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**Reading 1 Gardening**

Many people think that taking care of plants is easy, but it is not that simple. In fact, there are things we must do to make different kinds of plants happy. Good gardeners quickly learn how to take care of each kind of plant in their garden.

Not all plants need water. In fact, some plants will die if you give them too much water. Some plants can live for a very long time with no water at all. Others need to be watered at least once a week, and some need water every day. Flowers must have a lot of water. If the earth that they are in does not get a lot of rain, they may die.

Another thing is that each plant needs a different amount of sunlight. Sometimes it is not easy to tell which plants need more sun than others. Some plants need a lot of sun even though they do not get much water. Flowers, on the other hand, often need to be out of the sun. Too much sunlight can kill them very quickly.

Some gardeners like to talk or play music to their plants. They say that sounds are good for plants and can make them happy. Scientists have tried to find out if this is true. Believe it or not, some scientists say that it may be true. They don’t know how or why, but some plants seem to get bigger and stronger when they have some beautiful music to listen to.

**Reading 2 Kinds of Animals**

There are many different kinds of animals. First, there were animals with backbones and animals without backbones. Animals without backbones, like jellyfish, are the oldest kind. Animals with backbones came much later.

Fish were the first animals with backbones. Fish live in water and take their air from the water. There are many different kinds of fish. Some fish live in the sea, and some live in rivers. Some fish are large, but others can be very small.

For a long time, fish were the only animals. Then, some fish became able to get out of the water and move on land. At first, these animals had two lives—one in the water and the other on land. Frogs are a good example of this kind of animal. Animals like the frog usually have babies in water, but as they grow up, they move to the land.

The first animals to have their babies out of water were animals like snakes and dinosaurs. Dinosaurs were very large animals that lived on the earth millions of years ago. Almost all of them died out around 65 million years ago.

Some of these animals became very light and became birds. Some were able to fly. Birds have warm blood.

The next animals also had warm blood, had hair, and made milk for their babies. Dogs, cats, horses, and people are part of this group. People do not usually like to think of themselves as animals, but that is what we are.

**Reading 3 Loggerhead Turtles**

Loggerhead turtles are the largest turtles in the world today. An old loggerhead turtle can be nearly 200 kg and can be one meter long. However, these big turtles are dying off. How can we help these beautiful animals?

The biggest reason they are in danger is fishing. The turtles get into fishing nets and die because they cannot get away. It is difficult for the turtles to see the fishing nets in the water, so they easily go into them. One man, Jon Wang, is trying to save the turtles by changing this. Wang found out that putting small lights on fishing nets can help stop loggerhead turtles from going into them.

There is another reason why loggerhead turtles are in danger. Turtles lay their eggs by the sea. When the baby turtles break out of their eggs, they already know to go toward the light. In the past, the light was the moon and stars on the water. The turtles would go toward the light and get to the water safely. Now, the light comes from the towns near the sea. The baby turtles go toward the towns and are killed.

One answer is to change the color of the lights in the towns. If towns use yellow lights instead of white lights, the turtles will be safe. Turtles will not go towards the darker yellow lights, and they will go toward the sea instead. It is another simple idea but one that could help to save this friendly animal.

**Reading 4 Earthquakes**

When the earth moves, it is called an earthquake. The outside part of the earth is made up of different very large pieces called plates. They are always moving and pushing against each other. When they push too much, the plates can move quickly and make an earthquake.

Earthquakes usually happen in places where plates move against each other. One of these places is called “the Ring of Fire.” Many countries around the Pacific Ocean are a part of this ring. Some big cities like San Francisco, Los Angeles, and Tokyo are in the Ring of Fire. They often have earthquakes.

Some earthquakes are very strong and can break buildings. Such a big earthquake may be only ten to fifteen seconds long. This seems like a short time, but for people in the earthquakes, it can feel like a very long time.

When a big earthquake happens in the sea, the earthquake pushes sea water up and makes a very big wave. This big wave then moves toward the land. At first, this big wave is under the sea. However, when it gets near the land, it can be seen on the top of the water. These waves can be as high as a building. When they hit the land, they can push over buildings and carry away anything that is in the way.

However, sometimes earthquakes are so small that people don’t even feel them. Some animals can feel when even these small earthquakes are starting. So, watch your animals!

**Reading 5 Leonardo da Vinci**

Leonardo da Vinci was born 500 years ago in Italy. He painted many well-known paintings. One was of a young woman with long, black hair. This painting, the Mona Lisa, is now in Paris, where many thousands of people go to see it every year.

However, did you know that da Vinci was not just a painter? He was also interested in science. Four hundred years before the first airplane, da Vinci had the idea of flying. He spent many hours watching birds to see how they stay up in the air. He made drawings that showed how it was possible for people to fly. One of his drawings was a helicopter. It gave us the idea for the first real helicopter.

Along with planes and helicopters, da Vinci also drew things that could help fight wars. He drew something that could be carried and used to go across rivers quickly. Another idea was a way of throwing large rocks. He also found a way to dig under the ground, possibly under the enemy.

Many of his ideas came to da Vinci because he studied a lot. He liked to learn new things. One way da Vinci learned was by studying dead bodies. He took dead bodies from hospitals and cut them open. Then, he drew many pictures of what the human body looks like.

Many of da Vinci’s ideas were not used during his life. However, many of them have been built today, and they really do work.

**Reading 6 Martin Luther King, Jr.**

People in the United States have not always had the same rights. Before the 1960s, black people had fewer rights than whites. For example, black people could not vote. They could not go to the same places as white people. They could not eat in the same restaurants, go to the same schools, or sit in the same places on a bus. They had to sit in the back of the bus.

A man named Martin Luther King, Jr. helped change that. King was a great leader. He helped all people get the same rights, but it was not easy. Many people did not think that blacks should have the same rights.

Some people wanted to fight back, but King said, “No.” He said people should use words but not fight others. One way to do this was to sit and not move. One day, a black woman, Rosa Parks, sat in the front of a bus—the place for white people. The driver told her to move to the back, but she did not go. Soon, blacks and many whites in the city stopped using the buses. The bus company lost a lot of money, so finally it changed the rule.

King did many other things to make people think about rights for all people. Finally, after many years, the US gave blacks and whites the same rights. In 1964, King was given the Nobel Prize, but he did not live long after that. He was shot and killed in 1968.

**Reading 7 The Vikings**

The Vikings were the first Europeans to get to North America. They went in long boats from Scandinavia. We think of Vikings as sea people, but in fact most Vikings were the sons of farmers. How did they become so well known for their boats? In Viking families, only the oldest boy took over the family farm. The younger boys had nothing to do, so they got in their boats and went to other countries looking for more land to farm.

The Vikings were great at building boats. Their boats were strong and fast. They used them for war and finding new lands. But not all of the places that Vikings went were “new.” Sometimes they tried to take land in places where people already lived. Then, they had to fight with the people living there. In this way, the Vikings also became good fighters.

As the Vikings found new lands, they visited Iceland and Greenland and then North America. The Vikings built a small town in Canada about 500 years before Christopher Columbus left Europe.

The first Viking to land in the Americas was Leif Eriksson. If you go to Canada today, you can see some of the old things from a Viking town built there around the year 1,000 AD. However, the Vikings probably stayed there less than ten years. They may have left because the weather was getting much colder. No matter what the reason was, they were gone by the time the next Europeans got there.

**Reading 8 Billie Holiday**

Billie Holiday was the greatest singer of her time. She was a blues and jazz singer and is still liked today for her beautiful voice. She could show great feeling through her singing. Yet, it was only after her death in 1959 at 44 years old that she started to become really well known. Like many other great singers, her work was not as well known during her life.

Holiday had a difficult life. She was born in 1915 and grew up in a very poor area of the United States. During her short life, she had problems with drinking and drugs and had a very unhappy family life. However, she used these experiences to sing in a way that showed great feeling.

One of her best-known songs is called “Strange Fruit.” The song is about white people killing black people in the United States. It is a good example of how difficult life was for black people in the US at that time.

After Holiday’s death, she became more and more well known. A movie was made of her life, and a statue was put up in her hometown. In 2015, when she would have been 100 years old, many people in the US remembered her.

When she died, people thought about her difficult life and problems. However, in recent times, this has changed. Billie Holiday is now remembered for being a wonderful singer who was different from other singers at the time and helped to change the US.

**Reading** **9 The Panama Canal**

A canal is like a river that is made for boats to go on. The Panama Canal, in the country of Panama, goes between the Atlantic and Pacific Oceans. It is an easy way for boats to go east and west without having to go all the way around South America.

France began building the canal in 1881. The work was very hard and full of danger. Many people died while building the Panama Canal. Most of the work was done by hand, and they had to build high walls to hold the water in the canal. The canal has several levels.

France did not try to complete the canal. It was too difficult, full of danger, and very expensive. France stopped working on the canal in 1891. In 1904, the United States wanted to try and finish the job that France started. It took ten more years of work, but the workers finished the canal this time. The first boat passed through the Panama Canal in 1914. The canal worked very well.

The Panama Canal saves a lot of time, and time is money. It is a quick way to go between the Atlantic and Pacific Oceans. Before the canal was made, boats in the Atlantic had to go around the bottom of South America to get to the Pacific. That took a long time—at least several months. Now, using the Panama Canal, a boat can go from the Atlantic to the Pacific in just one day.

**Reading 10 The Grand Canyon**

The Grand Canyon is the largest canyon in the world. It is over 300 kilometers long and over one and a half kilometers deep. It is in the United States, in the state of Arizona. Today, the Grand Canyon is a national park. At least five million people go there every year.

There are many things to do at the Grand Canyon. Many people walk near or into the canyon. People also like riding horses. You can get a small horse and ride down into the canyon. There is a river at the bottom of it. It takes two days to ride all the way down to the river and then back to the top of the canyon.

Many people go camping at the Grand Canyon. There are many camping places near the canyon. Some people even ride a small boat down the river at the bottom of the canyon.

In fact, it was this river that made the canyon. The Colorado River cut through the rocks to make the canyon. This took millions of years. Some of the rocks in the canyon are very old. Scientists say that one part of the canyon is two billion years old. That is one-third of the age of the earth.

The Grand Canyon is very beautiful and very large. When you see it, you cannot believe that just one river cut such a big canyon. The Native American people who lived there called the place “Kaibab,” which means “mountain lying down.”

**Reading 11 Son Doong Cave**

In 1991, a man named Ho Khanh was working in the jungle in Vietnam. He heard a strange sound that he could not understand and went to see what it was. He found the entrance to a very large cave. The sound came from the river in the cave. However, because of the danger, Khanh did not go down into the cave.

Twenty years later, British scientists were in the area and heard about Khanh’s cave. They asked him to take them to see it. As they went into the cave, they quickly saw that Khanh had not found just any cave. He had found the largest cave in the world, the Son Doong Cave.

The cave, which is in the center of Vietnam near Laos, is two times larger than the second-largest cave in the world. It is over five kilometers long, and in some places, it is 200 meters high and 150 meters wide. It is part of a national park. Inside the cave, there are many interesting things to see. It also has a jungle growing under the ground. A hole in the top of the cave lets sunlight in, which helps the jungle grow.

If you want to visit the cave to see its beauty, you will have to go deep into the jungle just to get to the entrance—and after that is when the hard work starts. It is very difficult to get there. More people have been up Mount Everest than have been inside the cave.

**Reading 12 Sealand**

Most people would tell you that the smallest country in the world is Vatican City, which is a very small country inside the city of Rome. However, those people would be wrong. There are several smaller countries around the world. The smallest is Sealand, which is about 7.5 km south-east of England.

Sealand is a high, man-made platform about the size of a house. It is one of many small platforms made by the British Government during World War II. They were made to help in the war against Germany. After the war, they were left out at sea, never to be used again. One person, however, decided to make one of these platforms his home.

In the 1960s, Roy Bates moved to one of these platforms with his family. He wanted to live there and set up a radio station, free from the laws of Britain. However, the British government told him that he could not do this and that he must move. Instead of returning to land, the family moved to another platform even farther away from England. This platform was free from the control of the British government. Bates named it the country of Sealand. He made himself Prince Roy of Sealand, and he made his wife a princess.

Since the 1960s, Sealand—that is, the Bates family—has been through many difficult times, and in 2010 Prince Roy died at age 91. Sealand is now controlled by Roy’s son, Prince Michael, who lives in England.

**Reading 13 The Artist in You**

Art can be a great way to spend your free time. If you are good, you might even be able to sell your art to make some money. However, even if you do not paint like Picasso, that does not mean you cannot be an artist. Anyone can create art.

What, then, is an artist? Well, it is someone who makes something which is creative. There are many different kinds of art. There is painting or drawing. Taking photographs is a type of art. People who make movies are artists, and so are people who write books. Creating new clothes, preparing food, even making houses look beautiful can all be kinds of art.

If you think about it, there is probably some kind of art that you do. That makes you an artist too. If you would like to become a serious artist, here are some useful ideas. The first thing you need to do is keep on trying. Few artists are born good at art. Most must work very hard to become good.

The next thing to remember is: don’t be afraid to show your work to other people. Ask them what they think. Look for ways to get better. If you know other artists who do the same kind of art, ask them questions. You can learn a lot from other people.

Finally, do not be afraid to try new things. Most great artists became well known because they had a new way for creating art. So, be creative!

**Reading 14 Learning to Play Music**

Parents like their children to study music. Some think that learning to play music will make their children clever. Others want their children to get a job playing music. Either way, parents may decide to put their children into music classes while their children are young. But what is the best thing for young children to play?

Many music teachers think that children can start to play music at five or six years old. At this age, most people choose the violin, the guitar, or the piano for their children. Of these, the piano is the hardest to play. It takes a long time for children to learn the piano well.

Children can learn to play the violin or the guitar a little faster. The hardest part about learning the guitar or violin is learning where to put your fingers. A child must listen carefully to get the sound right.

Learning to play music also means learning to read music. When you learn to read music, it is important to learn how to count time so that each note is played for the right amount of time. Reading music also means learning some Italian words that tell you how to play the notes—quietly or loudly, softly or strongly.

Some people learn to play music so that they can play for others to listen. Some people are not interested in that and just want to play because they like playing. It brings them a lot of happiness to play.

**Reading 15 Protest Music**

People write songs for many reasons. For example, people write songs to show that they are happy or unhappy, or to tell someone else that they love them. One important reason is to talk about what is happening in their country and around the world. This kind of music is often against a government, an idea, or a situation. It is called protest music.

In the United States, people have been singing protest songs for hundreds of years. However, in the 1960s, protest music really became part of everyday life. At that time, people sang songs against war, about being free, about the war in Vietnam, and about rights for all people.

One example is the song “Mississippi Goddam” by the American singer and songwriter Nina Simone. This song has the words: “you don’t have to live next to me / just give me my equality.” In the song, Simone sang about the killing of black people in 1963. The song became loved by people who were protesting for equal rights in the US.

Can protest music change the world? There have been many singers making protest music, but the problems that they sing about still continue. In 2016, one of the best known, Bob Dylan, even got the Nobel Prize for his music. So, no, maybe protest music itself can’t change the world, but it can make people think and talk about problems. After the thinking and talking, however, it is still up to us to make changes happen.

**Reading 16 Photography**

The very first camera was made in 1685, but it took a long time for people to learn how to make the right kind of paper for photos. For this reason, what we know as photography really only started in the late 1800s. At this time, more and more people started to take photos. Better kinds of cameras were made, and photographers started to try different ways to take photos. Photography quickly became a new art.

At first, most people thought that photos could only show real things, but in fact they can do much more. Photographers quickly learned how to make a person in a photo look clear but make other parts look unclear. They learned to play with time and with how much light goes into the camera. This made for strange and beautiful art photos.

Photographers today can do even more. They can take photos with a camera, and then change them in a computer. They can put photos together, take out people and put them in different photos, and even make people look younger or older. Today’s cameras in phones can even change photos so that everyone looks good.

Computers are also changing how people share photos. In the past, photographers had to make books to show their photographs to lots of people. Now, with the internet, photographers can share their photos with millions of people quickly and easily. Even very young photographers can now create and share interesting art with people all around the world.

**Reading 17 Supervolcanoes**

One of the best-known volcanic explosions in history was in Italy. Mount Vesuvius exploded in the year 79 CE. It covered the city of Pompeii in very hot ash. There was so much ash that all the city was covered and forgotten for about 1,500 years. Vesuvius was a very large volcano, but it wasn’t the biggest volcanic explosion. It was actually quite small.

The largest volcanos are called supervolcanoes. Supervolcanoes can put more than 1,000 km3 of ash and rocks into the air. That is more than 1,000 times more than what covered Pompeii. The best-known supervolcano is in Yellowstone National Park in the United States. It last exploded more than 630,000 years ago, making a hole 55 km wide and 80 km long.

If a supervolcano like the one in Yellowstone exploded today, it would be a very difficult time. Tens of thousands of people would die from the explosion, and many more people would die later. The rocks and ash that would go up into the air could make a long, dark winter which could kill the plants and animals we use for food. It would be many times more serious than Pompeii. But could it happen in our lifetime?

Some scientists think that the answer is yes—and it may happen in Italy again. Scientists think a supervolcano there could be coming to life again after 500 years. It happened in the past, and it can happen now. These scientists say that it could explode again soon. Let’s hope not.

**Reading 18 Telephones, Then and Now**

About 130 years ago, people started to use telephones in their houses. The first telephones had two parts: one was held up to hear, and the other was held near the mouth. There were no numbers on these early telephones. People talked to anyone else who had a telephone. However, they were very expensive, so not many people had one.

As more and more people got telephones, companies started to use operators to connect people. Operators connected the caller to the person they wanted to talk to. You would pick up the phone and say, “Operator, please connect me with Ms. Jane Smith on Main Street,” and the operator would do it. It sometimes took a long time to connect a call.

In 1892, the first telephones with numbers were made. These telephones were cheaper and easier to use, so more people got one in their homes. By 1970, almost every house in the United States had a telephone. At this time, a whole family would share one telephone line, so they had to take turns using it. There were also telephones for people to use on the street, in stores, and in office buildings.

The first telephones in cars were used in the 1980s. They were still too big and too expensive to carry around.

Today, things have changed again. Most people have their own telephone that they carry around. You can see who you are talking to. It takes photos and connects to the internet. What’s next?

**Reading 19 Learning to Fly**

Before airplanes, people wanted to fly. At first, people tried to fly like birds. They made wings and put them on their arms. However, that did not work because birds’ bodies are very different from our bodies.

The first time that a person really did fly was in 1783. Two brothers in France had an interesting idea. They knew that hot air is not as heavy as cold air. So, they made a bag out of paper and put it over a fire. The bag filled up with hot air and went up. This was the first hot-air balloon.

The brothers made larger and larger balloons. They sent up balloons with animals in them. It worked. Finally, they sent up a balloon with people in it. That was the first time that anyone could really fly. Balloons are still used today.

People tried other ideas to fly. One idea was called a glider. Gliders have wings, but a glider’s wings don’t move, and gliders have no power. So, the person did not have much control. In the 1800s, the first cars were being made. Soon, people had the idea to put a car motor on a glider. These were the first airplanes.

The most important thing in the history of flying happened when two American brothers flew the first powered airplane. In 1903, their airplane flew up in the air for twelve seconds. That does not sound like a long time, but those twelve seconds changed the world.

**Reading 20 Phone Overuse**

Most people know you should not overdo things, like drinking too much or not sleeping enough. We try to be careful not to do these things too much because they can be bad for us. However, other things are also bad for us if they are overused. Your phone is one of these things.

Most people use their phones every day. We use them to play games, talk to friends, learn new things, or listen to music. If you do these things only a little when you have free time, that’s not a problem. However, some people can’t stop. They use their phones all day, all the time—and that is bad.

It’s not only about the time. Some people use their phones to pay to play games or to do shopping. Before they know it, they have spent all their time and money. Just like drinking too much, using a phone too much can make us lose our friends, our jobs, and even our money.

This is serious, so we should all think about how much we use our phones. Do you sleep with your phone? Do you feel bad when you don’t have it with you all the time? Do you check your phone often during the day? You may be overusing your phone.

Do you want to cut down? Try leaving your phone at home sometimes. Or turn it off for a few hours a day. If this does not work, try asking a doctor for help.

**Reading 21 Allowances**

An allowance is some money your parents give you each week. When you were younger, did you get an allowance from your parents? How much did they give you each week? Did you think this was enough? Many people believe that an allowance is a great way for children to learn about money. These parents give their children some money, usually once a week for younger children, and once a month for older ones.

Giving younger children a small amount of money once a week can be good because then they can get used to buying things by themselves. They may use the money to buy food at school. With only a small amount of money, parents don’t need to worry that they will use all of their money by buying the wrong things.

Older children can have a larger allowance once a month. Then they are old enough to make good choices about how to spend their money. For them, an allowance can be a way to teach children the good and bad ways to spend money. They can even learn to save their money to buy bigger and better things.

Some parents don’t believe in allowances, and they may be right, too. They say that allowances can be bad because they teach children that money is easy to get. These parents believe that children need to learn to work for their money. They want their children to make money by working at a part-time job when they are old enough.

**Reading 22 Marketing**

Many people think that marketing is another word for advertising. But it is so much more. Advertising is a big part of marketing, but there is a lot more to marketing than the advertising you see on television or in newspapers.

Marketing is all of the things that are part of selling a product or service. It starts with asking questions. Companies need to find out what people want. Once a company knows what people want, it tries to get it for them. That means making the product or the service that the company is going to sell.

The company also needs to decide on a good price for its product or service. To decide on the price, a company needs to work out how much it will cost to make the product. Then, the company has to find out how much people want to pay. If they will pay more than the cost to make the product, the company can make money.

After a company makes a product that people want and decides how much to sell it for, the company has to find people to buy it. The company also has to decide how to get the product or service to these people.

If everything works out well, the company will make money. But companies want to keep making money, so they have to make sure that they keep selling things. They must always try to make their products or services better so that people keep buying them.

**Reading 23 Apple Against Apple**

Apple™ is a well-known company that sells music. Apple made the iTunes™ store, which is one of the best-known music stores in the world. iTunes made getting music easy for everyone. It is not too much to say that Apple has changed how we listen to music.

However, this almost did not happen because of four of the best-known people in the world, the Beatles. In 1968, the Beatles made a music company to manage their business. They called their company Apple Records and used a very simple picture of a green apple.

In 1977, a man named Steve Jobs made a company called Apple Computers, also using a picture of an apple. The Beatles were not happy. They took Apple to court for using their company name and picture. Because their Apple was used first, the Beatles were right. Apple Computers was told not to go into the music business. Both companies could keep their name and picture of an apple, but only if they did not go into the same business. Apple Computers could not sell music, and Apple Records could not sell any computers.

However, twenty years later things changed, and Apple Computers started to move into the music business. Again, the Beatles were not happy, but this time the two companies talked to each other. Nobody knows what they said, but Apple Computers kept their picture and their music business. We can only guess what the Beatles asked for in return.

**Reading 24 Public and Private Companies**

Some companies are “public,” while others are “private.” What do these words mean? What are the differences between these two types of company? The answers are money and size.

When a company has “gone public,” it means that people from the public can buy a part of the company by buying shares in it. These shares are sold through public stock markets, like those in New York, Tokyo, and Hong Kong. On the other hand, stock in a private company cannot be bought by the public. Instead, stock in private companies usually belongs to a few people, often family members.

Public companies are usually much larger than private ones. However, most companies start as small, private, and often family businesses. As they begin to grow, they need to move into new markets, get more workers, and buy new buildings and machines. To grow in these ways, the company needs money. So, they ask the public to pay for this by buying stock. While most large companies are public, some have managed to become much bigger and still be private. The computer company Dell is a company like this.

In 2012, Facebook™ made the change from a private company to a public one. At that time, Facebook was a well-known company, but many people were worried about buying shares in it. It was a company using only a website and not making a product. They thought that this would not be good stock to buy. They were very wrong.

**Reading 25 Photographic Memory**

It is said that some people have photographic memories. This means that their mind is like a camera, storing everything that they see. They can remember every page from a book and every person or place that they see.

It is true that some people have great memory powers, but in fact, photographic memory has not been shown by science and is probably not true. Some people are very good at remembering things that they see. Others are better at remembering sounds. Few people are strong in more than one kind of memory—and no one is always right.

Scientists believe that having a strong memory comes from many things. Some people are born being especially good at remembering, but others must work hard to make their memory better.

One person who has worked hard to have a better memory is Alex Mullen, who is among the best in the world. In 2015, Mullen came first in the world memory games in the United States by remembering 52 playing cards in only 21.5 seconds.

Mullen believes we can all make our memory better by using it. His way is to make a “memory house.” This is a place in his mind where he can “walk” through and “see” all of the things he is trying to remember.

Eating good food, doing lots of walking, and sleeping well can help too. Playing games like Sudoku also helps. While there are no people with photographic memories, we can all make our memories better.

**Reading 26 Ultramarathons**

A marathon race is just over 42 km long. Many people around the world like marathon running. A marathon is a long-distance race, but some runners want much longer races—ultramarathons. Those races are very long. One ultramarathon in Morocco is a 251 km run across a very hot country. That’s about the same distance as six marathons.

Ultramarathon runners like running in these races for a number of reasons. As with the usual marathons, there are many different races to run in. These races are often held in beautiful places around the world. Running long distances uses not only your body but also your mind. How you think about running can help you to run better.

Runners also like the training that they do before the races. It feels good to get faster and faster times. Most importantly, ultramarathon runners like the idea of going farther and faster than most other people.

But how much is too much? Some doctors believe that too much running may be bad for you. Getting ready for ultramarathons can make your body work very hard. Runners often do not give their bodies enough time to rest, and this can be difficult for your legs and your heart.

Is it possible that ultramarathons are too much of a good thing? Like anything else that is done too much, perhaps even running can sometimes be bad for you. This makes some people wonder if too much running may be as bad as too little running.

**Reading 27 Sugar and Teeth**

Taking care of children is a major worry for parents all over the world. In years past, life was hard, and many children died when they were still young. This has changed in recent years as science has helped with many new medicines and teaching has helped parents understand how to better look after their children.

Recently, however, taking care of children’s teeth has become a big problem. There are now a lot of children needing to get their teeth fixed. In 2016, 40,000 British children had bad teeth pulled out. Doctors say that this problem comes mainly from sugar. Children now eat too much food high in sugar and drink too many sugary drinks. Sugary drinks are cheap, and they are everywhere. You can even buy them in schools.

Many people think it is time for governments to do something. There are many things they could do to help. One idea is to have a special tax on drinks and food with high levels of sugar. If sugary food is more expensive, people will buy less. Another idea is to teach parents and children about looking after their teeth at a young age. Another idea is to bring dentists to schools. Many parents do not take their children to dentists, so the dentist should go to the children.

There are many things that people can do to fight this problem. It is very clear that we need to do something quickly. If we do not, it may be too late.

**Reading 28 Good Fast Food**

In our world today, we do not always have time to make good food for ourselves. Instead, we have to eat what we can easily find. Often this means fast food restaurants. However, just because we sometimes have to eat fast food does not mean we have to eat bad food. Here are some ideas to think about the next time you are in a fast food restaurant.

First, choose food that is made in good ways. Choose foods with little or no oil and with no sugar. Also, try to eat more vegetables and fruit. Many fast food restaurants now sell these. Also, drink water instead of a sugary drink. This will be better for your teeth, too. In some restaurants, water is free.

Not only what you eat, but how much you eat can be important. You don’t need to order a lot of food or drinks. It’s a good idea to order small sizes or half sizes when eating by yourself. If you are eating with friends or family, order one to share.

One more idea is ordering food to go. Scientists have found that people usually eat less food when they eat at home. So, the next time you want to have fast food for dinner, order your food to go. When you eat at home at your own table, there is a higher chance that you will eat part of your food later. You will have more money, and it will be better for you.

**Reading 29 Falling Stars**

 Have you ever seen a falling star? Actually, they are not stars at all.

The light that shoots across the sky is actually a rock. The rocks fly through space until they get to the Earth. When these rocks hit the air, they burn. Most of these rocks are so small that they burn up before they hit the Earth. Bigger ones sometimes hit the Earth, but the Earth is so big that they usually don’t hit anything important.

There are some nights when we can see lots of these falling rocks. Why is it that on some nights we get so many of these rocks falling to the Earth at the same time? It is because on these nights, the Earth is actually passing through the end of a comet. Comets leave a long line of small and large rocks behind them. When the Earth passes through them, these rocks burn in the air, and we see many falling stars at once.

Sometimes, this can happen on nights when there is a clear sky. If the sky is not clear, we will not be able to see anything. The best place to look at falling stars is away from a big city. That is because the city lights make it hard to see things in the sky. It is also important to look in the right place in the sky. If there will be a lot of falling stars, scientists can tell us where we should look in the sky.

**Reading 30 Space Garbage**

 Space around the Earth is full of garbage but not the type of garbage you generally think of, like old food or boxes. The garbage in space is mostly pieces from the different things that humans have sent into space. Once they were doing a very useful job, but now they are garbage.

There are very big pieces and some very small pieces. Because these pieces of garbage are moving very fast, there would be a lot of problems if they happened to hit a spaceship. There are well over one million pieces of space garbage going around the Earth. The problem is that there is no place this garbage can go. It just continues to go around and around the Earth.

Some garbage comes back to Earth. When it does, it becomes very hot and burns up in the air before it hits the Earth. Sometimes, you can see this burning garbage because it looks like a falling star across the sky. However, not much garbage has come down so far. Most of the garbage is too far away from Earth. It could take thousands of years before this garbage falls to Earth.

There is no easy way for us to go and get all the garbage. Any garbage smaller than an apple is difficult to see in space. The only thing we can do is to watch the big pieces of garbage carefully and tell the people who are in space to stay out of the way.

**Reading 31 The Milky Way**

 The Milky Way has more than 200 billion stars. We also think it has billions of planets, and moons, including our own planet Earth and our star, the Sun. Our planet is part of the Milky Way, so we are looking at the Milky Way from the inside. The Milky Way is more than 13 billion years old.

Humans throughout history have been interested in the Milky Way. The Egyptians prayed to it, and the Greeks gave it its name, but no one knew what it was. They thought that the color of the sky near this group of stars looked like milk. So, they gave it the name the Milky Way.

Back then, people could only see a lot of light in the sky. In 1610, Galileo was able to use a telescope to see some of the different stars in the Milky Way for the first time. Until 1920, scientists thought the Milky Way was very big; however, they have now found that the Milky Way is much bigger than they thought.

Things are forever happening in the Milky Way, and much is happening near the center of it. Old stars die out and break up. The small parts of the old stars fly around very, very quickly. These parts can gather other parts and they grow bigger and bigger and become new stars. So, the Milky Way is always changing. It never looks the same, so scientists need to keep studying and watching it through their telescopes.

**Reading 32 Life on Other Planets**

Finding life on another planet around another star would be very interesting, but what are the chances that it could happen? In fact, they are quite good as a man named Frank Drake found out when he thought about it carefully.

First, Drake thought about how many stars there are. The problem is that we don’t know for sure. Scientists now think there are about 200 billion billion stars, but no one knows how many of those stars have planets. However, even if only one in one million of those stars have planets, we would still have 200 trillion stars with planets.

Another problem is that not all planets can have life. Around our sun there are eight planets, but as far as we know, there is life only on Earth. So, let’s say life can only happen on one out of 100 planets. That’s still two trillion planets where life could happen.

Next, if only on one out of 100 planets where life could happen, it did happen, then that’s twenty billion planets with life. And, if one in 100 of those planets has life like humans, then there are now 200 million planets with life. Finally, if only one in 100 of those people on other planets are actually trying to find us, then that’s still two million planets with beings out there looking for us!

So, the real question is not if there is life out there on another planet, but why haven’t they found us yet?

**Reading 33 Wartime Feelings**

 War makes bad feelings between the people of different countries. In World War I, the United States and Germany were at war. During the war, Americans showed their bad feelings toward Germans in different ways. One way Americans showed their bad feelings was through food and culture.

The city of Hamburg, where the hamburger was first made, is in Germany. Another city, Frankfurt, is the home of the frankfurter, now better known as the hot dog. These foods were very well known in America, but people were not happy with their names. Soon, companies and restaurants that sold these foods were selling less and less of them.

To get around the problem, they changed the name of the hamburger to “Salisbury Steak.” Frankfurters became known as “Liberty Sausages.” It may seem unusual, but the new names helped them sell more.

Americans also tried to cut back the amount of German language and culture in the US. Because there were many Americans whose families came from Germany in the US before the war, many schools taught German. However, during the war, schools stopped German classes. German books were burned or taken away. In some American cities, people from German families had to carry special cards and could not go to certain areas or have certain jobs. The same kinds of things also happened in England.

Today, the US and Germany are very good friends, but it’s important to remember what war can do—not only to soldiers, but also to the local culture.

**Reading 34 Becoming an Adult**

 Is there a time when a person stops being a child and becomes an adult? Is it the same in every country? In fact, different countries often have very different laws when it comes to being a child and being an adult.

Some cultures do something special to show the change from child to adult. These tell everyone that the child is now an adult and can do the things that adults usually do. Jewish boys and girls have a big party when they become thirteen. Another is coming-of-age day in Japan for young people who turn twenty. These are fun parties.

However, in some cultures, coming of age can be difficult. On Pentecost Island in Vanuatu, young men must jump from a high place tied by their feet. In one place in Brazil, twelve-year-old boys must have their hands covered by angry ants for ten minutes.

How children and adults are treated can also be very different from place to place. Sixteen-year-olds can vote in Cuba and Nicaragua, but in Singapore and Saudi Arabia, they must wait until they are twenty-one. The laws for drinking, smoking, and driving cars can also be different. In many European countries, the drinking age is sixteen and the driving age is eighteen. In Canada, it is the other way around: the drinking age is eighteen or nineteen, but people can drive at sixteen.

Different ideas about children and adults create interesting questions. If you go to another country, which culture should you follow?

**Reading 35 Women’s Day Off**

 In 1980, a woman became the leader of Iceland. She was the first woman leader of a whole country anywhere in the world. There was an interesting reason why she became the leader. Five years earlier, the women of Iceland had taken a day off.

For one day in 1975, all the women in Iceland did not do any work because they wanted men and women to be equal. On that day, all the women didn’t go to work, didn’t do work at home, and didn’t look after their children. Many of the women held a big meeting in the main city in Iceland. While the women were doing this, the men had to go to work and also do all the work that women usually did and look after their children.

The next day, everything returned to normal, but now men understood the power of the women of Iceland and their right to be equal. From then on, things began to change very quickly. In 1975, there were only three women in the Icelandic government; by 2015, almost half the government was made up of women.

Iceland is now the leading country in the world for treating men and women equally, but still everything is not equal, even in Iceland. Men are still paid more money than women for the same job. However, things have changed a lot since 1975, and the country is happy to show the rest of the world that men and women can and should be equal.

**Reading 36 Voting in a Democracy**

 Most people in the world live in countries where the system of government is some form of democracy. That means that each person has the right to vote for their government. The person or group who gets the most votes then becomes the government.

Many people think the right to vote is very important and that anyone who is old enough to vote should vote. However, others believe that the right to vote is just that: a right. These people feel that they do not have to vote if they do not want to. They believe this is also their right. The difference between voters and nonvoters can often be seen in different age groups. Young people may not vote as often as older people even though they have the right to.

It is difficult to say which side is right, as each side has good points. People who believe everyone should vote feel that way because they think a democracy can only work well if everyone uses their vote. They think voting day should be a day off from work so that everyone can vote.

Nonvoters may choose not to vote for a number of reasons. They may not like any of the people to choose from, or they may not know enough to make a good vote. In these cases, they think not voting is better than voting just because they have to.

Either way, people should feel happy that they can choose to vote.

**Reading 37 Creation Stories**

 Every religion has a creation story. These are stories about how the world and its people were made. Often, these creation stories are the most interesting stories of all.

The Mayan creation story tells how two powerful gods made the world. They wanted to make people that could love them, but it took them three times to get it right. They first made a man from wet earth, but he soon broke into pieces. Next, they made a man from wood, but he did not have a mind and could not talk. Finally, they used corn to make a man and woman who could love them, so the gods were happy.

Even in the same religion, there can be different creation stories. In the Christian story, there is one part that tells how God made man by himself, and another part that says God made man and woman together. The Greek creation story is full of men and women gods who are each one part of the world. They love and fight each other, mixing the parts that make the world, like light, the sky, and the sea.

In one Hindu creation story, the gods together killed a powerful being. When this king was killed, his body turned to butter, and the butter formed all of the animals on earth. However, another Hindu story tells of three gods. In this story, one god made the world, one keeps it safe, and one waits to break it again.

**Reading 38 Many Gods or Just One?**

 The two largest religions in the world, Islam and Christianity, are religions which have only one all-powerful god. However, there are some religions where people believe not in one god but in many gods—sometimes hundreds of them.

Many of the oldest religions had many gods. Thousands of years ago, the Greeks, Egyptians, Romans, and the Aztecs all believed in many different gods. Hinduism and Shinto are religions that many people still follow today, and they also have many gods.

In religions with many gods, some of the gods are a part of the weather. In Greece, the god Zeus controlled lightning; for the Vikings, it was the god Thor. Both of these gods were very powerful, and this shows how the weather was very important to people long ago.

Gods were also part of the stars and planets. The Romans and the Egyptians both had gods of the Sun, the Moon, and the stars. Their gods were also part of many different things in the world such as rivers, animals, drink, even life and death itself.

How can some people believe in so many gods? For some, it is good to have a large group to believe in. It is like having a large family or group of friends. In another very important way, having many gods is good: it makes it easier to understand the religion of other people. If there are many gods, then it is not unusual that someone could have one more god to believe in.

**Reading 39 Christianity**

 Christianity is a religion followed by more than 2.2 billion people. That’s about 30% of all of the people in the world. Christians follow the life and the teachings of a man named Jesus Christ. They believe that Jesus was the son of God.

Christianity started around the year 50 AD. At first, it was quite small, but it became large very quickly. By the year 380 AD, it was the religion of the Roman Empire.

Christians are “people of the book,” along with Jews and Muslims. The three religions share many of the stories in the Bible about how God made the world, how he made the first man and woman, and many others. However, the Christian Bible also has a newer part which tells the story of Jesus and his followers.

This new part of the Bible tells that Jesus came from a mother named Mary. Then, when he was a young man, Jesus became a teacher. He moved around and showed people the way to be good. One of the most important ideas in Christianity is that Jesus let himself be killed in order to make people perfect again. He wanted to give them a new chance to be with God when they die.

Christianity has a long history filled with both good and bad things. Christians are known for helping poor and sick people as Jesus said to do. However, they have also made wars to force people to become Christian when they don’t want to.

**Reading 40 The Soul**

 For thousands of years, people have believed in the idea of the soul: that when a person dies, the body dies but the person’s soul continues. The earliest idea of the soul comes from Turkey. Something written on stone from 3,000 years ago says that a person’s soul lives on after their body dies.

When a person says “Bless you” when someone sneezes, these people probably do not know they are talking about the soul of the person who sneezes. This saying comes from the Torah, the book of Judaism. Early believers thought that when someone sneezed, their soul left the body. People began to say “Bless you” to make the soul go back and stay in the body. If it did, the person could have a happy life and a good afterlife. Without the soul, they could not do these things.

People have believed in the human soul for a long time, but only recently the idea of an animal soul has been talked about. For some Christian religions, the soul is necessary to go to heaven. So, people’s souls can go to heaven. But what about animals? People have had different ideas about this: some say that all animals have souls and so can go to heaven; others say that because animals cannot think and feel like humans, they do not have souls.

Talking about animal souls leads to further questions. If animals have souls, then do flies have the same souls as dogs and cats?