

CONTESTANT NUMBER:

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Score Test Below:

_____ out of 75. Initials _____

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Papers contending to place:

_____ out of 75. Initials _____



**University Interscholastic League
A+ Listening Contest • Answer Sheet**

Write your contestant number in the upper right corner, and circle your grade below.

Circle Grade Level : 5 6 7 8

- 1. A B C D
- 2. A B C D
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UIL LISTENING CONTEST - GRADES 5 & 6 INVITATIONAL MEET 2020-2021

Contest Script- "The History of Zippers"

Have you ever wondered where some of the everyday items we use come from? They could not have always been here – think cavemen. Did they have them? If the answer is no, then someone had to invent them. Imagine houses without light bulbs, cars without tires made of rubber, and living rooms without TVs. Life wouldn't be the same. Another invention that changed our lives was the zipper. Seriously – can you imagine jeans without zippers? Where did the zipper come from and how does it work? The zipper was actually invented with contributions from several inventors who had no idea how it would impact our everyday lives.

1:00

The first inventor noted for his contribution is Elias Howe, Jr. Elias Howe is generally known as the inventor of the sewing machine. Although he was not the first person to invent the sewing machine, he was able to make specific improvements to the earlier attempts including a needle with an eye at the point instead of the head, a shuttle operating beneath the cloth to form a locking stitch, and an automatic feed to make moving the cloth through the machine easier. On September 10, 1846, he was awarded the first United States patent for a sewing machine using the lock stitch design. Sadly, it was not an instant success. He moved to England to try to improve it for use with leather and similar materials. When he returned to the United States, he found that I.M. Singer had copied his design and was making and selling his sewing machine.

2:00

After a long legal battle, Howe established his patent rights and soon his invention revolutionized the garment industry. It was during this time that he realized the need for a way to temporarily open and close openings in the cloth. In 1851, Elias Howe received a patent for an "Automatic, Continuous, Clothing Closure." He did not pursue it very far because he had many other projects, and, as a result, it did not take off. His invention was not like zippers of today. Instead it was more like a fancy drawstring.

Forty-four years later, inventor Whitcomb Judson (1846–1909) gave it a try. Whitcomb Judson first began making inventions around 1888 or 1889. He focused mainly at that time on inventions to improve street railway cars. In 1889, he obtained six patents related to street railway cars running on compressed air. This did not bring him much success. It was not until he began designing a metal fastening device that he called the Clasp Locker that he became recognized for his inventions. He received a patent for his invention on November 7, 1891. This invention was not called a zipper either, and it was not originally used on clothing. Whitcomb's "Clasp Locker" or "Unlocker for Shoes" was a complicated hook-and-eye shoe fastener with an arrangement of hooks and eyes run by a guide for closing and opening the shoe.

3:00

It is said that one of the reasons he invented it was because he hated the time and effort it took to fasten high button boots that were in style during his day. His patents also mentioned possible use for corsets, gloves, mail bags, and anything that had two adjacent parts that needed to be connected. Unlike Elias Howe, Whitcomb marketed his "Clasp Locker" and got credit for being the "inventor of the zipper." Judson's first partner in his shoe fastener venture was Harry Earle of Minneapolis, Minnesota. Judson worked as a traveling agent for the Harry L. Earle Manufacturing Company at the time. Earle attempted to raise money to promote the invention, but he wasn't successful because of the limited function of the invention.

In 1893, Judson exhibited his new invention at the Chicago World's Fair. He formed a new partnership with Colonel Lewis Walker and Harry L. Earle and opened a company called the Universal Fastener Company to manufacture his new invention. The Universal Fastener Company started out in Chicago and then moved to Elyria, Ohio. It later moved to Pennsylvania and finally to Hoboken, New Jersey. Eventually the name changed to Automatic Hook and Eye Company. Sadly, even though Whitcomb Judson made a good attempt and received the title of inventor of the zipper, he never made a truly practical device that could be used on any type of material or clothing.

4:00

5:00

It wasn't until a Swedish-born electrical engineer named Gideon Sundback came along that the zipper became really popular. Gideon had originally been hired to work for the Universal Fastener Company. He was a skilled designer and happened to be married to the plant manager's daughter Elvira. He decided to work on improving the Judson fastener. His wife died in 1911, and he filled his long hours alone by working at the design table. By 1913, he came up with what would become the modern zipper. His new and improved system compacted the number of fastening elements from four per inch to 10. It also had two rows of teeth that faced each other. These teeth could be pulled into a single strand using a sliding element or opened by sliding the element the opposite direction. He called it the "Separable Fastener" and was issued a patent in 1917. Sundback also created a machine that could manufacture the zipper chain at the rate of a few hundred feet of fastener per day. He later changed the name from "Separable Fastener" to "Talon".

When the B.F. Goodrich company decided to use the fastener on a new type of rubber boots the name "zipper" was actually used. Boots and tobacco pouches with a zippered closure were the main use of zippers at that time. It took almost 20 years for the fashion industry to use them regularly.

6:00

In the 1930s, a sales campaign began featuring zippers in children's clothing. The zipper was promoted as a way to provide independence and self-reliance for young children. Instead of relying on adults for help, children could zip up their own clothes and dress themselves. However, in 1937, the zipper reached new heights when it beat out the button in what has been called the "Battle of the Fly." French fashion designers had discovered the zipper and began sewing them into men's trousers. Esquire magazine declared the zipper the "Newest Tailoring Idea for Men." The next big boost for the zipper came when an improvement in design allowed it to be open on both ends, like those used on jackets. Today the zipper is used on countless objects such as clothing, luggage, sofa cushions, etc. Thousands of miles of zipper are manufactured daily to meet the needs of consumers.

7:00

Let's take a look at how zippers are designed today. Most zippers consist of two rows of teeth which can be made to lock together. The teeth are also referred to as elements. The slider, the part with the tab that is pulled up or down, moves along the rows of the teeth. Inside the slider is a Y-shaped channel that either meshes together or separates the opposite rows of elements depending on whether you are pulling up or down. The word zipper is considered to be onomatopoeic because of the zipping sound it makes when you move the slider. Without the two major components – the elements and the slider – a zipper simply would not zip.

8:00

As time has progressed, many variations have developed in zippers. In many jackets, the zipper seems to be disconnected because it is open at both ends. The user simply inserts the tab into the slider and locks it in place before pulling the tab. Some bags, suitcases, and backpacks have zippers that are double sliders. When the two sliders are next to each other, the zipper is closed. When you pull one slider away from the other, it creates an opening allowing the bag or suitcase to open. NASA created the first airtight zippers for use in high-altitude pressure suits and space suits. These suits are capable of controlling the air pressure inside of the suit while in space. This airtight zipper is built like a standard zipper, but it has waterproof sheeting wrapped around the outside of each row of zipper teeth. When the zipper is closed, the two facing sides of plastic sheeting are squeezed so tightly that it forms a seal. Because the fit must be so tight, the airtight zippers are very stiff and don't have much flexibility or stretch. They are also hard to open and close. This type of zipper can now be found on scuba diving dry suits, ocean survival suits, and hazmat suits.

There are many companies that manufacture zippers. When Gideon Sundback created the zipper (later called Talon), the Universal Fastener company changed its name to the Automatic Hook and Eye Company. Later it changed to the Hookless Fastener Company, and finally in 1937, it changed for a third time into a more streamlined name – Talon, Inc. Today, leading companies like the Tex Zipper Corp make a variety of different zippers such as Invisible Zippers, Metallic Zippers, and Plastic Zippers. However, Talon Zipper is still one of the dominant zipper companies today.

INVITATIONAL 2020-2021

A+ ACADEMICS



University Interscholastic League



Listening
grades 5 & 6

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

UIL LISTENING CONTEST - GRADES 5/6
INVITATIONAL 2020-2021
TEST

"The History of Zippers"

1. Elias Howe is most famous for his invention of the
 - A. sewing machine
 - B. zipper
 - C. clothing closure
 - D. shuttle stitch
2. In what year did Whitcomb Judson obtain six patents related to street railway cars running on compressed air?
 - A. 1886
 - B. 1889
 - C. 1892
 - D. 1895
3. Who did Gideon Sundback work for?
 - A. Automatic Hook and Eye
 - B. Harry L. Earle Manufacturing
 - C. Hookless Fastener
 - D. Universal Fastener
4. How does the airtight zipper benefit NASA?
 - A. Suits with airtight zippers are capable of controlling the air pressure inside of the suit while in space.
 - B. Airtight zippers are also watertight allowing the astronaut to remain dry during a water landing.
 - C. The airtight zippers are stiff and can't be easily unzipped.
 - D. The teeth of the zippers are made of plastic, and, as a result, are not affected by the negative gravity in space.
5. When was the "Battle of the Fly"?
 - A. 1913
 - B. 1937
 - C. 1917
 - C. 1933
6. What was the advertising focus of zippers for children?
 - A. less time to close than buttons so moms could save time
 - B. no more gapping between the buttons which allowed dirt to sneak in
 - C. no more tying and retying of the shoestrings
 - D. children could zip the zippers all by themselves
7. Where did Whitcomb use his original Clasp Locker?
 - A. purses
 - B. shoes
 - C. jackets
 - D. trousers

8. In what year did Elias Howe receive a patent for an "Automatic, Continuous, Clothing Closure."
- A. 1850
 - B. 1851
 - C. 1852
 - D. 1853
9. What was Gideon Sundback's first attempt at a zipper called?
- A. Automatic Closure
 - B. Universal Fastener
 - C. Talon
 - D. Separable Fastener
10. What did the B.F. Goodrich company use a zipperlike fastener on?
- A. rubber boots
 - B. car seat covers
 - C. women's purses
 - D. army fatigues
11. Who declared the zipper the "Newest Tailoring Idea for Men"?
- A. Tex Zipper Corp
 - B. Esquire Magazine
 - C. Henry Lewis Walker
 - D. Elias Howe
12. Who was Judson's first partner in his Clasp Locker venture?
- A. I.M Singer
 - B. Elvira Goodman
 - C. Harry Earle
 - D. Judson Whitcomb
13. The teeth of the zipper are officially called the
- A. bars
 - B. slider
 - C. elements
 - D. channel
14. Why did Elias Howe and I.M. Singer battle in court?
- A. Singer copied Howe's patented design and began creating items for sale.
 - B. Howe claimed that Singer had stolen his prototype from his warehouse.
 - C. Singer believed that Howe was infringing on his patent.
 - D. Both men invented a type of zipper that was similar and wanted to patent it.
15. The Universal Fastener Company started out in Chicago, Illinois and then moved to
- A. Philadelphia, Pennsylvania
 - B. Elyria, Ohio
 - C. Akron, Ohio
 - D. Hoboken, New Jersey
16. What causes the airtight zipper used by NASA to remain airtight?
- A. It is stiff and difficult to open.
 - B. Waterproof sheeting forms a tight seal.
 - C. A double row of teeth create a two-way seal.
 - D. Nylon fabric covers the double row of teeth creating an airtight flap.
17. How many times did the Universal Fastener Company change its name?
- A. 3
 - B. 4
 - C. 5
 - D. 6

18. What was the final name of the original Universal Fastener Company?
- A. Hookless Fastener Company
 - B. Automatic Hook and Eye Company
 - C. Tex Zipper Corporation
 - D. Talon, Inc.

True/False

19. When the B.F. Goodrich company decided to use a fastener on a new type of tobacco pouch the name "zipper" was actually used for the first time.
20. Even though Whitcomb Judson made a good attempt and received the title of inventor of the zipper, he never made a truly practical device that could be used on any type of material or clothing.
21. Inside the slider, the metal part that has a tab attached to it, is a Y-shaped channel that either meshes together or separates the opposite rows of elements depending on whether you are pulling up or down.
22. After French fashion designers discovered the zipper and began sewing them into men's trousers, the next big boost for the zipper came when an improvement in design allowed it to be open on both ends, like those used on jackets.
23. Sundback created a machine that could manufacture the zipper chain at the rate of twenty-four hundred feet of fastener per day.
24. Gideon Sundback was a Swedish-born electrical engineer whose wife Elvira died in 1911 causing him to partner with Colonel Lewis Walker making Separating Fasteners in an effort to forget his sadness.
25. In 1893, Judson exhibited his new invention, "Automatic, Continuous, Clothing Closure" at the Chicago World's Fair.

UIL LISTENING CONTEST - GRADES 5/6
INVITATIONAL MEET 2020-2021
ANSWER KEY

"The History of Zippers"

1. A

2. B

3. C

4. A

5. B

6. D

7. B

8. B

9. D

10. A

11. B

12. C

13. C

14. A

15. B

16. B

17. A

18. D

19. False

20. True

21. True

22. True

23. False

24. False

25. False

UIL LISTENING CONTEST - GRADES 7-8
INVITATIONAL 2020-2021

Contest Script- "Hummingbirds"

Imagine that you are walking down the sidewalk in a quiet neighborhood. Hanging on many porches, poles, or trees are bright red containers of sugary sweet water. Sometimes the water red. Other times it is clear. Many of the containers have yellow flowers on them. What in the world is this? Suddenly you see a flurry of movement. Looking closer you see a tiny bird with wings fluttering so fast you can barely see them. It's a hummingbird.

1:00 Brightly colored hummingbirds are one of nearly 10,000 bird species in the world. Here in the United States we see them zipping about during the spring and summer months. If you listen closely, you can even hear the buzzing sound made by their wings and a distinctive chirp they make as they communicate with each other. Remarkably, hummingbirds are native to North America and South America, which are part of the Western Hemisphere. In fact, hummingbirds only live naturally in the Western Hemisphere and are only found elsewhere if they are in captivity. There are no hummingbirds in Europe, Africa, Asia, Australia, or Antarctica. Let's take a few minutes to look at the physical features of these amazing little birds.

Hummingbirds are the world's smallest bird. Most hummingbirds are known by their beautiful throat color. However, contrary to popular belief, it isn't caused by the color of their feathers. Instead, it is caused by iridescence in the arrangement of the feathers. Iridescence means that certain surfaces appear to gradually change color as the angle you are viewing it from changes. For example, think about the surface of soap bubbles as they float through the air. As they move, they change color before your eyes. Light, moisture, angle, and other factors all influence just how bright the colorful feathers at the throat of the bird appear. Hummingbirds have fewer feathers than any other species

2:00

of bird in the world. They do not need as many feathers because they are so tiny in size. They only have 1,000 to 1,500 feathers which makes them more lightweight and helps them in their flight.

Roughly 25-30 percent of a hummingbird's weight is in the broad muscles of its chest. These are called the pectoral muscles and are used mainly for flying. The life of a hummingbird is spent mostly in flight. Unlike other birds, hummingbirds cannot walk or hop. They can use their feet to scoot sideways while they are perched and sometimes use them for scratching an itch. Their feet have evolved smaller than most because they are more efficient for flying. An average hummingbird's heart rate is more than 1,200 beats per minute. Imagine your own heart beating. Humans usually have an average heart rate of only 60 to 100 beats per minute. Multiply that by about 200 times. That's really, really fast. Another interesting fact about hummingbirds is that they have no sense of smell. That's such a shame because they are always flying around beautiful flowers. At least they can see the pretty colors. They have very good eyesight.

3:00

That brings us to what hummingbirds are doing flying around all those flowers. As you can guess, hummingbirds use the nectar from flowers as food. Hummingbirds digest natural sucrose, the sugar found in the nectar of flowers. Because it must consume approximately one half of its weight in sugar every day, the average hummingbird must eat from five to eight times each hour. It uses the energy efficiently producing only 3 percent waste as it uses 97 percent of the sugar it eats for the energy it needs to stay alive. In addition to nectar, they also eat small insects and spiders as well as sipping tree sap or juice from leaky fruits.

4:00

Hummingbirds have long bills that look like straws. However, they do not suck the nectar as you would a soda. They actually lick it with fringed, forked tongues. A hummingbird can lick 10 to 15 times per second while feeding. Again, that is really, really fast. The bill of the sword-billed hummingbird, found in the Andes Mountains in South America, can reach up to 4 inches long. That's longer than the body of most hummingbirds. It

can be so heavy that the birds may perch holding their bills straight up. These birds hold the record for the longest bill relative to the overall body size.

5:00

Hummingbirds are very small, as you know. The calliope hummingbird is the smallest bird species in North America and measures only 3 inches long. The bee hummingbird, which is native to Cuba, measures 2.25 inches long. The average ruby-throated hummingbird can be as large as 3.5 inches long, but it weighs only 3 grams. Think about the weight of a nickel. A nickel weighs about 5 grams. That's almost twice as much as the ruby-throated hummingbird! In fact, it would take more than 150 ruby-throated hummingbirds to weigh one pound. Despite their small size, hummingbirds are one of the most aggressive bird species. They will regularly attack other birds that invade their territory. If you have hummingbird feeders around your home, you may see that there is one dominant hummingbird that acts as a guard for all of the feeders and chases any intruders away.

Hummingbirds lay the smallest eggs of all species of birds in the world. Their eggs are less than ½ inch long. That's smaller than a jellybean! A female hummingbird will usually lay 2 eggs in the hummingbird nest. However, the eggs are generally laid on 2 different days. The mother hummingbird keeps her eggs warm for 15-18 days. After only 18-28 days, the baby hummingbirds leave the nest and are on their own. The average lifespan of a wild hummingbird is between 3 and 5 years. But, depending on the species, habitat, and predators, the bird could live up to 12 years.

6:00

Identifying the species of hummingbirds can be very challenging. The International Ornithological Congress (IOC) says that there are 360 distinct species in the world. However, many of the species, including Black-chinned, calliope, and broad-tailed hummingbirds can interbreed. This can create hybrid species. Only eight species regularly breed in the United States. The rest of the hummingbirds are mainly tropical species and do not usually migrate. They are found in Central and South America as well as throughout the Caribbean. Of the ones that do migrate, the rufous hummingbird has

the longest migration. The rufous fly from Alaska and Canada more than 3,000 miles to their winter home in Mexico. Their maximum forward flight speed is 30 miles per hour. However, they can reach up to 60 miles per hour in a dive. The ruby-throated hummingbirds fly 500 miles nonstop across the Gulf of Mexico during the spring and fall. Although some people believe that they ride on the back of other birds during migration, this is just a myth. The peak fall migration time is from July through August or early September.

7:00

Hummingbirds have very unique flight capabilities. Many birds have specialized wing shapes that make them better fliers. Think of the broad wings of a vulture, the pointed wings of a falcon, and the rounded wings of an owl. Hummingbirds are unique because they not only fly forward, but also backward, sideways, and straight up. They can hover much longer than any other hovering species such as ospreys, kestrels, and kingfishers. Hummingbirds can even do somersaults! These amazing flying feats are made possible by physical adaptations that make them different from other birds. Hollow bones, fused vertebrae, and fused pelvic bones eliminate excess muscles and ligaments. This causes the bird to be lighter without losing the necessary support of their internal organs. Longer, stronger bones in the finger portion of the wing keep the wing stable. An enlarged heart provides more efficient pumping, which allows for faster wing beats and more oxygen distributed to the muscles. A hummingbird's wings beat between 50 and 200 flaps per second depending on the direction of the flight and air conditions.

8:00

Most birds fly with upstrokes and down strokes. This generates lift and power on the downstroke of each wing beat. Hummingbirds, however, are, you guessed it, unique. They stroke their wings forward and backward while pivoting up to 180 degrees at the shoulder to rotate each wing in a pattern which makes a horizontal figure eight in the air. Each beat generates lift on both forward and backward strokes. This keeps it aloft and allows it to hover. The tiniest adjustment can change the angle of their wing and alter the direction of flight. This allows the hummingbird to seemingly change direction in an

instant no matter which way the wing is stroking. This type of flight control is similar to insects such as dragonflies and not at all typical of birds.

For such a small bird, they are incredibly special. The next time you pass a hummingbird feeder, take a look around. You might just see one of nature's most unique species.

INVITATIONAL 2020-2021

A+ ACADEMICS



University Interscholastic League



Listening
grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

UIL LISTENING CONTEST - GRADES 7-8
INVITATIONAL 2020-2021
Test

"Hummingbirds"

1. What part of a hummingbird is iridescent?
A. beak
B. feet
C. feathers
D. wings
2. An average hummingbird's heart rate is more than _____beats per minute.
A. 1000
B. 1100
C. 1200
D. 1300
3. Small feet a benefit to hummingbirds because they
A. make it easier to perch
B. allow them to walk quickly
C. are lighter when flying
D. can be used to scoot on a branch
4. Hummingbirds have no sense of
A. sight
B. smell
C. taste
D. hearing
5. What is sucrose?
A. a natural sugar found in nectar
B. a type of flower hummingbirds like
C. a hybrid species of hummingbird
D. a bone in the pelvis of the bird
6. The flight of a hummingbird is similar to that of a
A. robin
B. dragonfly
C. bumblebee
D. ladybug
7. According to the IOC, how many distinct species of hummingbirds are in the world?
A. 150
B. 270
C. 310
D. 360
8. What is the maximum forward flight speed of the rufous species?
A. 30 miles per hour
B. 25 miles per hour
C. 45 miles per hour
D. 60 miles per hour

9. What is the peak migration time for the ruby-throated hummingbird?
- A. May-June
 - B. June-July
 - C. July-August
 - D. August-September
10. How long does a mother hummingbird usually sit on her eggs before they hatch?
- A. 7-10 days
 - B. 24-28 days
 - C. 18-23 days
 - D. 15-18 days
11. How many ruby-throated hummingbirds would it take to equal the weight of 3 nickels?
- A. 3
 - B. 4
 - C. 5
 - D. 6
12. From which country is the bee hummingbird native?
- A. United States
 - B. Cuba
 - C. Jamaica
 - D. Mexico
13. The calliope hummingbird is the smallest bird species in North America and measures only _____ inches long.
- A. 1
 - B. 2
 - C. 3
 - D. 4
14. What is one unusual feature of the sword-billed hummingbird of the Andes mountains in South America?
- A. the bill can reach up to 4 inches long
 - B. the tongue of the bird is sharp enough to tear flower petals
 - C. the female can lay as many as 3-4 eggs in one day
 - D. the bird relies on grasses and insects for food due to the climate
15. The rufous hummingbird migrates from
- A. Alaska to Florida
 - B. Canada to Mexico
 - C. Southern US to Caribbean
 - D. South Carolina to Cuba
16. How do hummingbirds get nectar from flowers or hummingbird feeders?
- A. They use their pointed beak as a straw.
 - B. They brush against it as they fly and carry it to other plants.
 - C. They lick it using a long, forked tongue.
 - D. They impale it using their sharp beak.
17. Which of the following is not a characteristic of the hummingbird that aids in flight?
- A. hollow bones
 - B. fused vertebrae
 - C. enlarged heart
 - D. fewer internal organs

UIL LISTENING CONTEST - GRADES 7/8
INVITATIONAL MEET 2020-2021
ANSWER KEY

"Hummingbirds"

1. C

2. C

3. C

4. B

5. A

6. B

7. D

8. A

9. C

10. D

11. C

12. B

13. C

14. A

15. B

16. C

17. D

18. B

19. False

20. False

21. True

22. False

23. True

24. False

25. True

UIL LISTENING CONTEST - GRADES 5 & 6 FALL/WINTER DISTRICT 2020-2021

Contest Script- "Underwater Lakes"

Have you ever wondered what's underneath the surface of the ocean? We know that there are fish and all kinds of underwater creatures. But what else is there? We also know that the Earth is not flat. There are mountains and valleys, plains and caves. Lots of different variations and interesting landscapes. But did you know that the seafloor is just as amazing as the land above? In fact, in certain places, including the Gulf of Mexico, there are even underwater lakes and rivers? What, you might ask? How can there be lakes and rivers underwater? Let's find out!

Scientists who study the ocean are the people who know the most about it. There are several different kinds of scientists who study the ocean. The term oceanographer covers all scientists who study the ocean. Oceanography is the scientific discipline concerned with all aspects of the world's oceans and seas, including their physical and chemical properties, their origin and geologic framework, and the life forms that inhabit it. An oceanographer is a type of geoscientist.

1:00

Geoscientists study the formation, composition and structure of the Earth. Geological oceanography is essentially studying the geology of the ocean floor. Geological oceanographers study the structures of the sea floor and how the sea floor has been changed by processes such as volcanoes and earthquakes. Chemical oceanography is the study of physical properties of seawater, including salt and other mineral content and determining the presence of any contaminants or pollutants. Biological oceanographers and marine biologists study plants and animals in the marine, or ocean, environment.

Oceanographers tell us that these underwater lakes began over millions of years ago when the Gulf of Mexico was much shallower. Today, the Gulf of Mexico is a deep basin, filled with salty water and abundant sea life. But, during the Jurassic period, some 150 to 200 million years ago, the Gulf was shallow and isolated from the rest of the ocean by

land masses. As a result, it grew increasingly salty. Eventually, it evaporated, leaving
2:00 behind a salt bed in a thick layer up to 8 kilometers deep. That is right at 5 miles deep!

These salt beds still exist under the Gulf and the southern United States as far north as Arkansas. Over time, these salt beds became submerged and buried under layers of sediment that changed to shale. But, when the two tectonic plates that form this region moved apart, the salt beds were broken into two parts. The movement of the plates also resulted in the lowering of the basin floor, opening a connection to the ocean. This allowed the ocean to rush in and formed what we now know as the Gulf of Mexico. The salt layers shifted causing the shale above them to crack allowing oil, gas and brine to escape. As the water seeped up from rivers deep underground, it dissolved the salt layer leaving it weak.

Eventually, the layer collapsed and formed a depressed area. This shifting of salt beds is known as salt tectonics. A common outcome of this movement is the formation of domes where fingers of salt rise through the overlying layers of sediments and penetrate out of the seafloor. When the dome comes in contact with seawater, the salt dissolves and a localized hypersaline pool of water is formed. Because the dissolved salt makes the water denser than the water around it, it settles into the depressed area and forms
3:00 a river or lake. These lakes can be very small. Some are as small as a few feet across. However, some are very large – as large as a few miles long. The scientific name for these salty lakes and rivers is brine pools.

A brine pool is a large area of brine on the ocean floor. Brine, put in simple terms, means very salty water. In fact, the brine pools on the ocean floor have a salinity, or salt content, three to eight times greater than the surrounding ocean water. It's still water, but it is super salty. Why do we call them lakes? The brine does not mix easily with the seawater. Its density causes it to settle to the floor where it remains unable to rise to mix in with the less dense water. It's kind of like when oil and water are put in the same container. The water, which is heavier and denser than the oil, sinks to the bottom and stays there. When oceanographers examined the brine pools, they noticed that the pools have a

distinct surface and shoreline. This visible boundary, called a halocline, is found at the boundary between the seawater and the brine pools.

4:00

One scientist who used scuba gear to dive into a brine pool said that it was difficult to push into and felt thicker than the surrounding water. Submarines, upon navigating into the pool, tend to float instead of sink. The motion of a submarine can even create waves where the brine and seawater meet that remind you of waves on the shore. The brine is also so dense that fish and other marine animals can float on its surface, just like people can float on the surface of Jordan's Dead Sea. Jordan's Dead Sea is located in the Jordan Rift Valley near the country of Israel.

Not only are they dense, but deep-sea brine pools like the one in the bottom of the Gulf of Mexico often contains very high concentrations of methane. Methane is a gas, which on land, is odorless, colorless, and found mainly in very swampy, marshy areas or in very damp coal mines. The fact that methane is found on the ocean floor has long been a mystery to oceanographers because, although a significant amount of the methane that is naturally released into our atmosphere comes from the ocean, there are no known methane-producing organisms near the ocean's surface. This mystery is known as the ocean methane paradox.

5:00

Oceanographers have discovered that brine pools can be toxic to most marine animals. But, there are a few that thrive there. Remember that almost all other life on Earth depends on the sun for energy. However, there are some creatures that live near the shoreline of brine pools. Huge fields of mussels are found growing along the edges of some of these lakes. These mussels have adaptations that allow them to get their nutrients from bacteria as the bacteria convert the methane and other chemicals in the salty water into energy. This is good, because without sunlight, most organisms cannot grow. In and around the briny pool, only bacteria, tube worms and shrimp can survive. The mussels survive only thanks to the bacteria.

6:00

Associate Professor of Biology at Temple University in Philadelphia, Pennsylvania, Erik Cordes, has been studying the lake at the bottom of the Gulf of Mexico – nearly 650 feet from the surface. He has determined that the water in this lake within the sea is about five times as salty as the sea water around it and contains both toxic methane and hydrogen sulfide. In 2014, Cordes piloted an HOV – Human Occupied Vehicle – which he called Alvin to an underwater river in the Gulf of Mexico that was so dense that he could actually land the HOV on top of it. He agrees that it is very disorienting to land on a pond and realize that you are actually deep in the ocean. The briny pool he has been studying is referred to as the Hot Tub of Despair.

It is a crater filled with brine with an outer wall that rises 12 feet above the ocean floor and is surrounded by bright red and white mineral deposits. Some of the deposits are crystalline and have various shapes and sizes. Mussels thrive due to the abundant number of bacteria living on their gills that use the methane and hydrogen sulfide gas seeping from the ocean floor. Fields of tube worms also live there. The crater's stability also depends on the muscles living on the edge help keep its outer walls from falling apart.

7:00

It is definitely a symbiotic relationship between the bacteria, the muscles, and the crater. Each depends on the work of the other for survival. While exploring the crater, scientists found many dead sea creatures that did not have a way to survive the surroundings. The brine contains almost no oxygen and plenty of toxic chemicals that almost instantly kill fish and other sea life. Interestingly enough, the salty brine preserves the dead animals. Creature remains found there could have been there for decades!

When measuring the salinity of this particular area, a sensor was lowered into the pool. From the surface of the brine to a depth of about 10 feet, the temperature was 46 degrees Fahrenheit – six degrees warmer than the temperature of the surrounding waters of the Gulf of Mexico which were approximately 40 degrees Fahrenheit. As the sensor went deeper into the pool, the temperature rose to 66 degrees. The probe fell more than 62 feet into the brine pool, but it never found the bottom. It would seem that the source of

8:00 the brine and deadly hydrocarbons is a crack in the Earth itself which made it nearly impossible to find the bottom.

Brine pools are not just found in the Gulf of Mexico. They have also been found in the Red Sea and near Antarctica. Maybe someday more humans will be able to see them first-hand using HOVs. But, until then, we will have to be content watching videos of scientific exploration of these lakes posted on the internet or in documentaries.

FALL/WINTER DISTRICT 2020-2021

A+ ACADEMICS



University Interscholastic League



Listening

grades 5 & 6

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

UIL LISTENING CONTEST - GRADES 5-6
FALL/WINTER DISTRICT 2020-2021
TEST

"UNDERWATER LAKES"

1. What do geoscientists study?
 - A. the salinity and temperature of the ocean water
 - B. the composition and structure of the ocean floor
 - C. the types of sea creatures that live in the ocean
 - D. all aspects of the world's oceans and seas

2. How many million years ago was the Jurassic Period?
 - A. 50 to 100
 - B. 100 to 150
 - C. 150 to 200
 - D. 200 to 250

3. What caused the great salt beds formed by the ancient Gulf of Mexico to break apart?
 - A. shifting of tectonic plates
 - B. weight of the Ozark Mountains
 - C. drying out of the Gulf
 - D. huge amounts of rainfall

4. Which of the following is NOT a characteristic of brine pools?
 - A. saltiness
 - B. greater density
 - C. distinct shoreline
 - D. glasslike surface

5. How far do the outer walls of the Hot Tub of Despair rise above the ocean floor?
 - A. 5 feet
 - B. 7 feet
 - C. 10 feet
 - D. 12 feet

6. What is the function of the HOV?
 - A. measure the temperature of water in brine pool
 - B. allow humans to travel underwater for scientific observation
 - C. protect the sea creatures from methane gas
 - D. provide a symbiotic relationship between humans and the ocean floor

7. What temperature in Fahrenheit is the brine pool, The Hot Tub of Despair, at a depth of 10 feet?
 - A. 45 degrees
 - B. 46 degrees
 - C. 47 degrees
 - D. 48 degrees

8. Which of the following creatures cannot live in or on a brine pool?
 - A. anemone
 - B. tube worms
 - C. shrimp
 - D. bacteria

9. What is the source of the deadly hydrocarbons in the Hot Tub of Despair?
- A. poisonous gasses that are released as the salt dissolves
 - B. decay of the many sea creatures that die in the brine
 - C. a very deep crack in the earth
 - D. a chemical reaction that occurs where the two densities of water meet
10. Where else have underwater brine pools been discovered?
- A. the Red Sea and the River Jordan
 - B. near Antarctica and the Red Sea
 - C. the Pacific Ocean and near Antarctica
 - D. Iceland and the River Jordan
11. What happens to the bacteria on the gills of muscles that are found near the brine pool?
- A. they cannot process oxygen from the water and die
 - B. they combine salt and sunlight to create nutrients
 - C. the methane gas near the pool is converted to energy
 - D. the combination of methane and salt preserves the bacteria creating a dense layer
12. What do scientists call the visible boundary between the sea and a brine pool?
- A. the gulf
 - B. the paradox
 - C. the crater
 - D. the halocline
13. How many miles deep is the salt bed under the Gulf of Mexico?
- A. 5
 - B. 6
 - C. 7
 - D. 8
14. What caused the salt beds under the Gulf of Mexico?
- A. it was cut off from the oceans and the water evaporated over time
 - B. the tectonic plates moved causing the water to rush out leaving shallow salty water
 - C. global warming caused the waters to become too warm to sustain life
 - D. an earthquake created a rift in the ocean floor sucking water in to underground rivers
15. Why are underwater brine pools called lakes?
- A. they have a different density and a distinct surface and shoreline
 - B. they have waves caused by the movement of water
 - C. they grow different kinds of plants and sea creatures than regular seawater
 - D. the difference in salinity causes them to be a different color
16. In what year did Erik Cordes visit the Hot Tub of Despair?
- A. 2014
 - B. 2015
 - C. 2016
 - D. 2017

17. What is salt tectonics?
- A. the shifting of the sea floor causing salt beds to form
 - B. the movement of the walls of a brine pool causing a change in density
 - C. when a dome of salt dissolves creating hyper salinity in the surrounding water
 - D. when a layer of salt collapses and shifts creating a depressed layer on the ocean floor
18. What is a symbiotic relationship?
- A. one creature gives another creature his own life
 - B. two creatures depend upon each other for life
 - C. one creature does all the work while the other benefits
 - D. both creatures use the same type of nutrients to stay alive, so they share their resources

True/False Questions

19. Erik Cordes called his underwater vessel Alvin and piloted it to an underwater river in the Gulf of Mexico that was so dense that he could actually land on top of it.
20. Methane is a gas, which on land, is odorless, colorless, and found mainly in very swampy, marshy areas or in very damp coal mines.
21. Some ocean mussels have adaptations that allow them to get their nutrients from bacteria as the bacteria convert the sunlight in the salty water into energy.
22. Erik Cordes determined that the water in the Hot Tub of Despair is about five times as salty as the sea water around it and contains both toxic methane and hydrogen sulfide.
23. The walls of the Hot Tub of Despair regularly collapse because of the muscles living on its outer walls.
24. As you go deeper into the Hot Tub of Despair, the water gets cooler.
25. There are no known methane-producing organisms near the ocean's surface.

UIL LISTENING CONTEST - GRADES 5-6
FALL/WINTER DISTRICT 2020-2021
ANSWER KEY

"UNDERWATER LAKES"

- | | |
|-------|-----------|
| 1. B | 14. A |
| 2. C | 15. A |
| 3. A | 16. A |
| 4. D | 17. D |
| 5. D | 18. B |
| 6. B | 19. True |
| 7. B | 20. True |
| 8. A | 21. False |
| 9. C | 22. True |
| 10. B | 23. False |
| 11. C | 24. False |
| 12. D | 25. True |
| 13. A | |

UIL LISTENING CONTEST - GRADES 7 & 8 FALL/WINTER DISTRICT 2020-2021

Contest Script- "Wind Turbines: The Wave of the Future"

If you live in west Texas or even along the coastal areas, you may have seen them. Large white windmills in rows stretching out for miles. In the dark, their glowing red lights blink on and off like alien eyes letting low flying planes know they are there. What are these windmills, and why are we installing them across our beautiful Texas countryside? Let's find out.

First, we need to understand about wind energy. Wind energy comes from the sun. As solar radiation hits the earth, it creates heat. This heat rises allowing cooler air to move in to fill the void. That movement of cooler air is called wind, or wind energy.

1:00 In the past, whenever you saw a windmill, its main function was to pump water up out of the ground for farmers to use with their crops or livestock. These windmills are different. They are actually called wind turbines. A wind turbine, or otherwise known as a wind energy converter, is a machine that converts kinetic energy into electrical energy. Kinetic energy is the energy caused by the motion of an object.

So, when the blades of the wind turbine move, that is kinetic energy. A wind turbine has a machine inside of it that takes that motion and uses it to create electricity. Here in Texas, we use that electricity to power homes and businesses in several of our big cities. Texas has over 40 different windfarms. If Texas were a country, it would rank fifth in the world in wind power production. In fact, Texas produces the most wind power of any state in the United States.

2:00 People have been using the power of the wind for a long time. History records that in 10 AD, the wind wheel of Hero of Alexandria, a wind powering machine, was pioneered. Hero of Alexandria was a Greek mathematician and engineer who was active in his native city of Alexandria, Roman Egypt. The first recorded instance of wind power plants was in Sistan, an Eastern province of Persia in the 7th century. These vertical axle windmills had long vertical drive shafts with rectangular blades. These windmills were made of 6 to 12 sails covered in cloth or reed mats and were used to grind grain or draw up water. They were also used in the

gristmill and sugar cane industries. Wind power first appeared in Europe during the Middle Ages during the 12th century. There is also evidence that German crusaders used windmills in Syria around 1190. The first electricity-generating wind turbine was a battery charging machine. James Blyth used this electricity to light his home in Scotland. American inventor Charles F. Brush built the first automatically operated wind turbine in 1887. It was 50 feet tall and weighed 4 tons. It was used to power a 12-kilowatt generator.

By 1900, there were about 2500 electricity producing windmills in Denmark which produced an estimated combined peak power of about 30 megawatts. The largest machines were 75 feet wide, stood 79 feet tall and had 4 blades. By 1908, there were 72 wind-driven electric generators in the United States. These generators produced between 5 kilowatts to 25 kilowatts apiece. By the 1930s, wind generators for electricity were common on farms in the United States because electricity plants had not been built across the country with wires distributing the current like we have today. However, with the advancement of large electric plants driven by the use of fossil fuels, the use of wind generators for electricity declined.

Now, nearly 100 years later, the need for an energy source that is more sustainable, and less pollutant has caused wind turbines to again be more and more common place. The wind farms we see in our coastal plains and across west Texas are part of an important source of renewable energy that allow us to reduce our reliance on fossil fuels. The smallest turbines can be used to create electricity to charge batteries, power motors on boats or even power traffic warning signs. Larger turbines can be used by big companies for use in cities or by individuals who use what they need and then sell the unused electricity back to their utility supplier using the electrical grid. Wind power is considered to leave the smallest environmental footprint compared to waterpower, geothermal, power, coal or gas.

The majority of wind turbines in Texas have 3 major components. First are the blades. The huge rotor blades on the front of a wind turbine are the actual turbine part. The blades resemble the airfoil wings on a plane because of their unique curved shape. As the wind blows past the turbine's blades, it causes them to spin around. You may remember seeing them move like the blades on a box fan or ceiling fan. As the blades spin, the wind loses some of

its kinetic energy and the turbine gains it. The amount of energy a turbine makes depends on how long the blades are. The longer the blades are, the more energy the turbine will be able to generate. Plus, because the turbine gains its energy from the wind, the faster the wind blows, the more energy it gives to the turbine. In fact, something interesting happens. If the wind blows twice as fast, it gives off eight times as much energy. But, since the wind speed changes all the time, wind farmers link their wind turbines together with electric wires creating a power grid. This produces a much steadier supply. Imagine if the strength of the electricity in your home depended on the speed of the wind. That would be difficult.

5:00

In order for wind to turn the turbine blades to create the spin of the rotor needed to create electricity, the blades must face in the direction of the wind. Believe it or not, a special machine in the tower detects the direction of the wind and moves the position of the blades accordingly. The blades are like propellers on airplanes except that they run in reverse. Airplane engines cause the propeller to push the air which propels the airplane forward. The air is pushed by the blades. But, on a wind turbine, the blades are pushed by the air and caused to rotate. The second component is the shaft. The shaft is connected to the center of the turbine. As the huge rotor blades rotate, they cause the shaft to rotate as well.

This rotation is called mechanical or rotational energy. The opposite end of the shaft is connected to a generator, the third part of the wind turbine. Basically, a generator is a simple device. It uses the properties of electromagnetic induction to produce electrical voltage. Electrical voltage is what causes electricity to move through a wire from one point to another.

6:00 So, generating voltage is, in effect, the same as generating electricity. A simple generator has magnets and a conductor such as coiled wire. As the shaft spins, the magnets spin around the coil of wire. As the magnets spin around the wire, it creates the electrical voltage. There is a lot of science involved in this, but that is basically how it works.

If you've ever stood near a large wind turbine, you know that they are absolutely enormous and are mounted on very high towers. Since we know that the longer the blades are, the more energy they can capture, it makes sense that they would be very high off the ground allowing the blades to move freely without worry about touching anything. Wind turbines used for the

large wind farms we see in our state are usually approximately 13 feet wide at the base and between 230 and 260 feet tall. If you add the length of one of the blades in an upright position, the total height is approximately 406 feet.

7:00

Once the electric current is produced by the generator, it flows through a cable running down through the inside of the turbine tower or shaft. Inside the tower, a step-up transformer converts the electricity to about 50 times higher voltage so that it can be transmitted to a power grid or nearby buildings or communities. If the electricity is going to a power grid, it can be converted even higher to 130,000 volts or more! Once the power reaches the grid, homes can enjoy clean, green energy which means that the turbines do not produce greenhouse gas emissions or pollution.

Wind turbines can even be installed on land used for other purposes. For example, if they are installed on a farm, the farmer can still use the land to grow crops. He simply plants around the base of the tower.

8:00

Some people have wondered if the wind turbines have a negative effect on wildlife where they are located. Some studies have been conducted, but most of the studies were done by people who would benefit from the money made by selling the wind energy. The National Wind Coordinating Committee recently considered "peer-reviewed research." This research showed that there was evidence that birds and bats had collided with the wind turbines. The birds and bats had also had deaths and injuries due to the change in air pressure caused by the spin of the turbines. The NWCC concluded that these instances were very few and did not pose a threat to species populations. However, some wildlife organizations disagree with those findings. They say that wind turbines have harmed and killed thousands of threatened and endangered bird species, including the golden eagle.

In the search for renewable, green energy, these discussions will continue. Wind is a naturally occurring, non-polluting endless source of kinetic energy. Who knows? Maybe your grandchildren will live in a world where wind energy is as normal as the use of coal and oil is for us today.

FALL/WINTER DISTRICT 2020-2021

A+ ACADEMICS



University Interscholastic League



Listening

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

UIL LISTENING CONTEST - GRADES 7-8
FALL MEET 2020-2021
TEST

"Wind Turbines: The Wave of the Future"

1. What is wind energy?
 - A. energy created when wind blows the blades of a turbine
 - B. energy caused by the motion of an object used to create electricity
 - C. energy caused by the rising of heated air allowing cooler air to rush in
 - D. energy created by generators in windmill farms which contain large magnets

2. Why were windmill generators common in rural areas during the 1930s?
 - A. very few electric lines or plants existed in the less populated areas
 - B. most farmers could not afford to purchase electricity from electric plants
 - C. fewer roads in these areas created difficulty in installation of power lines
 - D. during this time, the most popular way to create electricity was by windmill

3. What caused the decline of the use of wind powered generators?
 - A. the use of fossil fuels to power electric plants
 - B. the expense involved in installation of windmills
 - C. the need for a steadier source of electricity
 - D. the lower cost of mass generated electricity from power plants.

4. What are the three parts of a wind turbine?
 - A. blades, shaft, power convertor
 - B. blades, shaft, generator
 - C. blades, convertor, magnet
 - D. blades, generator, power convertor

5. A wind turbine is also known as
 - A. kinetic energy
 - B. generator
 - C. electric transporter
 - D. wind energy convertor

6. Who was Hero of Alexandria?
 - A. a general from Egypt
 - B. a mathematician from Rome
 - C. a great leader from Persia
 - D. an engineer from Roman Egypt

7. How many feet tall is a typical wind turbine tower in Texas if you do not add the height of the blades?
 - A. between 230 and 260 feet
 - B. between 260 and 290 feet
 - C. between 290 and 330 feet
 - D. between 350 and 400 feet

8. What does the acronym NWCC stand for?
 - A. Natural Wind-power Conservation Committee
 - B. National Windmill Conservation Collaborative
 - C. National Wind Coordinating Committee
 - D. Natural Windmill Coordinating Collaborative

9. What is a step-up transformer used for?
 - A. to bring kinetic energy to the generator
 - B. to provide a buffer between raw energy and electric current
 - C. to deliver electric current from the turbine to the cities that use it
 - D. to convert the electricity to a higher voltage

10. Why are wind turbines considered to be a source of green energy?
 - A. The turbines allow for farming near the towers.
 - B. The turbines do not produce carbon emissions or pollution.
 - C. The turbines do not use water and are less intrusive into nature.
 - D. The turbines use very few fossil fuels so they do not deplete our resources.

11. By 1900, about how many electricity producing windmills could be found in Denmark?
 - A. 1500
 - B. 2000
 - C. 2500
 - C. 3000

12. In what year did American inventor Charles Brush build the first automatically operated wind turbine?
 - A. 1931
 - B. 1887
 - C. 1190
 - D. 1900

13. What was the first electricity-generating wind turbine used for?
 - A. heating homes
 - B. pumping water
 - C. charging batteries
 - D. lighting streets

14. In which country did James Blythe use energy created by a wind turbine to light his home?
 - A. the United States
 - B. England
 - C. Egypt
 - D. Scotland

15. By 1908, how many wind-driven electric generators in the United States that produced between 5 kilowatts to 25 kilowatts apiece?
 - A. 70
 - B. 71
 - C. 72
 - D. 73

UIL LISTENING CONTEST - GRADES 7-8
FALL/WINTER DISTRICT 2020-2021
ANSWER KEY

"Wind Turbines: The Wave of the Future"

- | | |
|-------|-----------|
| 1. C | 14. D |
| 2. A | 15. C |
| 3. A | 16. B |
| 4. B | 17. C |
| 5. D | 18. A |
| 6. D | 19. False |
| 7. A | 20. True |
| 8. C | 21. True |
| 9. D | 22. True |
| 10. B | 23. False |
| 11. C | 24. True |
| 12. B | 25. False |
| 13. C | |

**UIL LISTENING CONTEST - GRADES 5 &6
SPRING DISTRICT 2020-2021**

**Contest Script- "RUTH ELDER – THE SOUTHERN AMELIA
EARHART"**

Have you ever heard of Amelia Earhart? Amelia Earhart was an American aviator who set many flying records. She became the first woman to fly alone across the Atlantic Ocean. She was also the first person – including both men and women – to fly alone from Hawaii to the continental United States. During an attempt to fly around the Earth following the equator in 1937, her plane disappeared somewhere over the Pacific Ocean. The wreckage from her plane was never found, and she was declared lost at sea. Even today, people try to find out what happened to her. What happened to her may remain one of the great unsolved mysteries of the world. Her contribution to women in aviation was extremely important.

1:00 She believed that women were just as capable as men when it came to learning to fly, and she wanted other women to see her success and not be afraid to try themselves. Why is this important? Let's look at the facts. In 1911, Harriet Quimby went against tradition and fought hard to become the first woman to earn a pilot certificate. That was over 100 years ago. It would seem that there would be many women pilots now. In fact, only 3 percent of airline pilots are women. Perhaps if more people knew about the successful women pilots of the past, they would want to give it a shot. What does this have to do with Ruth Elder? Ruth Elder was a famous pilot before Amelia Earhart took her historic flight. She also believed that women could be just as successful as men in the cockpit. Although she became famous before Amelia, she is now known as the Southern Amelia Earhart.

Ruth Elder was born on September 12, 1904, in Anniston, Alabama. She was one of eight children. Not much has been recorded about her childhood. We do know that when she was young, she worked briefly at a department store in Birmingham, Alabama. Shortly after that, she moved to Lakeland, Florida, where she studied for one year in a business school. This led to a job as a secretary and then as a dental assistant. Up until this point, she was just an ordinary girl in a world of everyday people. But then, in 1927, something unusual happened.

2:00 1927 is often remembered as the year that Charles Lindbergh became the first person to fly across the Atlantic Ocean on a solo flight. Before he became a pilot, however, he was raised on a farm in Minnesota. His father was a lawyer and a congressman. He studied mechanical engineering at the University of Wisconsin before he left school and became a pilot. He made his first solo flight in 1923 and soon became a barnstormer, or daredevil pilot, who performed at fairs and other events. In 1924, he enlisted in the U.S. Army and trained as an Army Air Service Reserve pilot. In the mid-1920s, a hotel owner named Raymond Orteig offered a prize of \$25,000 to the first pilot who could fly from New York to Paris without stopping.

Charles Lindbergh wanted to win this challenge, so he found some St. Louis businessmen to sponsor him. Several people tried before him and failed, but he was determined to win. He took off from Roosevelt Field in Long Island, New York, on May 20, 1927. Flying his plane, the *Spirit of St. Louis*, he crossed the Atlantic Ocean, landing at Le Bourget Field near Paris after 33.5 hours in the air. He was welcomed by more than 100,000 people who came to see the historic feat. This launched him into immediate stardom. Of course, this meant that many other people would try to make a transatlantic flight themselves. Before Lindbergh, most long-distance flights that travelled over water were military. Now, anyone with a plane might attempt it. One of those people was a woman. You guessed it – Ruth Elder.

3:00

After Lindbergh became famous for his flight, Ruth and her husband became interested in flying. She took lessons and found that she enjoyed it. Because she was a pretty girl with curly brown hair and a winning smile, some of her husband's business friends thought it would be a good idea to record a film of her flying a plane and try to sell the idea to Hollywood. Ruth agreed because she said flying was much better than working at a dentist office and making dinner for her husband. Ruth soon became known as the "Miss America" of the aviation world. She believed that if a man could make that flight, then she could, too. She also knew that if she was successful, it would launch her career in Hollywood as a movie star. She made up her mind that she would be the first "Lady Lindy", meaning that she would be the first woman to fly across the Atlantic. Some people called her flight simply a stunt to bring her publicity. They were concerned that it was too dangerous for such an inexperienced pilot.

4:00

During this time, businessmen were looking for a girl to make the flight. It didn't take long before they chose Ruth. Her financial backers, investors from Wheeling, West Virginia were eager to cash in on the fame should she be successful. They put up \$35,000 for her plane, a yellow Stinson SM-1 Detrouter. She named her plane "American Girl." The pilot that had taught her how to fly was instructor George Haldeman. He agreed to become her co-pilot on her trip across the Atlantic. Across America and the world, people were anxious to see if she would be successful.

5:00 On October 11, 1927, the two set off from Roosevelt Field on Long Island in their yellow Stinson SM-1 Detrouter, "The American Girl." The day of the flight, a crew loaded her plane with gas, an emergency radio, and a basket of food containing sandwiches, chocolate bars, dill pickles, soup, and two quarts of coffee. They also loaded rubber suits which were designed to keep them afloat in case they were forced to land in the water. Ruth believed everything was ready to go, but on that day, the weather wasn't clear enough to fly. Against the advice of her crew, she and George began the journey.

Although she had said she wanted her flight to be as similar to Lindbergh's flight as possible, he had planned his flight using the shortest distance route to fly from New York to Paris. Ruth and Haldeman decided to follow the shipping lanes for safety and in hopes that the weather would be better there. This added 500 miles to their trip. As they flew, the Weather Bureau noted that a severe storm would be directly in their path. Fifteen hours into their flight and less than halfway there, they began to have trouble. They plane's engine struggled as ice began to form on the wings. They developed an oil leak, and soon the oil pressure dropped.

6:00 On the morning of October 13th, they were expected to be in Paris by 7:00 AM. No ship had reported seeing them beyond 400 miles from New York. Time passed with no updates on their whereabouts. Finally, at 4:35 PM, a radiogram arrived stating that Elder and Haldeman were safe after being rescued at sea. Eight hours away from Europe in the middle of the ocean, they had been rescued by the SS Barendrecht, a Dutch oil tanker. The "American Girl" had flown over the tanker and dropped a message to the deck asking how far it was to the nearest land. The crew quickly painted the answer on the deck, notifying Elder that it was at least 360

miles. The decreasing oil pressure made it impossible to fly that far. George Haldeman flew the plane into the water near the ship, and he and Ruth were pulled aboard. The “American Girl” burst into flames and then sank into the water.

7:00

By the time the Ruth Elder reached Europe, she had become an even bigger celebrity. Although she did not reach her goal, her 2,623 mile flight was the longest ever accomplished by a woman. When she returned to the United States, President Calvin Coolidge greeted her in Washington, D.C. People in Anniston, Alabama, held a “Ruth Elder Day” complete with a parade and white cakes with red icing letters spelling the word Ruth. In New York, a ticker tape parade was held to honor her achievement. Although she didn’t reach Paris, she was the first woman to attempt to fly across the Atlantic and had set a new over water record. Her name was added to the list of aviation pioneers.

In 1930, Mildred Benson wrote a book series based on the life of Ruth Elder. This was the same author who wrote the original Nancy Drew book series. The main character of this series, Ruth Darrow, looks similar to Ruth Elder and goes on many adventures. Ruth lived a long life, but did not have any other accomplishments to bring her more fame. In 1977, she died in her sleep in San Francisco. She left instructions to her husband stating that she wished to be cremated and have her ashes scattered from an airplane into the sea.

In 2013, a children’s book was published about her flying life. Written by Julie Cummins and Illustrated by Marlene R. Laugesson, the book was entitled *Flying Solo: How Ruth Elder Soared into America’s Heart*.

SPRING DISTRICT 2020-2021

A+ ACADEMICS



University Interscholastic League



Listening
grades 5 & 6

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

UIL LISTENING CONTEST - GRADES 5-6
SPRING DISTRICT 2020-2021
TEST

"RUTH ELDER – THE SOUTHERN AMELIA EARHART"

1. Who took off from Roosevelt Field in Long Island, New York, on May 20, 1927?
A. Amelia Earhart
B. Ruth Elder
C. Charles Lindberg
D. Raymond Orteig

2. What did Harriet Quimby do that made her famous?
A. flew across the Atlantic Ocean in a solo flight
B. first pilot to circle the globe
C. flew with a co-pilot from Hawaii to the mainland
D. first licensed woman pilot

3. What is a barnstormer?
A. a pilot who parachutes into a hay bale
B. a pilot who flies low and drops pesticide on farms
C. a pilot who does dangerous stunts
D. a pilot who attempts to fly long distances alone

4. What was the name of Charles Lindberg's plane?
A. The Spirit of Saint Louis
B. American Girl
C. Lindy's Lady
D. The New York Flier

5. Why did Ruth Elder choose George Haldeman as her co-pilot?
A. He had made the flight across the Atlantic before.
B. He was the instructor who taught her to fly.
C. He had worked with Amelia Earhart and trusted women pilots.
D. He wasn't afraid of taking a dangerous journey.

6. What day was Ruth Elder supposed to arrive in Paris after her famous flight?
A. May 22
B. October 13
C. November 11
D. September 21

7. Which of the following items was not included in the basket Ruth Elder took on her flight?
A. chips
B. sandwiches
C. chocolate bars
D. dill pickles

8. About what percent of pilots are women today?
- A. 1 percent
 - B. 3 percent
 - C. 5 percent
 - D. 7 percent
9. How did following the shipping lanes affect Elder's trip compared to Lindberg's?
- A. the shipping lanes allowed for easier tracking of the plane
 - B. steering clear of the shipping lanes made for a longer trip
 - C. receiving signals was more likely because of the ship's radio systems
 - D. following the shipping lanes increased the distance she would fly
10. In what year did Amelia Earhart attempt to fly around the world following the equator?
- A. 1927
 - B. 1937
 - C. 1933
 - D. 1943
11. Which of the following jobs did Ruth Elder hold before becoming a pilot?
- A. dental assistant
 - B. teacher
 - C. nurse
 - D. flight attendant
12. Where did Charles Lindberg study mechanical engineering?
- A. University of Alabama
 - B. University of Wisconsin
 - C. University of Florida
 - D. University of Washington
13. Who put up \$35,000 for Ruth Elder's plane?
- A. Charles Lindberg's trust fund lawyers
 - B. investors from St. Louis, Missouri and the Spirit of St. Louis
 - C. investors from Wheeling, West Virginia
 - D. George Haldeman's flight school
14. Who rescued Ruth Elder when her plane crashed into the sea?
- A. a Dutch oil tanker
 - B. a French cruiser
 - C. the English coast guard
 - D. an American freighter
15. How was Ruth Elder honored by Mildred Benson in 1930?
- A. She organized a ticker tape parade in New York.
 - B. She dedicated a plaque on her hometown high school.
 - C. She inducted Ruth into the Pioneer Aviator Hall of Fame.
 - D. She wrote a book series based on her life.
16. What color was Ruth Elder's plane?
- A. blue
 - B. gray
 - C. yellow
 - D. white

17. How many miles did Ruth Elder fly in her attempt to fly from New York to Paris?
- A. more than 3000 miles
 - B. 650 miles less than Lindberg
 - C. just over 2600 miles
 - D. between 1500 and 2000 miles
18. Before becoming a pilot, Charles Lindberg was raised on a farm in
- A. Wisconsin
 - B. Minnesota
 - C. Missouri
 - D. New Jersey

True/False

19. Ruth Elder won the Miss America contest before learning to be a pilot and was called the Miss America of the aviation world.
20. Before her death in 1977, Ruth left instructions to her husband stating that she wished to be cremated and have her ashes scattered from an airplane into the sea.
21. Although she didn't reach Paris, she was the first woman to attempt to fly across the Atlantic and had set a new over water record
22. Ruth Elder was born on September 12, 1914, in Anniston, Oklahoma as the youngest of nine children.
23. In the mid-1920s, a hotel owner named Raymond Orteig offered a prize of \$25,000 to the first woman pilot who could fly from New York to Paris without stopping.
24. Fifteen hours into her famous flight and less than halfway there, the plane's engine struggled as ice began to form on the wings.
25. In 2013, a children's book entitled *Flying Solo: How Ruth Elder Soared into America's Heart* written by Julie Cummins was published.

UIL LISTENING CONTEST - GRADES 5-6
SPRING DISTRICT 2020-2021
ANSWER KEY

"RUTH ELDER – THE SOUTHERN AMELIA EARHART"

- | | |
|-------|-----------|
| 1. C | 14. A |
| 2. D | 15. D |
| 3. C | 16. C |
| 4. A | 17. C |
| 5. B | 18. B |
| 6. B | 19. False |
| 7. A | 20. True |
| 8. B | 21. True |
| 9. D | 22. False |
| 10. B | 23. False |
| 11. A | 24. True |
| 12. B | 25. True |
| 13. C | |

UIL LISTENING CONTEST - GRADES 7 & 8 Spring District 2020-2021

Contest Script- "What is Teflon?"

If you have ever cooked in a skillet or watched someone else cook, chances are that you have seen Teflon. Most pots, pans, and skillets have it. Without it, everything sticks. What is Teflon and who invented it? Let's find out.

The man credited with the invention of Teflon is Roy Plunkett. Roy J. Plunkett was a farm boy born in 1910 in New Carlisle, Ohio. He attended school and graduated from high school in Pleasant Hill, Ohio. From there he went to college at Manchester College in Indiana where he earned a Bachelor's degree in chemistry. His roommate was Paul Flory. After graduation, Paul went on to Ohio State University where he completed both his Master's degree and his doctorate, or Ph.D, in physical chemistry in 1934. Roy stayed at Manchester College and earned his Master's degree and later his Ph.D. in organic chemistry in 1936. When DuPont hired Flory, he recommended they look into hiring Roy Plunkett.

1:00 Upon his graduation, Plunkett was appointed research chemist for the American division of DuPont in Deepwater, New Jersey where he worked in the Jackson Laboratory.

Since 1909, the General Motors Corporation had been looking for a safe chemical compound that could be used as a refrigerant to provide air conditioning in vehicles. The chemicals that were currently used included ammonia, sulfur dioxide, and propane – all of which were dangerous and could actually kill the occupants of the vehicle that used it. General Motors employees were skilled in machinery, but not so much in chemicals. As a result, they turned to DuPont for help. In 1930, DuPont and General Motors created a partnership they called Kinetic Chemicals Inc. in search of a chemical compound that would be noncorrosive to machine parts and free of toxicity and flammability. Eventually they discovered the compound Freon and went on to produce R-12 to cool automobiles for the next 50 years. This is where Roy Plunkett comes in.

By 1937, after he had worked for DuPont for two years, he began trying to find another safe refrigerant. The current chemicals – ammonia and sulfur dioxide – were still too dangerous.

2:00 Roy began using a chemical called tetrafluoroethylene (tetra – fluoro – ethy – lene) or TFE that

was compressed as a gas into tanks. One night he decided to store the chemical in dry ice to keep the gas from expanding too much and exploding. The next day he wanted to use the TFE gas in a cooling-fluid experiment, but when he opened the valve to the tank, nothing came out. He assumed that the gas had somehow leaked out.

However, when he decided to check his theory by putting the tank on a scale, he discovered that it weighed the same amount as it did when it was full of the pressurized gas. His next theory was that somehow the valve was clogged preventing the gas from escaping. He and his assistant tried to unclog the valve, but it didn't help. Finally, Roy decided to open the tank himself. He unscrewed the lid and was surprised when a bunch of white waxy flakes fell out. He and his assistant sawed the tank in half and discovered that the inside of the tank was coated with the same white, waxy, slippery material.

3:00 Apparently, the material had polymerized. To be polymerized means that many small molecules combine into a new, larger molecule that repeats itself like a chain. The new chemical polymer was called PTFE, and its molecule chain was made of spirals of carbon atoms attached to two fluorine atoms bound together so tightly that it was nearly impossible for any other molecule to penetrate it. The common name for this new discovery was Teflon.

Roy began wondering what he could do with the new polymer, so he decided to do some more tests. He later told his wife that he originally thought the whole thing was a flop and should just be scrapped. However, when he decided to go ahead and test it, he changed his mind completely. One of the amazing qualities of Teflon was that it was very slippery. Its surface friction was so low that it would not stick to anything and nothing would stick to it. In fact, not even a gecko lizard, an animal with incredible grip, could climb out of a pan coated with Teflon. In addition, it was inert. This means that it did not react with any other substances. When Roy heated it or froze it, it remained the same. He tried pouring acid onto it, but the glob of slippery stuff did not change. He covered a plastic rod with the material and dipped it

4:00 into the acid. The rod dissolved in the acid, but the coating did not.

This new discovery was so exciting that DuPont quickly patented the new chemical. Several major companies immediately realized the value of the new substance and began using it. Ten years later, in 1948, DuPont was producing 20 million pounds of Teflon each year! At this

time, however, it had not yet been used as a coating for non-stick cookware. Most of the use for Teflon was for the Manhattan Project, a secret government research and development project during World War II that produced the first nuclear weapons. Teflon was used for gaskets and seals because it was inert and could contain the corrosive uranium and other materials used in the atomic bomb. The creation of the nation's first nuclear weapon required an enormous number of valves, seals and pipes that all had to be coated with Teflon.

5:00

Teflon was finally tested for use on pots and pans in 1954. A French engineer named Marc Gregoire had been using Teflon to help untangle his fishing gear. His wife asked him if he could try to put Teflon on her pan so that food wouldn't stick to it. It wasn't long before he had created the first PTFE-coated, non-stick cooking pan. Soon the pans were sold in Europe using the name Tefal – a combination of the word Teflon and the word aluminum. In 1961, an entrepreneur named Marion Trozzolo created an American-made Teflon pan. His company, Laboratory Plasticware Fabricators, manufactured "The Happy Pan", which was sold with a free spatula. His pan was such a big success that an original Happy Pan is on display in the Smithsonian Museum. Soon there were many brands of Teflon cookware including some fortified by other materials like diamond and titanium.

You may be wondering since nothing sticks to Teflon, how can you get it to stick to pots and pans. There are two steps to the process. The first thing that is done is called sintering. This is very similar to melting. The Teflon is heated at a very high temperature and then pushed down tightly onto the surface of the pan. Then, in order to keep the fluorine atoms from allowing the Teflon to peel away, the pans are blasted with ions under an electric field in a high vacuum. This causes the fluorine atoms to break away between the Teflon and the pan allowing the Teflon to stick.

6:00

Today, Teflon is applied to bakeware and small electrical appliances such as grills, fry pans, panini presses, and waffle makers. However, it can be found in more places than you'd actually expect. About fifty percent of Teflon production is used in the insulation of wires for computers and aerospace equipment. It is also used in almost any pipe with moving parts to help reduce friction. Plumbers use Teflon tape when screwing pipes together to prevent leakage. There probably isn't a single industry that hasn't been impacted by Teflon. Hospital catheters, ski

bindings and even dental fillings and dental floss contain it. NASA has even used it in space crafts and astronauts' suits.

7:00

One of the most unusual uses for Teflon is as a protective coating for fabric. Have you ever wondered why your raincoat repels water? It's Teflon! In 1976, a scientist named Robert Gore co-invented a technique that led to using Teflon as a stain-repellant for carpets clothing and furniture. Teflon fabric protector resists stains, dirt, oil, and moisture. It can be found in furniture, clothing, backpacks, purses – anything that you want to stay clean and dry. It does not change the color or texture of the fabric and still allows air to pass through.

In 1951, the city of Philadelphia awarded Roy Plunkett the John Scott Medal for his invention that promoted the "comfort, welfare, and happiness of humankind". He was also inducted into the National Inventors Hall of Fame in 1985. DuPont honored him in 1988 with an award given in his name to celebrate the 50th anniversary of the discovery of Teflon. The Plunkett Award recognizes those who create important new products that use Teflon. Roy Plunkett passed away from cancer in 1994. He was 83 years old.

SPRING DISTRICT 2020-2021

A+ ACADEMICS



University Interscholastic League



Listening
grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

UIL LISTENING CONTEST - GRADES 7-8
SPRING DISTRICT 2020-2021
TEST

"What is Teflon?"

1. Where did Roy Plunkett receive his Masters and Doctorate degrees?
 - A. Ohio State University
 - B. Mid-Western University
 - C. Manchester College
 - D. Indiana College

2. What does it mean when a substance is polymerized?
 - A. one large molecule is separated into smaller ones that form a chain
 - B. small molecules combine into a new larger molecule that repeats itself
 - C. a series of identical molecules lock together and cannot be separated
 - D. a chain of small molecules wraps around a larger molecule

3. By 1948, how many pounds of Teflon was DuPont producing each year?
 - A. 10 million
 - B. 15 million
 - C. 20 million
 - D. 25 million

4. In what year was Teflon tested for use on pots and pans?
 - A. 1949
 - B. 1950
 - C. 1952
 - D. 1954

5. Who invented a technique that led to using Teflon as a stain-repellant for carpets clothing and furniture?
 - A. Robert Gore
 - B. Marion Trozzolo
 - C. Paul Flory
 - D. John Scott

6. Why did General Motors partner with DuPont in 1909?
 - A. They were trying to find a new polymer to coat engine parts.
 - B. They were trying to find a new refrigerant for automobiles.
 - C. They were trying to create a new compound to replace Freon.
 - D. They wanted to find a substance to repel water.

7. The polymer PTFE is composed of both fluorine and
 - A. sulfur dioxide
 - B. propane
 - C. carbon
 - D. ammonia

8. What animal did Roy Plunkett use when testing Teflon?
 - A. snail
 - B. gecko
 - C. octopus
 - D. Togo frog

9. In what year was the first American made Teflon coated cooking pan created?
- A. 1950
 - B. 1951
 - C. 1960
 - D. 1961
10. What was the benefit of Teflon being inert?
- A. It would not react with other chemicals.
 - B. It was so slippery that nothing could stick to it.
 - C. It could be stored easily inside metal cylinders.
 - D. It could be changed into many different forms and had many uses.
11. In 1951, the city of Philadelphia awarded Roy Plunkett the John Scott Medal for his invention that
- A. allowed the production of easier to use and clean tools and cooking utensils.
 - B. set in motion a healthier, cleaner society.
 - C. promoted the comfort, welfare, and happiness of humankind.
 - D. created a new industry dedicated to nonstick surfaces.
12. About fifty percent of Teflon production is used in
- A. waterproofing uniforms and hazard suits
 - B. the insulation of wires for computers and aerospace equipment
 - C. nonstick coating for pots and pans
 - D. tape for securing seals between screws and nuts
13. In order to for sintering to occur, Teflon is heated at a very high temperature and
- A. a pan is dipped into the resulting liquid.
 - B. flash frozen onto the surface of a pan.
 - C. bombarded with electron magnets to fuse it to a pan.
 - D. then pushed down tightly onto the surface of the pan.
14. Roy Plunkett earned his Master's degree and later his Ph.D. in
- A. chemical manipulation
 - B. organic chemistry
 - C. chemical engineering
 - D. physical chemistry
15. Upon his graduation, what was Roy Plunkett's first job?
- A. research chemist for DuPont
 - B. laboratory technician for Jackson chemical
 - C. chemical machinist for General Motors
 - D. refrigeration researcher for Kinetic Energy Partners
16. The name Tefal, a brand of non-stick cookware, comes from
- A. the name of the man who invented it.
 - B. the combination of the words Teflon and Aluminum
 - C. the process used to bind the Teflon to the cookware
 - D. the type of metal used in the cookware

17. Which type of atoms must be removed from Teflon after sintering in order for the Teflon to stick to the pan?
- A. aluminum
 - B. fluorine
 - C. carbon
 - D. sulfur dioxide
18. Which award recognizes the invention of new products that use Teflon?
- A. the Teflon Award
 - B. the DuPont Inventor's Award
 - C. the Plunkett Award
 - D. the National Teflon Inventor's Award

True/False

19. Using Teflon on fabrics can repel water and stains, but it can change the color or texture of the fabric and does not allow air to pass through.
20. Laboratory Plasticware Fabricators manufactured "The Happy Pan", which was sold with a free spatula and was such a big success that an original Happy Pan is on display in the Smithsonian Museum.
21. DuPont originally thought the whole thing was a flop and should just be scrapped.
22. While in search of a chemical compound that would be noncorrosive to machine parts and free of toxicity and flammability, Roy and others discovered the compound Freon and went on to produce R-12 to cool automobiles for the next 50 years.
23. The Manhattan Project was a secret government research and development project during World War II that produced the first nuclear weapons.
24. A French engineer named Marc Gregoire was using Teflon to help untangle his fishing gear when his wife asked him if he could try to put Teflon on her pan so that food wouldn't stick to it.
25. Plumbers use Teflon tape when screwing pipes together to prevent the pipe from fusing together due to chemical reactions between the metals.

UIL LISTENING CONTEST - GRADES 7-8
SPRING DISTRICT 2020-2021
ANSWER KEY

"What is Teflon?"

- | | |
|-------|-----------|
| 1. C | 14. B |
| 2. B | 15. A |
| 3. C | 16. B |
| 4. D | 17. B |
| 5. A | 18. C |
| 6. B | 19. False |
| 7. C | 20. True |
| 8. B | 21. False |
| 9. D | 22. True |
| 10. A | 23. True |
| 11. C | 24. True |
| 12. B | 25. False |
| 13. D | |