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ARCHAEOLOGY

Nero's Theatre Discovered in Rome

Archaeologists have made an exciting discovery. They have found ancient ruins in the heart of the city of Rome, Italy. The ruins are of a theatre especially built for the Roman Emperor Nero.

The ruins were discovered in 2020 when construction began on a new hotel. **Archaeologists** were quickly brought to carefully excavate and preserve the ruins.

The ruins are almost two thousand years old, from the first-century **CE**. They are located close to **Vatican City**. Archaeologists dug out an area about the size of one city block.

They found two buildings. One had a semicircular seating space shaped like a horseshoe. The seats are arranged in levels that descend toward a stage area. Ancient Greek and Roman theatres were often built this way. The stage had a decorated background that was covered in marble and gold leaf. These expensive materials would only have been used for a building built for the Imperial family.

The second building is believed to have had rooms for stage equipment such as sets and costumes. Archaeologists also found artifacts, including glass goblets, coins, and pieces of musical instruments.

It is believed the theatre was used by Emperor Nero who lived from 37 CE to 68 CE. Nero loved the arts, and enjoyed performing in theatres as a singer, musician, and actor.

Archaeologists think the theatre was a private place where Nero could practice his poetry and music in front of small audiences. Later, he would perform these pieces in public theatres elsewhere in Rome. Writers from Nero's time describe such a theatre—but the location was unknown. Archaeologists think they may have solved that mystery.

DID YOU KNOW

There is a famous story that Emperor Nero "fiddled while Rome burned," meaning that he played the violin during Rome's great fire in 64 CE. Archaeologists say there is no actual evidence that Nero did this or was even in Rome when the fire occurred.

To view videos, go to: http://resources.dynamic-classroom.ca/books/qzlb

WORD POWER

ARCHAEOLOGIST: Someone who studies human history through the excavation of sites and the analysis of artifacts

CE: Common Era; the current time period we are living in

VATICAN CITY: A independent city within Rome that is home to the leaders of the Roman Catholic Church

ARCHAEOLOGY

Nero's Theatre Discovered in Rome

1. How old are the ruins? Where are they located?

2. Describe the theatre that was found.

3. What is believed about the second building?

4. Who is believed to have used the theatre?

5. How was the theatre used by Nero?

CRITICAL THINKING

1. Do you think the archaeologists are correct in thinking the theatre belonged to Nero? Explain your answer.

Roman Emperors

Below is a list of the Roman emperors from the first century CE, along with brief descriptions.

Augustus (31 BCE – 14 CE) was was the adopted son and heir of Julius Caesar. In 31 BC, he became the first Emperor of Rome. He put in place a taxation system and called a census. He founded a postal service and a regular police force and fire brigade in Rome. He also expanded the empire to include Egypt, part of Spain, areas of central Europe, and lands in the Middle East.

Tiberius (14 CE – 37 CE) was one of the greatest generals of the Empire. He was considered an excellent ruler during the first half of his reign, but later became a dark and gloomy ruler. The reason for this change in his behavior was probably the death of his son Drusus. In 26 CE, Tiberius moved to the Isle of Capri and left administration in the hands of Praetorian Prefect Sejanus, who acted as the leader of Rome.

Caligula (37 CE – 41 CE) began his reign as a noble and moderate ruler, but after two years he became known as a cruel and extravagant emperor. He killed people for his amusement. After reigning for four years, he was assassinated by members of his bodyguard and the Roman Senate.

Claudius (41 CE – 54 CE) was the nephew of Tiberius and the uncle of Caligula. Claudius had some kind of disability in speech and walking, and his family kept him away from the public until he was 38. For this reason, he was not considered a serious threat. Claudius was proclaimed emperor because he was the last adult male of his family. He proved to be a good administrator and a great builder of public works. The empire was expanded under his reign. He was succeeded by his adopted son Nero.

Nero (54 CE – 68 CE) improved diplomacy and trade. He had theatres built and promoted athletic games. In 64 CE, most of Rome was destroyed because of the Great Fire of Rome. Nero accused Christians of the fire and started to persecute them. Nero was driven from the throne in 68 CE and committed suicide before he could be assassinated.

Vespasian (69 CE – 79 CE) was a successful military commander. After Nero's death, the empire was plunged into civil war and Vespasian was one of the four emperors who were fighting for control. Vespasian won. He is best known for financial reforms, the successful campaign against Judaea, and for building the Flavian Amphitheatre, known today as the Colosseum.

Titus (79 CE – 81 CE) was the son of Vespasian. He was a successful military commander who ended the Jewish rebellion and besieged Jerusalem in 70 CE. He destroyed the city and the temple. For this, he received a triumph: the Arch of Titus, which still stands in the Roman Forum. As a ruler, Titus is mainly known for completing the Colosseum. He died

of a fever after ruling two years.

Domitian (81 CE – 96 CE) was the younger brother of Titus. He was emperor for 15 years. He was known for strengthening the economy. He also expanded border defenses and started rebuilding the damaged parts of Rome. A "cult of personality" was created around Domitian and he was seen as an idealized and heroic emperor. He was popular with the people and the army, but was considered a tyrant by the Roman Senate. He was assassinated in 96 CE.

Nerva (96 CE – 98 CE) was an advisor to Domitian. He was declared emperor by the Roman Senate on the day Domitian was assassinated. He vowed to restore freedoms that were taken away by Domitian. His brief reign was troubled by financial problems and he was unable to control the Roman army. He died of natural causes and his greatest success was appointing his adopted son Trajan as his successor.

Match each emperor with the correct fact about him.

Augustus	Had some kind of disability in speech and walking
Tiberius	Destroyed Jerusalem and the temple
Caligula	Moved to the Isle of Capri and left administration to Praetorian Prefect Sejanus
Claudius	Winner of the civil war between four emperors
Nero	First Emperor of Rome
Vespasian	A "cult of personality" was created around him
Titus	Accused Christians of starting the Great Fire of Rome
Domitian	Greatest success was appointing Trajan as his successor
Nerva	Known as a cruel and extravagant emperor

PSYCHOLOGY

How Laughter Is Used in Social Situations

Usually, we laugh when something is funny to us. **Psychologists** point out that humans also use laughter as a form of communication.

Just like our ability to talk, laughter is an **evolutionary trait**. In fact, many other mammals also laugh. Chimpanzees, dogs, rats, and dolphins are all known to have the ability to laugh.

For mammals, laughter is a way to communicate to others that some activity is fun and harmless. Humans use laughter in more complicated ways. It doesn't always mean we are having fun.

Humans use laughter to smooth over difficult social situations. For example, people will laugh during situations that could represent a threat such as an **awkward** exchange or misunderstanding. In these cases, laughter is intended to prevent the situation from getting worse.

Adrienne Wood, an assistant professor of psychology, looked into laughter a little deeper. Her team of researchers did a study in which participants talked to ten strangers in one-on-one conversations. Talking to strangers can often be awkward. The researchers made some interesting discoveries.

First, the tendency to laugh does not seem to be related to who you are talking to. Participants tended to laugh at about the same rate, regardless of which stranger they talked to.

The researchers also found that people who tended to laugh more actually enjoyed their conversations less. Clearly, this laughing was not a sign of enjoyment, but was being used to smooth over the awkwardness of the moment.

Wood's team went on to classify laughter based on three types of communication. The first is reward laughter. This is the laughter we make when we are truly amused and want to signal our enjoyment. A second type is affiliation laughter. This is laughter we use to smooth over a difficult situation. We use it even when we are not experiencing pleasure. Finally, there is dominance laughter. This is used when we want to tell someone we don't think they are worth taking seriously. ★

DID YOU KNOW

Scientists have observed laughter in 65 different animal species.

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WORD POWER

PSYCHOLOGIST: Someone who studies how we think, feel, and behave and can help treat mental, emotional, and behavioural problems

EVOLUTIONARY TRAIT: A trait that is inherited from previous generations and that serves a purpose toward our survival

AWKWARD: Uneasy or uncomfortable

PSYCHOLOGY

How Laughter Is Used in Social Situations

1. How is laughter used by mammals?

2. What is one way that humans use laughter?

3. Is the tendency to laugh related to who you are talking to?

4. What did the researchers find about the people who tended to laugh more?

5. What are the three ways laughter is used to communicate?

CRITICAL THINKING

1. What are some of the things that make you laugh?

TECHNOLOGY

Biometrics and How You Walk

Have you heard someone come into a room and you can tell who it is simply by listening to the sound of their footsteps? Just as we have **distinctive** faces, voices, and fingerprints, a person's gait—how they walk—tends to be unique and identifiable.

Scientists at the University of New Brunswick are studying this fact to see if it can be used in biometrics. Biometrics is the use of a person's unique physical characteristics for identification purposes. Biometrics can be used to keep your belongings or accounts secure. Biometrics are already widely used this way. Many smartphones use **facial recognition** or fingerprint scanners so that only you can quickly unlock your device.

The most common characteristics used in biometrics are people's faces, **retinas**, voices, and fingerprints. These characteristics are unique from person to person. Erik Scheme from the University of New Brunswick thinks a person's gait may be similarly unique.

To study this possibility, Scheme and a team of researchers have created a laboratory. They have installed electronic floor tiles that can record a person's footfalls—how far apart they are, how much pressure they put on the floor, and so on. Using this data, the researchers are studying the gaits of different people to see if they can identify aspects of how they walk that are distinctive from others.

One of the advantages of this form of biometric identification is it would be quick and contactless. It could be useful in busy places like airports and office building lobbies. People wouldn't even have to stop to be identified.

There are some challenges. A person's gait tends to be unique, but what happens if they are carrying a heavy object, if they have recently sprained their ankle, or if they are walking slowly because they are distracted? The team is studying whether a person's gait can still be identified under these conditions.

DID YOU KNOW

Canadians have been unlocking iPhones with their fingerprints since 2013.

To view videos, go to: http://resources.dynamic-classroom.ca/books/qzlb

WORD POWER

DISTINCTIVE: Having a quality or characteristic that makes a person or thing different from others

FACIAL RECOGNITION: The identification of a person in an image or video using measurements of features of their face

RETINA: The interior, back surface of the human eye that contains a unique pattern of blood vessels

TECHNOLOGY

Biometrics and How You Walk

1. What is biometrics?

2. What are the most common characteristics used in biometrics? Why are they used?

3. Describe the laboratory that the team of researchers created.

4. How are the researchers using the data they collect?

5. What are some of the challenges to using this form of biometrics?

CRITICAL THINKING

1. Do you think that it is possible to identify a person by the way that they walk? Explain your answer.

Measuring Your Stride

Stride length is the distance covered when you take two steps, one with each foot. Start with your two feet together and start walking. You can start with either foot, but if you start with your left foot:

- Lift your left foot up and step forward.
- Now both feet are on the ground with the left foot ahead of the right one.
- Lift your right foot and swing it forward past your left foot, and place it on the ground.
- Now both feet are on the ground with the right foot ahead of the left one.

The distance travelled during that motion is your stride length.

A step length is the distance covered when you take one step. Start with your two feet together and start walking. You can start with either foot, but if you start with your left foot:

- Lift your left foot up and step forward.
- Now both feet are on the ground with your left foot ahead of your right one.

The distance your left foot travelled (from the toe of your right foot to the toe of your left foot, or from the heel of your right foot to the heel of your left foot) is your step length.

How to calculate your step and stride length

If you are doing this calculation outside, bring a piece of chalk and a measuring tape. If you are doing this inside, have a tape measure and some masking tape.

- Using the tape measure and the chalk (outside) or the masking tape (inside), measure and mark off a specific distance, such as seven metres.
- Start walking about three metres before one of the marks to get up to speed in your natural walk.
- When you hit the first mark, start counting your steps, stopping your count when you hit the second mark.
- Divide the number of metres in your measured distance by the number of steps you took from the first mark to the second. Distance in metres/number of steps = step length. For example, if it took you 16 steps to cover seven metres, your step length would be 0.475 metres (47.5 centimetres).

To calculate your walking stride length, divide the number of steps you took by 2 and divide that number into the measured distance. If it took you 16 steps to cover seven metres, divide the number of steps (16) by 2 to get the number of strides. Then take the answer (8) and divide it into the distance. Distance in metres/number of strides = stride length. In this case, you took 8 strides in seven metres, so your stride length would be 0.875 metres (87.5 centimetres).

If you want a more accurate measurement, use a longer distance:

- Mark your starting point and walk until you have counted 50 steps.
- Mark the end of your last step.
- Measure between the two marks.
- Follow the same calculations as above: distance in metres/number of steps = step length and distance in metres/number of strides = stride length.

For even more accuracy, do the longer distance three or four times, and then average the results.

ENVIRONMENT

Will Canada's Forests Recover?

It has been a smoky summer in Canada. Researchers say wildfires this year could destroy four times more land than any previous year on record. This has many wondering why this is happening, and will Canada's forests recover?

This is happening because of the usual reasons, including lightning and careless human behaviour (such as campfires not put out properly). This is being made worse by hot and dry conditions.

Experts say climate change is why the wildfires are getting worse. As the planet warms, Canada is experiencing hotter and longer springs and summers. Along with decreases in how much snow and rainfall some regions receive, Canada's vast **boreal forests** are experiencing ripe conditions for wildfires to start.

As for whether the forests will recover, Edward Struzik says Canada's boreal forests are well **adapted** to fire. Struzik is an author and educator at the Queen's Institute for Energy and Environmental Policy. Struzik says fire is part of the natural cycle for Canada's boreal forests and vegetation can grow back very quickly.

Ellen Whitman is a forest fire research scientist. Whitman says the dense, **conifer** forests could end up being replaced by more open landscapes with fewer trees and more fire-resilient vegetation. This would be good for some animal species that prefer that kind of landscape, like bison and moose. It would be bad for caribou that prefer the dense boreal forest.

Struzik says the southern end of Canada's boreal forest likely won't survive global warming. He suggests rather than replanting conifer trees, Canada should look to restore more wetlands in these regions. Wetlands act as natural fire barriers and offer refuge for animals and birds.

Indigenous Peoples who have a deep connection to the cycles of the land could also help, by bringing their Indigenous knowledge and approaches to forest management. They could help identify tree, plant, and animal species to put back onto the land after a wildfire so the forest can return to its historical roots.

? DID YOU KNOW

Canada's boreal forest is vast, covering 270 million hectares of land—about 60 percent of all the land in Canada.

To view videos, go to: http://resources.dynamic-classroom.ca/books/qzlb

WORD POWER

BOREAL FOREST: Large forests adapted to northern climates in Canada, Alaska, and Russia

ADAPTED: Changed so that it functions better or is better suited for a purpose

CONIFER: A type of tree that has needle-like leaves that don't fall off in winter and that are adapted to regions that are dry and cold

ENVIRONMENT

Will Canada's Forests Recover?

1. Why is so much land being destroyed by fires?

2. How is climate change making wildfires worse?

3. What does Edward Struzik say about Canada's boreal forests and fire?

4. What does Ellen Whitman have to say about the conifer forests?

5. How could Indigenous Peoples help the boreal forests?

CRITICAL THINKING

1. Why are the boreal forests important for Canada?

BIG IDEAS

What Is the Central Nervous System?

In human beings, the main parts of the central nervous system (CNS) are the brain and spinal cord. The CNS is a vital part of who we are and everything we do.

The CNS is made up of special cells called neurons. These are cells that are capable of conducting electrical impulses from one part of the body to another.

If there is a centre of the CNS, it is the brain. The brain is the most complex organ in the human body. It is responsible for our ability to think, have memories, and feel emotions. It also receives electrical impulses from the spinal cord and other nerve cells that are responsible for our senses: our ability to touch, to hear, to see, to smell, and to taste.

The brain also sends out electrical impulses to our muscles, causing them to move. Some are reflexive. For example, the brain automatically sends out regular electrical impulses that keep our heart beating and our intestines digesting. The brain is also responsible for voluntary motor functions and sends impulses to muscles whenever we want to move: to walk, run, catch a baseball, or sing.

The spinal cord connects to the brain and runs down through our neck and the middle of our back to the tailbone. It consists of a bundle of nerves that carry electrical impulses to and from the brain to the rest of the body.

Both the brain and spinal cord are important to our survival and so they are protected by hard bony structures. The brain is protected by the skull, while the spinal cord is protected by bony structures called vertebrae.

While these bony structures do a good job of protecting our CNS, the brain and spinal cord can be damaged. Damage to the spinal cord can result in pain or **paralysis**. Damage to the brain often comes in the form of a **concussion**. There are also diseases that can damage the CNS that can result in **cognitive** problems and problems with movement and muscle control.

? DID YOU KNOW

The brain consists of an estimated 100 billion neurons.

To view videos, go to: http://resources.dynamic-classroom.ca/books/qzlb

WORD POWER

PARALYSIS: The loss of the ability to move (and sometimes to feel) part of the body

CONCUSSION: Damage to the brain caused by a violent blow to the head

COGNITIVE: Having to do with our ability to think

BIG IDEAS

What Is the Central Nervous System?

1. What are the main parts of the central nervous system?

2. What are neurons?

3. What does the brain do?

4. What is the spinal cord?

5. How are the brain and spinal cord protected?

CRITICAL THINKING

1. What are some things you can do to protect your brain and spinal cord?

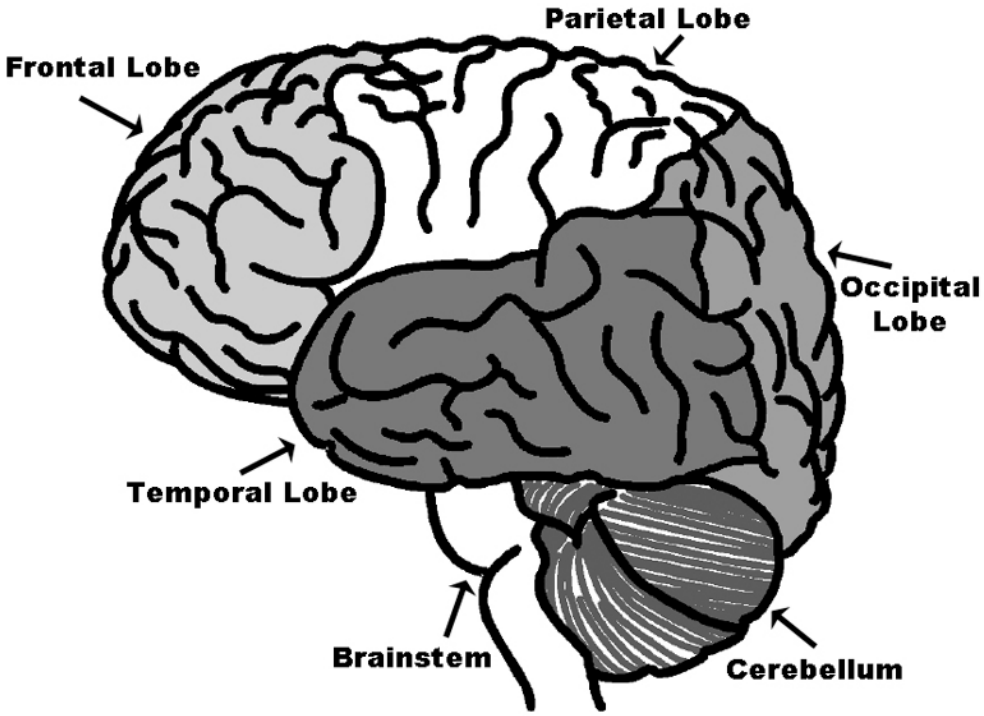
This Is Your Brain

The brain is the most complex part of the human body. Although the blood may be responsible for some functions, this three-pound organ controls just about everything you do, even when you are asleep. The brain is also the location of all reason and intelligence, and has parts that are responsible for perception, concentration, memory, and emotions.

The **brainstem** controls basic survival functions, such as heart rate, breathing, digesting food, and sleeping. The cerebellum is responsible for balance and muscle coordination.

The **cerebrum** is the largest part of the brain. It holds memories and allows you to plan, imagine, think, recognize friends, read books, and play games. It controls your voluntary muscles. It is divided into two hemispheres and each hemisphere is divided into sections (lobes).

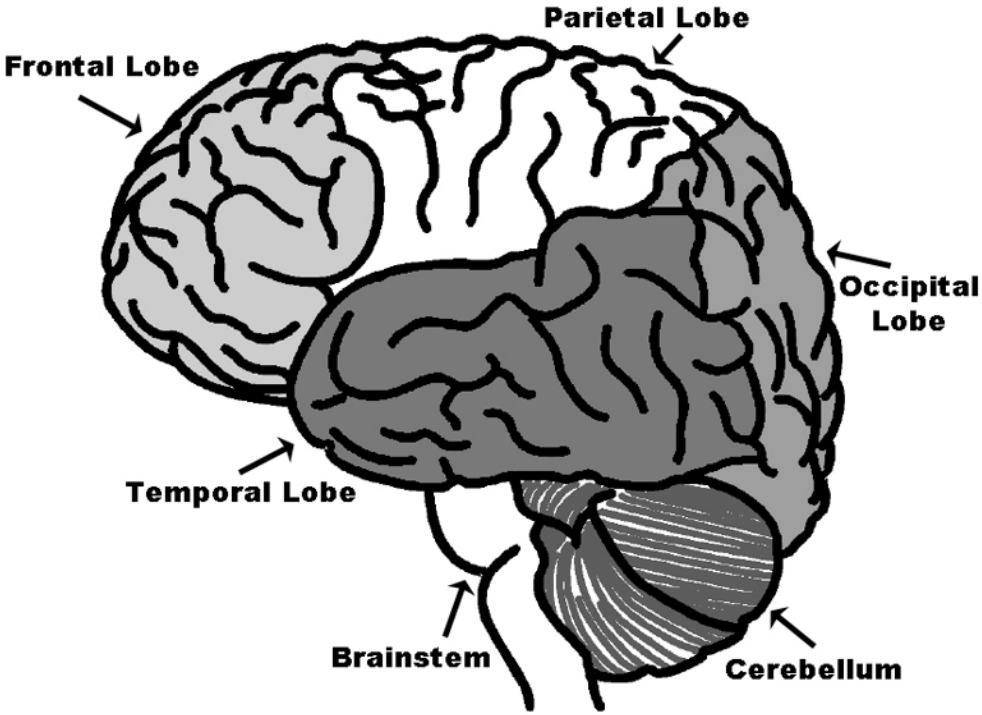
- The **parietal lobe** receives and processes sensory information from the body, including touch, pain, and calculating location and speed of objects.
- The **occipital lobe** processes images from the eyes and links that information with images stored in memory.
- The **frontal lobe** is involved in motor skills (including speech) and cognitive functions. When you plan a schedule, imagine the future, or use reasoned arguments, the frontal lobe does most of the work.
- The **temporal lobe** controls memory storage area, emotion, hearing, and language.



Connect each description with the correct part of the brain.

1. Controls memory storage area and emotion

2. Receives and processes sensory information



3. Responsible for balance and muscle coordination

4. Controls basic survival functions

5. Processes images from the eyes

6. Involved in motor skills and cognitive functions

Science News Quiz

NERO'S THEATRE DISCOVERED IN ROME

1. The seats are arranged in levels that descend toward a _____ area.
2. Archaeologists think the theatre was a private place where Nero could watch plays with some of his friends.

   True False

HOW LAUGHTER IS USED IN SOCIAL SITUATIONS

1. Humans use laughter as a form of _____.
2. What did the researchers discover about people who tended to laugh more?

   A. They were always amused. B. They enjoyed their conversations more. C. They enjoyed their conversations less.

BIOMETRICS AND HOW YOU WALK

1. Biometrics is the use of a person's unique physical characteristics for identification purposes.

   True False

2. Erik Scheme from the University of New Brunswick thinks a person's _____ may be unique.

WILL CANADA'S FORESTS RECOVER?

1. Struzik says _____ is part of the natural cycle for Canada's boreal forests.
2. Ellen Whitman says the dense, conifer forests could end up being replaced by what?

   A. Lakes B. More open landscapes C. Denser forests

WHAT IS THE CENTRAL NERVOUS SYSTEM?

1. If there is a centre of the central nervous system, what is it?

   A. The brain B. The heart C. The spinal cord

2. The brain also sends out electrical impulses to our _____, causing them to move.

Science News Answer Key

Nero's Theatre Discovered in Rome

1. **How old are the ruins? Where are they located?**
   The ruins are almost two thousand years old, from the first-century CE. They are located close to Vatican City.
2. **Describe the theatre that was found.**
   The building had a semicircular seating space shaped like a horseshoe. The seats are arranged in levels that descend toward a stage area. Ancient Greek and Roman theatres were often built this way. The stage had a decorated background that was covered in marble and gold leaf.
3. **What is believed about the second building?**
   The second building is believed to have had rooms for stage equipment such as sets and costumes.
4. **Who is believed to have used the theatre?**
   It is believed the theatre was used by Emperor Nero who lived from 37 CE to 68 CE.
5. **How was the theatre used by Nero?**
   Archaeologists think the theatre was a private place where Nero could practice his poetry and music in front of small audiences.

Roman Emperors

Augustus: First Emperor of Rome
Tiberius: Moved to the Isle of Capri and left administration to Praetorian Prefect Sejanus
Caligula: Known as a cruel and extravagant emperor
Claudius: Had some kind of disability in speech and walking
Nero: Accused Christians of starting the Great Fire of Rome
Vespasian: Winner of the civil war between four emperors
Titus: Destroyed Jerusalem and the temple
Domitian: A "cult of personality" was created around him
Nerva: Greatest success was appointing Trajan as his successor

How Laughter Is Used in Social Situations

1. **How is laughter used by mammals?**
   For mammals, laughter is a way to communicate to others that some activity is fun and harmless.
2. **What is one way that humans use laughter?**
   Humans use laughter to smooth over difficult social situations. In these cases, laughter is intended to prevent the situation from getting worse.
3. **Is the tendency to laugh related to who you are talking to?**
   The tendency to laugh does not seem to be related to who you are talking to. Participants tended to laugh at about the same rate, regardless of which stranger they talked to.
4. **What did the researchers find about the people who tended to laugh more?**
   The researchers also found that people who tended to laugh more actually enjoyed their conversations less.
5. **What are the three ways laughter is used to communicate?**
   The first is reward laughter. This is the laughter we make when we are truly amused and want to signal our enjoyment. A second type is affiliation laughter. This is laughter

we use to smooth over a difficult situation. Finally, there is dominance laughter. This is used when we want to tell someone we don't think they are worth taking seriously.

Biometrics and How You Walk

1. **What is biometrics?**
   Biometrics is the use of a person's unique physical characteristics for identification purposes.
2. **What are the most common characteristics used in biometrics? Why are they used?**
   The most common characteristics used in biometrics are people's faces, retinas, voices, and fingerprints. These characteristics are unique from person to person.
3. **Describe the laboratory that the team of researchers created.**
   They have installed electronic floor tiles that can record a person's footfalls—how far apart they are, how much pressure they put on the floor, and so on.
4. **How are the researchers using the data they collect?**
   Using this data, the researchers are studying the gaits of different people to see if they can identify aspects of how they walk that are distinctive from others.
5. **What are some of the challenges to using this form of biometrics?**
   A person's gait tends to be unique, but what happens if they are carrying a heavy object, if they have recently sprained their ankle, or if they are walking slowly because they are distracted? The team is studying whether a person's gait can still be identified under these conditions.

Will Canada's Forests Recover?

1. **Why is so much land being destroyed by fires?**
   This is happening because of the usual reasons, including lightning and careless human behaviour (such as campfires not put out properly). This is being made worse by hot and dry conditions.
2. **How is climate change making wildfires worse?**
   As the planet warms, Canada is experiencing hotter and longer springs and summers. Along with decreases in how much snow and rainfall some regions receive, Canada's vast boreal forests are experiencing ripe conditions for wildfires to start.
3. **What does Edward Struzik say about Canada's boreal forests and fire?**
   Edward Struzik says Canada's boreal forests are well adapted to fire. Struzik says fire is part of the natural cycle for Canada's boreal forests and vegetation can grow back very quickly.
4. **What does Ellen Whitman have to say about the conifer forests?**
   Whitman says the dense, conifer forests could end up being replaced by more open landscapes with fewer trees and more fire-resilient vegetation. This would be good for some animal species that prefer that kind of landscape, like bison and moose. It would be bad for caribou that prefer the dense boreal forest.
5. **How could Indigenous Peoples help the boreal forests?**
   Indigenous Peoples who have a deep connection to the cycles of the land could also help, by bringing their Indigenous knowledge and approaches to forest

management. They could help identify tree, plant, and animal species to put back onto the land after a wildfire so the forest can return to its historical roots.

What Is the Central Nervous System?

1. **What are the main parts of the central nervous system?**
   In human beings, the main parts of the central nervous system (CNS) are the brain and spinal cord.
2. **What are neurons?**
   These are cells that are capable of conducting electrical impulses from one part of the body to another.
3. **What does the brain do?**
   It is responsible for our ability to think, have memories, and feel emotions. It also receives electrical impulses from the spinal cord and other nerve cells that are responsible for our senses: our ability to touch, to hear, to see, to smell, and to taste.
4. **What is the spinal cord?**
   The spinal cord connects to the brain and runs down through our neck and the middle of our back to the tailbone. It consists of a bundle of nerves that carry electrical impulses to and from the brain to the rest of the body.
5. **How are the brain and spinal cord protected?**
   The brain is protected by the skull, while the spinal cord is protected by bony structures called vertebrae.

This Is Your Brain

1. **Controls memory storage area and emotion**
   Temporal lobe
2. **Receives and processes sensory information**
   Parietal lobe
3. **Responsible for balance and muscle coordination**
   Cerebellum
4. **Controls basic survival functions**
   Brainstem
5. **Processes images from the eyes**
   Occipital lobe
6. **Involved in motor skills and cognitive functions**
   Frontal lobe

Science News Quiz

NERO'S THEATRE DISCOVERED IN ROME

1. The seats are arranged in levels that descend toward a **STAGE** area.
2. **Archaeologists think the theatre was a private place where Nero could watch plays with some of his friends.**
   False – Where he could practice his poetry and music in front of small audiences

HOW LAUGHTER IS USED IN SOCIAL SITUATIONS

1. Humans use laughter as a form of **COMMUNICATION**.
2. **What did the researchers discover about people who tended to laugh more?**
   C. They enjoyed their conversations less.

BIOMETRICS AND HOW YOU WALK

1. **Biometrics is the use of a person's unique physical characteristics for identification**

purposes.
True

2. Erik Scheme from the University of New Brunswick thinks a person's **GAIT** may be unique.

WILL CANADA'S FORESTS RECOVER?

1. Struzik says **FIRE** is part of the natural cycle for Canada's boreal forests.
2. **Ellen Whitman says the dense, conifer forests could end up being replaced by what?**
B. More open landscapes

WHAT IS THE CENTRAL NERVOUS SYSTEM?

1. **If there is a centre of the central nervous system, what is it?**
A. The brain
2. The brain also sends out electrical impulses to our **MUSCLES**, causing them to move.