

1. As the number of cigarette sales increase, so do the number of _____.
 - Ⓐ car accidents
 - Ⓑ injuries caused by cigarettes
 - Ⓒ deaths caused by cigarettes
 - Ⓓ people who try to quit smoking
2. *Nicotine* is a drug that grows in the _____ plant.
 - Ⓐ cigarette
 - Ⓑ marijuana
 - Ⓒ cocaine
 - Ⓓ tobacco
3. When do most people start smoking?
 - Ⓐ before they finish high school
 - Ⓑ during university
 - Ⓒ after they get married
 - Ⓓ after they have children
4. Which of these is a synonym for the word *adolescents*?
 - Ⓐ toddlers
 - Ⓑ children
 - Ⓒ teenagers
 - Ⓓ adults

The Rotten Reality

Would you like to suffer from respiratory problems, asthma, chronic cough, and increased phlegm production? Would you like to face chronic bronchitis, emphysema, and lung cancer later in life? If you answered no, then don't smoke!

The Big Stink

Besides the horrible conditions and diseases you can develop, you will also stink! Most people know that smoking stinks, floods the air around the smoker, and sinks into the clothing and hair of anyone nearby. Smoking is particularly nasty in its effects on the smoker. It stains the teeth yellow; dries out the hair, lips, and skin; and causes bad breath. It can even cause sores, white spots, and bleeding in the mouth. Not grossed out yet? Add oral cancer to that mental image.



Young children who live in smoky homes have more frequent colds, coughs, and ear infections.

Nicotine Destroys

Nicotine, the addictive drug found in tobacco, destroys the human body. Imagine your body rotting from the inside out.

Nicotine destroys the lungs and heart. It nourishes cancer growth. Besides lung cancer, cancers of the mouth, pharynx, larynx, oesophagus, pancreas, uterus, cervix, kidney, and bladder are associated with smoking.

Not Me!

Even casual smokers are at risk. Some symptoms begin as early as the first puff of the first cigarette! Some of these are shortness of breath, coughing, nausea, and dizziness.

Smoking is extremely addictive, too. It traps many kids, even if they don't plan to be real smokers. In fact, most kids who smoke are addicted. Most of them wish they could quit, but it's not easy to do. According to a recent survey, 40 percent of kids who smoke said that they tried to quit but couldn't.

Don't Get Left in the Smoke

The next time you think someone looks cool smoking, think again. Kids who smoke usually have low self-esteem. They usually have lower grades in school than kids who don't smoke. Believe it or not, kids who smoke usually start because they want to fit in. So, set your own trend. Instead of getting caught in an addiction, choose to be smoke-free! Don't light up!

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

The Rotten Reality Questions

1. Which of these conditions is not an effect of smoking?
 - Ⓐ stained teeth
 - Ⓑ oily skin
 - Ⓒ mouth sores
 - Ⓓ bad breath
2. Nicotine is _____ and _____ cancer growth.
 - Ⓐ addictive, nourishes
 - Ⓑ trendy, fights
 - Ⓒ smoky, prevents
 - Ⓓ horrible, destroys
3. What percentage of kids who smoke say they tried to quit but couldn't?
 - Ⓐ 10
 - Ⓑ 20
 - Ⓒ 40
 - Ⓓ 70
4. Kids who smoke usually have _____.
 - Ⓐ higher grades in school
 - Ⓑ high self-esteem
 - Ⓒ an easy time quitting
 - Ⓓ low self-esteem

Safe Surfing

Surfing isn't just an ocean sport anymore. With a computer and a phone line, kids are surfing the Internet all over the world. Just like water surfing, however, sharks are circling on the Web, too.

Words for the Wise

If you are computer literate, you are already way ahead of many adults. You may think that surfing the World Wide Web is easy. You may think that nothing can harm you in the safety of your own home. Computer predators are modern burglars. Here are some tips to help you surf safely.

Safety Rules for Surfing

Before logging on, be sure your parents know what you are doing. It's even a good idea to have them spend time with you online. They might learn something from you! Remember, parents can often sniff out a rat. They've been screening telemarketers' calls for years!

Keeping your true identity safe is important. Even if you have your own e-mail address, use your family's address when dealing with anyone new. E-mail addresses are often sold. You could end up with a lot of junk mail, or spam, in your inbox.

Also, never give out your personal information without asking your parents. Some people will use your phone number to find out where you live. They may use the name of your school to figure out who you are. They may even be able to find out who you are by using your parents' work address.

More Safety Rules

Children and young teens are constantly given more and more rules. But this is one of those times when people do have your best interest at heart. The truth is that children can be targets of criminals when they are online. Just remember not to believe everything you read online. Anyone in the world can publish material on the Internet. You're smart. You can figure it out.

Go ahead and read movie reviews and news reports. Communicate through e-mail with your family and friends. Play games or visit a virtual museum. Just remember to play it safe!



Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Safe Surfing Questions

1. If you are *computer literate*, you _____.
 - Ⓐ don't know how to use the computer very well
 - Ⓑ are just learning how to use the computer
 - Ⓒ know a lot about computers
 - Ⓓ are an expert at computers

2. When people say they are *surfing the Net*, they are _____.
 - Ⓐ checking out sites online
 - Ⓑ playing games on the computer
 - Ⓒ using a word-processing program
 - Ⓓ working on a report about surfing

3. Which of these statements is an Internet safety rule?
 - Ⓐ You need to log in to access the World Wide Web.
 - Ⓑ You need to be safe when you are on the Internet.
 - Ⓒ Never give out personal information on the Internet.
 - Ⓓ Never tell your friends what you are researching on the Internet.

4. Which of these statements is not true about the Internet?
 - Ⓐ You can find movie reviews on the Internet.
 - Ⓑ E-mail helps you to stay in touch with family and friends.
 - Ⓒ There are virtual museums to visit on the Internet.
 - Ⓓ You can believe everything you read on the Internet.

5. _____ is the most important rule to follow when you're on the Internet.
 - Ⓐ Spending time on the Internet
 - Ⓑ Playing it safe on the Internet
 - Ⓒ Knowing your e-mail address
 - Ⓓ Spending quality time on the Internet

Crossing the International Date Line

You have just passed over the International Date Line and you are heading east. You have to start the day over again. How is that possible?

Greenwich Mean Time

The sun reaches its highest point in the sky at different times in different areas of Earth.

A solar day is based on a

24-hour day, so that is why there are 24 worldwide time zones. These times follow the lines of longitude. The 24 time zones begin at the prime meridian in Greenwich, England.

Greenwich is at 0° . The mean solar time at the Greenwich meridian is known as Greenwich Mean Time.

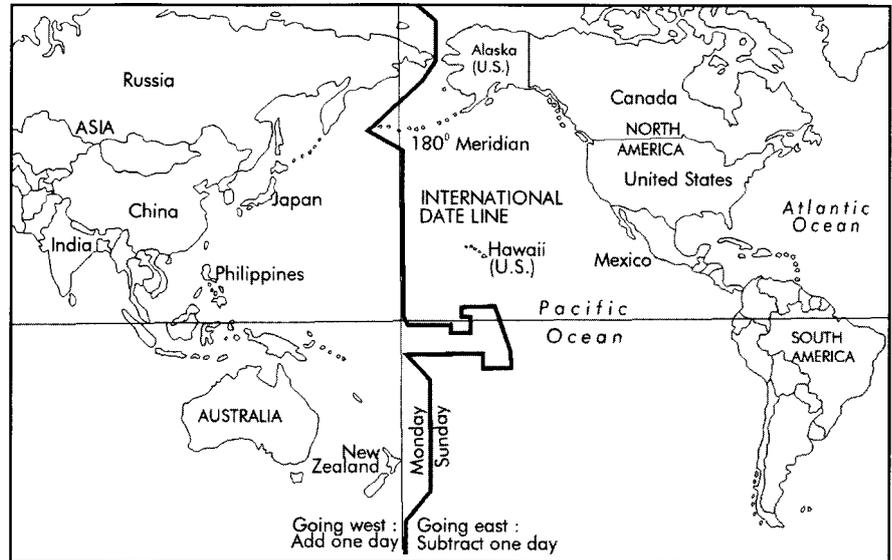
International Date Line

An international conference in 1884 set up 12 time zones west of Greenwich and 12 time zones east of Greenwich. Each of those time zones is spaced 15° of longitude apart. When you do the calculations, that means 24 time zones times 15° equals 360° around the globe. The 12th zone is divided in half by an imaginary line. This imaginary line is called the International Date Line. The line is halfway around the world from Greenwich, or roughly at 180° longitude.

Strange But True

If a traveler journeys from west to east and crosses the International Date Line, she loses a day. A traveler who crosses this line while traveling east to west, gains a day. Let's put it another way. When going west to east, a traveler loses one hour for each time zone she crosses. Going east to west, the traveler gains one hour for each zone she crosses.

Think about a globe. Pretend you want to go to Japan for a visit. You leave on a Sunday. Your pilot takes off and heads east. You will cross over the International Date Line and end up in Japan on Monday. On your return trip, the pilot heads out on a Sunday going west from Japan to the United States. You will fly over the International Date Line and you will arrive home on Saturday. It's strange, but true.



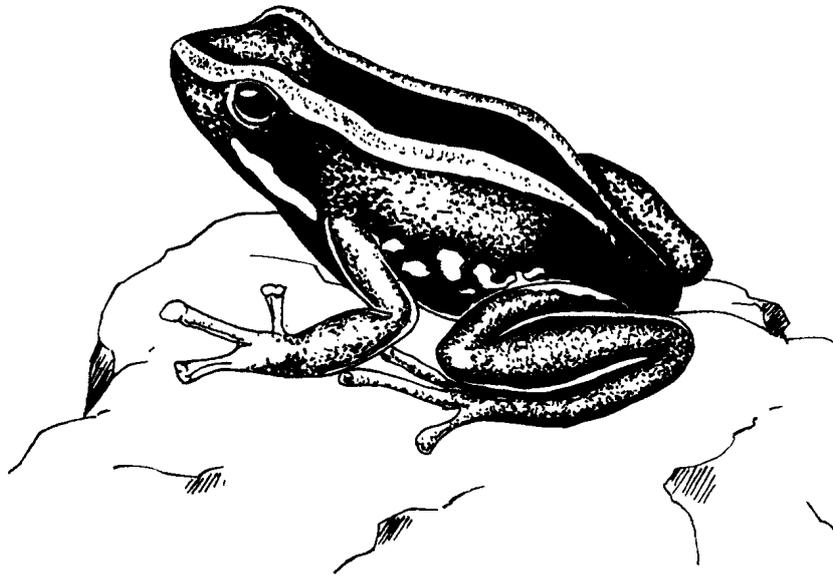
Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Crossing the International Dateline Questions

- The world is divided into _____ time zones.
 - 12
 - 24
 - 36
 - 48
- The *prime meridian* is an imaginary line located at _____.
 - 0° longitude
 - 0° latitude
 - 180° longitude
 - 360° longitude
- Standard time is called *Greenwich Mean Time* because _____.
 - there are 24 times zones
 - solar time is measured in degrees
 - Greenwich, England, is located at the prime meridian
 - Greenwich, England, is located at the International Date Line
- Which group of phrases best describes the International Date Line?
 - an imaginary line, halfway around the world from Greenwich, and 180°
 - an imaginary line, prime meridian, and date line
 - traveling east, traveling west, traveling south, and traveling north
 - solar time, measured in 15° segments, and 24 hours in a day
- Which of these statements is true about the International Date Line?
 - If you go from west to east and cross the International Date Line, you gain a day.
 - If you go from east to west and cross the International Date Line, you lose a day.
 - If you go from east to west and cross the International Date Line, you gain a day.
 - It does not matter which direction you go, you will always lose a day.

Rainforest Gems

Rain drips from broad leaves in the green rainforest. Many animals hide in the leaves. Some only come out at night. One animal does not hide. It hops and climbs about all day. It does not fear other animals. Its bright colours shine like gems. Those colours warn other animals to stay away.



The poison dart frog does not need to hide.

This colourful creature is not a butterfly or a bird. It is a frog. Birds, snakes, and other animals like to eat frogs. Most learn to leave this tiny gem alone. Their mouths go numb if they take a bite. Their muscles freeze up. Their hearts stop beating, and they die. This deadly little gem is called the poison dart frog.

Poison dart frogs come in all kinds of bright colours. They can be yellow, red, orange, blue, green, or black. Many have patterns. They may have spots, stripes, or bands. Their bright colours say, "Don't eat me! I'm deadly." Most rainforest animals learn to stay away.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Rainforest Gems Questions

1. The rainforest animal that does not hide is the _____.
Ⓐ jaguar
Ⓑ poison dart frog
Ⓒ snake
Ⓓ sloth
2. If an animal eats a poison dart frog, its _____.
Ⓐ mouth bleeds
Ⓑ muscles shake
Ⓒ heart stops beating
Ⓓ heart beats fast
3. Poison dart frogs are known for their _____.
Ⓐ bright colours
Ⓑ ability to hide
Ⓒ big size
Ⓓ fear of other animals
4. Many poison dart frogs have _____.
Ⓐ warts
Ⓑ dull colours
Ⓒ sharp teeth
Ⓓ spots, stripes, or bands
5. Most animals avoid poison dart frogs because they are _____.
Ⓐ scary
Ⓑ deadly
Ⓒ tiny
Ⓓ ugly

Tiny and Terrible



The “terrible” poison dart frog is only 5 cm long.

A tiny creature lives in the rainforest of South America. It is only 5 cm long. It is a beautiful golden-yellow frog. This tiny frog is the most deadly animal in the forest. Its wet skin oozes poison. One drop of this poison can kill an adult.

The golden-yellow frog lives only in Colombia. Its name in Spanish means “terrible”. It is a poison dart frog. There are 140 kinds of poison dart frogs in the rainforest. They come in many bright colours, from

red to blue to orange. The poison of these tiny frogs protects them from other animals. Although birds or snakes could snap them up in a single bite, they do not. They know that the bright colours mean danger.

The poison that protects the dart frog makes it useful to humans. Natives of the rainforest dip their darts in the frog’s poison. They hold down a frog with a stick. They rub a dart across the frog’s back. Then they shoot their darts from blowguns. Monkeys and even jaguars can be killed with a single dart. In fact, one dart rubbed in the poison of the golden-yellow dart frog can kill 20,000 mice. That makes this beautiful frog the tiny terror of the rainforest.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Tiny and Terrible Questions

1. The most deadly animal in the rainforest is the _____.
 - Ⓐ piranha
 - Ⓑ jaguar
 - Ⓒ poison dart frog
 - Ⓓ sloth
2. The golden-yellow dart frog is only _____.
 - Ⓐ 5 cm long
 - Ⓑ 30.5 cm long
 - Ⓒ 51 cm long
 - Ⓓ 61 cm long
3. How do humans use poison dart frogs?
 - Ⓐ They roast them on sticks and eat them.
 - Ⓑ They feed them to jaguars and monkeys.
 - Ⓒ They rub their poison on the darts they use to hunt.
 - Ⓓ They use them to make medicines.
4. How many kinds of poison dart frogs live in the rainforest?
 - Ⓐ 14
 - Ⓑ 140
 - Ⓒ 1,400
 - Ⓓ No one knows for sure.
5. The golden-yellow dart frog is called “terrible” because _____.
 - Ⓐ one dart rubbed on its back can kill 20,000 mice
 - Ⓑ it is big and scary looking
 - Ⓒ it only lives in Colombia
 - Ⓓ it is colourful

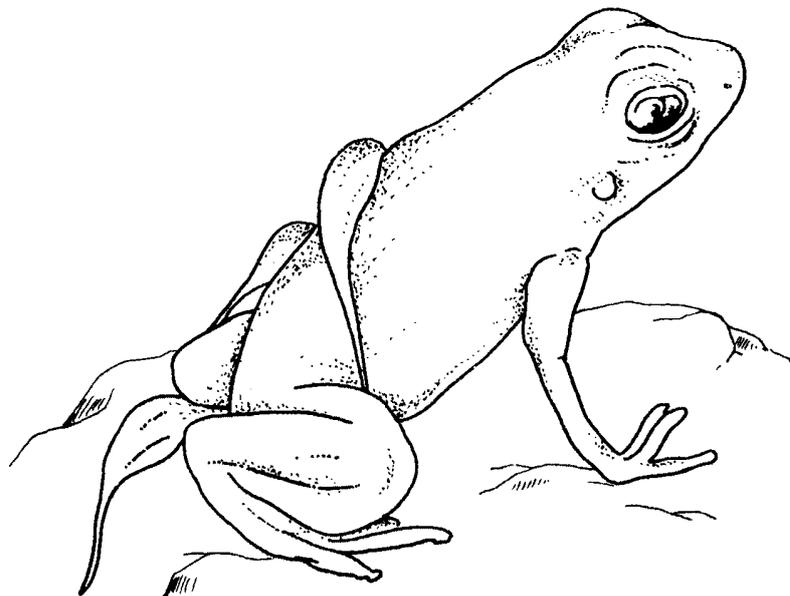
The Food Makes the Frog

Some say you are what you eat. In the case of the poison dart frog, that may be true. Poison dart frogs live in the rainforests of South America. They are small, colourful frogs. Some are as small as a cricket. The biggest ones reach only 5 cm in length. They have bright colours and lively patterns. They even have colourful names like “strawberry frog” and “pink leopard”.

Poison dart frogs get their name from the toxins in their skin. These poisons can kill animals who eat them. Some can also kill people who touch them. Being deadly allows them to do things differently than other frogs. They hop about during the day, because they don't have to hide from other animals. Their bright colours warn other animals away.

Poison dart frogs make great parents. After the male fertilises the female's eggs, the frog parents stick around. When the tadpoles hatch, they hitch a ride on Mum or Dad's back. Their parent carries them to a pool inside a plant's leaves. The tadpoles swim in their pool until they grow big enough to leave.

Poison dart frogs don't become deadly until they are fully grown. Captive dart frogs do not make poisons at all. Scientists think that something in the rainforest makes them poisonous. One of their favourite foods is a kind of ant. The ants contain poisonous chemicals in their bodies. When dart frogs eat the ants, the poisons build up in their skin. They become poisonous, just like what they eat.



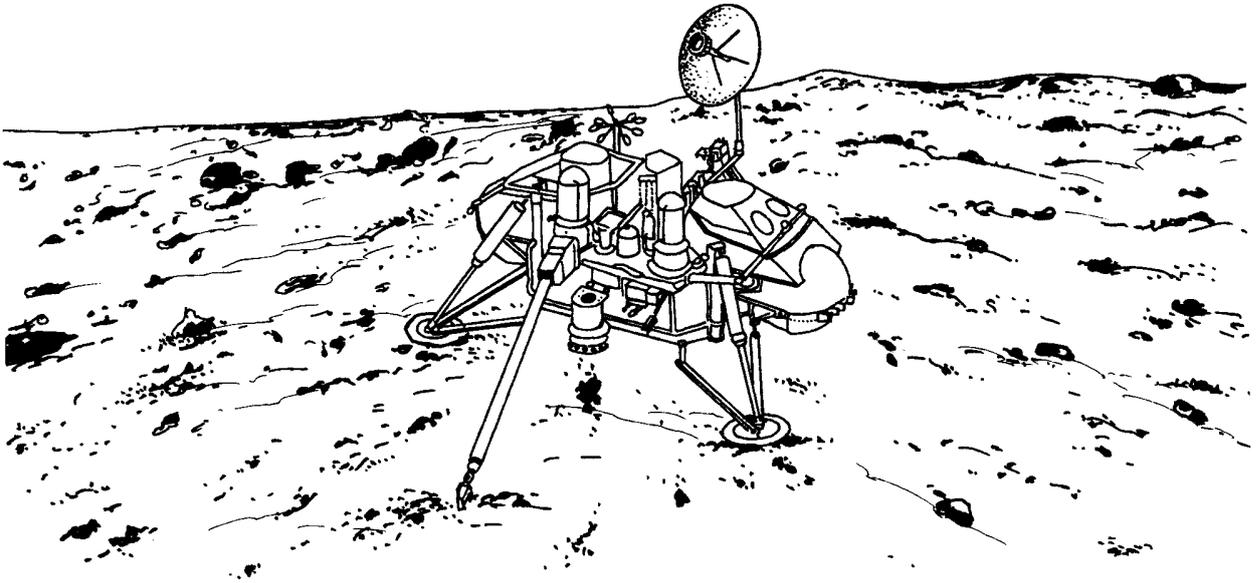
Tadpoles hitch a ride on Mum's back.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

The Food makes the Frog Questions

1. Where can poison dart frogs be found?
 - (A) in the mountains
 - (B) in the rainforest
 - (C) in the desert
 - (D) in the woodland forest
2. What can poison dart frogs do that many other frogs cannot?
 - (A) hop about during the day
 - (B) lay eggs
 - (C) swim
 - (D) eat insects
3. What do scientists think makes dart frogs poisonous?
 - (A) the crickets they eat
 - (B) their bright colours
 - (C) the ants they eat
 - (D) the plants they sit on
4. Which word means the same as **poison**?
 - (A) antidote
 - (B) cure
 - (C) disease
 - (D) toxin
5. Which group of words has something to do with the life cycle of the poison dart frog?
 - (A) poison, toxin, chemical
 - (B) cricket, leopard, strawberry
 - (C) fertilise, hatch, tadpole
 - (D) eat, sleep, hunt

Helpful Robots



A robot helper explores the planet Mars.

Not all work is safe for people to do. Sometimes robots take over. Robots are special machines. They have computers inside them. They can move. They have sensors that let them see, hear, and touch things. People program robots to do things for them.

Robots were once used for simple tasks. They could drill holes. They could spray paint. They could put together cars. They took over the jobs people did not want to do.

Now robots take on more complex tasks. They go into volcanoes to sample gases. They explore deep oceans. They collect rocks from distant planets. They help doctors operate on patients. They search for people trapped in collapsed buildings. Some robots can even find bombs.

Robots can go where it is not safe for people. Robots are our helpers.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Helpful Robots Questions

1. Robots take over work that is _____.
 - (A) not important
 - (B) not safe for people to do
 - (C) too easy for people to do
 - (D) too costly
2. Robots can see and hear things because they have _____.
 - (A) sensors
 - (B) eyes and ears
 - (C) brains
 - (D) moving parts
3. Robots are special machines that _____.
 - (A) look like humans
 - (B) have computers inside them
 - (C) feel love
 - (D) need food and water
4. Robots go into volcanoes to _____.
 - (A) collect rocks
 - (B) search for people
 - (C) look for animals
 - (D) sample gases
5. Which word means the opposite of **simple**?
 - (A) easy
 - (B) understandable
 - (C) complex
 - (D) plain

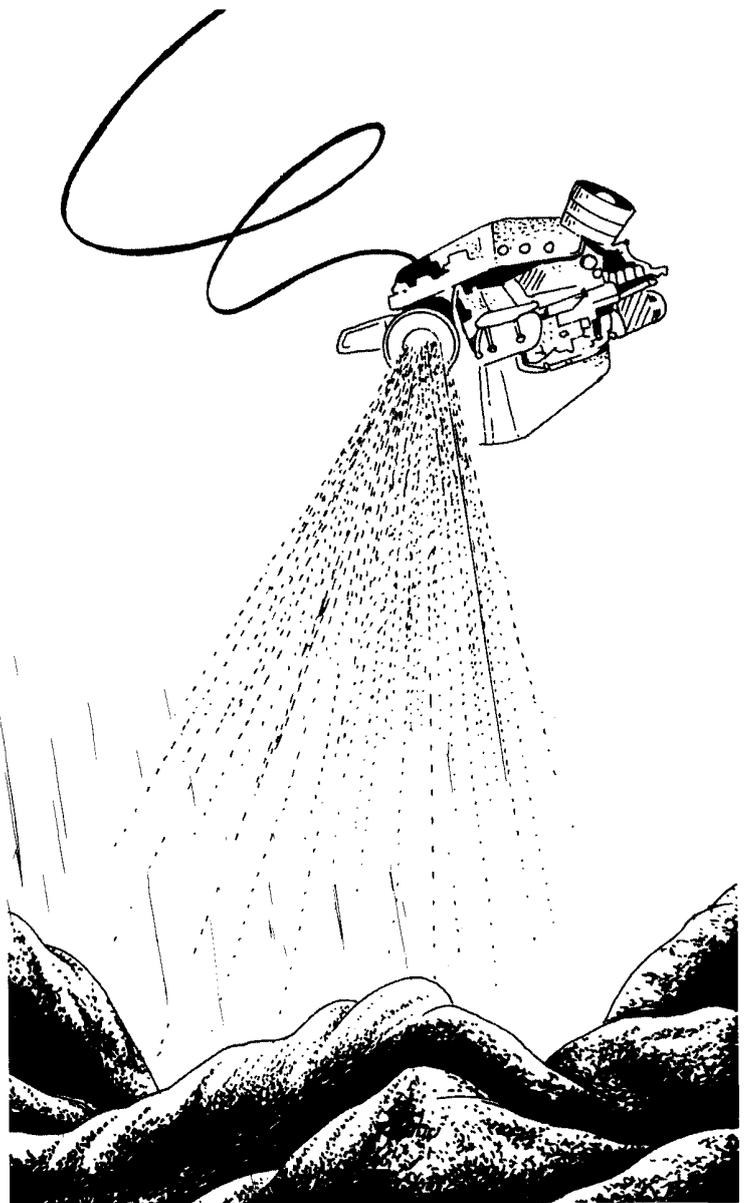
A Helping Hand

Robots used to run into rocks and keep bumping into them. A human had to help. Now robots have sensors. They can see rocks and other things in their way. They don't just bump into rocks. They go around them. Robots can also "feel" and "hear" things. With their new senses, robots can take over jobs that might hurt or even kill humans. It is their turn to lend a hand.

One of the biggest dangers robots have faced was in a nuclear power plant in the United States. After an accident, the building was a hundred times too risky for people. A robot went in to clean up the mess. Robots also faced danger in New York City. After the World Trade Centre towers fell, robots the size of shoeboxes went in. They searched through the rubble for victims.

Robots can explore places all over the earth that are not safe for humans. They can rumble down into volcanoes. They take samples of hot smoke and gas. They can dive deep into freezing oceans. They see the strange creatures living there. Robots can even explore other planets. They take rock samples. They read the temperature. They even take pictures.

When danger threatens, today's robots are ready to lend a hand.



A robot is exploring the deepest parts of the ocean.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

A helping hand Questions

1. Robots no longer bump into rocks, because they have _____.
 - Ⓐ ears
 - Ⓑ sensors
 - Ⓒ arms
 - Ⓓ eyes
2. One of the biggest dangers a robot has faced was in _____.
 - Ⓐ a nuclear power plant
 - Ⓑ the ocean
 - Ⓒ outer space
 - Ⓓ volcanoes
3. How do robots give a helping hand?
 - Ⓐ They hand over the jobs to humans.
 - Ⓑ They see rocks in their way.
 - Ⓒ They do dangerous jobs for humans.
 - Ⓓ They act like humans.
4. Which one of these senses do some robots have?
 - Ⓐ sight
 - Ⓑ smell
 - Ⓒ taste
 - Ⓓ feelings
5. Robots explore volcanoes, oceans, and other planets to _____.
 - Ⓐ find creatures
 - Ⓑ put out fires
 - Ⓒ take samples
 - Ⓓ save people

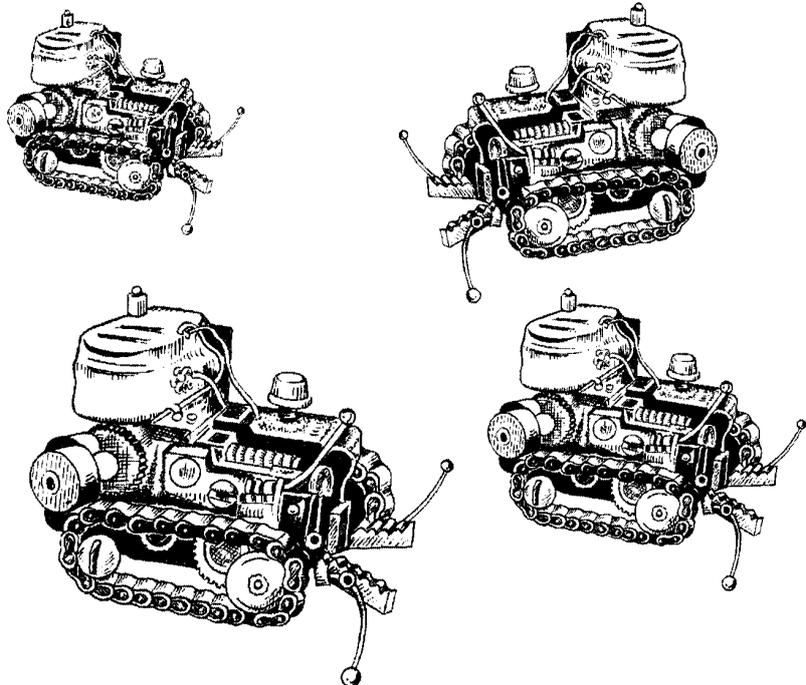
Bugbots, Antbots, and Slugbots

Robots are machines that can take the place of people. At first, people thought robots should look like humans. They soon learned that walking upright is too tough for robots. Today, robots might have lots of legs, like insects. They might run along on tracks, like a tank. These new kinds of robots don't look anything like humans. But they're still designed to give humans a helping hand.

The first bugbot was built in 1988. Like an insect, it did not have a central brain. Instead, it had sensors all over its body. These sensors let the bugbot scuttle about like an insect. In the future, bugbots may be the first ones to crawl into the rubble to find earthquake victims. They may creep into pipes to check for leaks. Whatever they do, don't squash them. They're only trying to help.

Antbots look something like tiny tanks with feelers. These feelers can sense light and heat. Antbots can tell if they're about to run into something. They can even send out messages to other antbots. The scientist who created the antbot wants to teach them how to work together, like real ants. Once they learn to work together, these little robots may go to work helping people.

Slugbots are another robot helper. They are about the size of a lawn mower. They have a long arm. The arm shines red light on the ground. That lets it find slugs. Once it finds a slug, the slugbot picks it up. Picking up slimy slugs is something people don't want to do. Someday soon, slugbots may also lend a helping hand.



Antbots may someday work together, just like ants.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Bugbots, Antbots and Slugbots Questions

1. What are robots?
 - (A) machines that can take the place of people
 - (B) machines that always look like humans
 - (C) machines that walk upright, like people
 - (D) machines that people do not like
2. Bugbots, antbots, and slugbots are _____.
 - (A) animals
 - (B) toys
 - (C) insects
 - (D) robots
3. What does the inventor of the antbot want to teach them to do?
 - (A) to work together
 - (B) to gather food
 - (C) to build anthills
 - (D) to chase insects
4. Which word means the same as **scuttle**?
 - (A) carry
 - (B) hurry
 - (C) hop
 - (D) jump
5. Which kind of robot picks up slimy creatures?
 - (A) antbot
 - (B) bugbot
 - (C) slugbot
 - (D) robot helpers

Noise Pollution

Some parts of your ear are inside your head. These parts let you hear. They are safe there. That doesn't mean they can't be hurt. They can, by loud noises. Loud noises are sometimes called noise pollution.

Noises are measured in decibels. A whisper is 15 decibels. A friend talking is about 60. A baby screaming can be 90. So can a lawn mower. A rock concert can be 120. A jet can, too. Any sound above 90 decibels can harm a person's hearing.

All people lose some hearing as they grow older. Some people lose more. Those who listen to loud music may have more hearing loss. Those who work around loud things like trains and jets may, too.

Earplugs can protect the hearing of people who work in noisy places. Other people must protect their hearing, too. Covering your ears when you are near a loud noise can help. Getting away from loud noises quickly can help, too. The less noise pollution a person hears, the better!



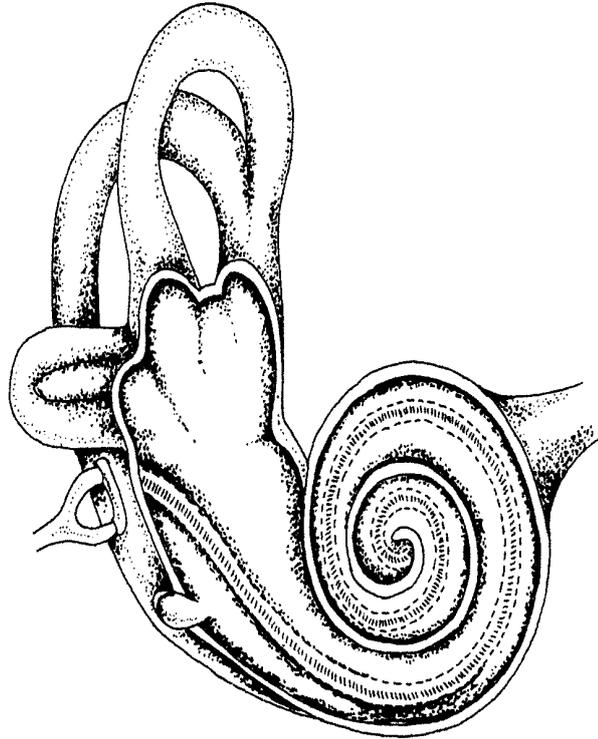
Keep out noise pollution!

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Noise Pollution Questions

- Noises are measured in _____.
 - (A) inches
 - (B) decibels
 - (C) decimals
 - (D) pounds
- Noises that can damage your hearing include _____.
 - (A) a rock concert
 - (B) a whisper
 - (C) a friend talking
 - (D) a parent reading to a child
- Sounds can damage your hearing if they are over _____.
 - (A) 60 decibels
 - (B) 70 decibels
 - (C) 90 decibels
 - (D) 120 decibels
- To protect their hearing, some workers wear _____.
 - (A) headphones
 - (B) earplugs
 - (C) earmuffs
 - (D) hats
- To protect your hearing, _____.
 - (A) cover your ears when you are near loud noises
 - (B) get away from babies
 - (C) talk to your friends
 - (D) only whisper to people

Hairs and Hearing



The tiny hairs inside the ear are called cilia.

Hearing is more important than you might think. Hearing the toot of a horn may warn of danger. Hearing an alarm ring may tell you it's time to get up. Hearing your teacher say, "Lunchtime!" can spread a big smile across your face.

Sounds are made when things vibrate, or move back and forth quickly. The outer parts of your ear funnel sound to the parts that let you hear. The eardrum is a flat, stretched-out piece of skin that separates the outer ear from the middle ear. When sounds hit the eardrum, it vibrates, too.

These vibrations pass along to three tiny bones called the hammer, anvil, and stirrup. They make the sounds louder. Sounds then move to a tube that looks like a shell, called the cochlea. It is filled with liquid. Sounds pulse through this liquid. They move the thousands of tiny hair-like cells there. These hairs send signals to the brain. The brain figures out what the sounds mean.

Loud sounds can hurt the tiny hairs inside your ears. Listening to loud music with headphones can harm those hairs. Going to rock concerts can, too. Even the sounds of a jackhammer or a jet can hurt your hearing if you stand too close. Hearing is important, so remember to protect your ears.

Write the answers in your workbook, e.g. 1C. Do not write on or mark these question pages.

Hairs and Hearing Questions

1. Sounds are made when things vibrate, or _____.
 - (A) move back
 - (B) move forward
 - (C) move back and forth
 - (D) move in circles
2. The flat, stretched-out piece of skin that separates the outer ear from the middle ear is the _____.
 - (A) cochlea
 - (B) anvil
 - (C) hammer
 - (D) eardrum
3. The three tiny bones in the ear that make sounds louder are the _____.
 - (A) hammer, saddle, and stirrup
 - (B) hammer, anvil, and stirrup
 - (C) wrench, anvil, and stirrup
 - (D) eardrum, middle ear, and outer ear
4. How can loud sounds damage your hearing?
 - (A) They hurt the tiny hairs inside your ears.
 - (B) They vibrate your eardrums.
 - (C) They give you a headache.
 - (D) They hurt the outer ear.
5. Signals are sent to the brain by _____.
 - (A) the eardrum
 - (B) tiny hair-like cells
 - (C) the ear canal
 - (D) the cochlea