The Art of Singing

by Kyria Abrahams

About six months ago, Alana finally started taking singing lessons. She's wanted to sing ever since she was a young girl, and now she was finally realizing her dream. Today she auditioned for the lead role in her school's production of *Annie*.

When Alana's mother took her to see *Annie*, Alana became inspired to really try singing. *Annie* was performed at an old theater called The Palace. The Palace isn't like the big multiplex movie theater downtown. For one thing, it was built in 1922 and is considered a historical building. For another, it only has one screen.

The stage at The Palace is decorated in an ornate fashion with red velvet curtains as tall as an oak tree. The Palace only has a lobby and one room with a stage. The room is very big and the sound echoes through the whole venue. If you were a loud opera singer, you could perform here and would not need a microphone.

Alana's favorite thing about The Palace was a series of giant brass pipes high up on the wall. To her, they looked like a row of teeth. Alana later learned some history about them. As it turned out, they were part of a great big pipe organ.

Back when the theater was first built, movies didn't have sound. So someone would sit at the edge of the stage and play songs on the organ. That way, there would be music to go with the movie. These were silent movies, but they didn't call them "silent" back then. Many people didn't think there would be a kind of movie with sound. When movies with sound came out, they called them "Talkies." Only then did the once regular movies become known as "Silent Films."

Alana found out that the organ stopped functioning in the 1960s. Now it's just a decoration because the music comes from the movie itself.

When Alana first saw *Annie*, she knew she wanted to audition for the lead role at some time in her life. She went home and sang "Tomorrow." She recorded herself singing and listened back to it, but it didn't sound as good as she thought it had in her head.

Her mother explained that singing is a musical talent, like playing any instrument. "You can't just pick up a trombone or a guitar and start playing it, can you?"

"No, of course not!"

"Well, your voice is also an instrument. You need to learn how to use it."

At school, Alana joined a band and the glee club. She learned how to read sheet music and sing scales. She also learned how to sing harmony and improvise with other students.

As Alana learned how to be a better singer, she learned different techniques. If she held her mouth open in certain ways, she could make different sounds. She could open her mouth wide and create an open, bright note. Or, she could push her bottom jaw out and make her voice sound higher. Sometimes, she would scrunch up her face and create a nasal sound. She loved to experiment with different sounds.

to the local library and took out some CDs to listen to. She wanted to take full advantage of the library's extensive CD collection.

These were the five artists she took out of the library:

Aretha Franklin

Janis Joplin

Billie Holiday

Whitney Houston

Bjork

Each of these women has a very different style of singing. They are all from different times and eras. Billie Holiday was popular in the 1940s, whereas Janis Joplin was popular in the 1960s. Janis performed at the famous Woodstock music festival. Whitney Houston had her first radio hit in the 1980s. Bjork is from Iceland and became popular in the early 2000s.

First, Alana put on Aretha Franklin. Aretha is affectionately known as the Queen of Soul. The song "Respect" came on. She belted out the letters, "R-E-S-P-E-C-T." Her voice was high pitched and clear. Alana tried to emulate it, but she couldn't do it. It just sounded like she was screaming. This is because her range wasn't high enough.

A "range" represented a certain amount of tones. It is the distance between the lowest note and the highest note a person can sing. Most people cannot sing as high and as powerfully as Aretha Franklin can.

When Alana tried to hit these high notes, it didn't sound the same. She lost a lot of power in her voice. Aretha sings high notes very loudly, but Alana sounded soft and operatic. She realized that there is a very good reason for which Aretha is known as the Queen of Soul. "She's amazing!" Alana thought.

Then, Alana put on some Billie Holiday. An old jazz song called "Stormy Weather" played. When she began, her voice sounded high pitched and a little scratchy, but then she hit the word "weather" and suddenly it was really low. It resonated in her chest. Alana tried to recreate this. She loosened her neck and shoulders and then breathed in from above her belly with the diaphragm.

Alana watched her belly get bigger and smaller as she breathed. She pushed with a breathy cry: "we-aaaaather." She thought that it sounded pretty good.

Alana ran through the other female artists, doing the same thing. She listened to their voices and tried to copy them. Alana thought that Bjork sounded kind of silly, whispering and screeching like a child. Janis Joplin screamed from her heart and soul. Whitney Houston sang powerfully and clearly, like the echoes of a church choir.

Each singer has a different voice because they form the notes in a different way. The human voice is amazing and elastic. It can stretch in so many different ways. In fact, a person can make different sounds just by choosing where to push the sound. In singing, this is called "placement."

As Alana experimented with different ways of singing, she got more comfortable with what her own voice naturally sounded like. And around this time, it was announced that her school would in fact be producing their own performance of *Annie*. Alana wanted the lead!

When she auditioned for Annie, she sang very powerfully. She let all the notes resonate from her vocal chords and echo around in her head.

"The sun'll come out... tomorrow!" she belted out. "You're only... a dayyy... a... wayyyyy!"

Her music teacher applauded.

"Alana, you've been working hard to become a better singer, and it shows. Congratulations. You've got the lead role! You're our new Annie!"

When Alana heard this, her dream came true. But she knew her dream didn't just happen because she wished and hoped it would. She'd been taking lessons and working hard. Finally, the hard work had paid off. She walked home whistling a happy little song.

Name: _____ Date: _____

1. What event inspired Alana to really try singing?

A. She learned that The Palace theater had a big pipe organ.

B. She saw *Annie* at The Palace theater.

C. She joined the glee club at school.

D. She listened to Aretha Franklin sing "Respect."

2. What was the result of Alana's efforts to practice singing?

A. She got to see *Annie* at The Palace.

B. Her mother gave her CDs of artists like Janis Joplin and Whitney Houston.

C. She saw Bjork perform live in Iceland.

D. She won the lead role in her school's production of *Annie*.

3. Alana followed her mother's advice to learn how to use her voice like an instrument. What evidence from the text supports this conclusion?

A. Alana visited The Palace and saw *Annie*.

B. Alana recorded herself singing "Tomorrow" and listened back to it.

C. Alana joined a band and the glee club at school and learned to read sheet music and sing scales.

D. Alana learned some history about the pipe organ in The Palace.

4. Which of the following best describes Alana?

A. confused

B. discouraged

C. adventurous

D. motivated

5. What is the main idea of this story?

A. Alana decides to become a singer after becoming inspired by the beautiful Palace theater.

B. Inspired to become a better singer, Alana practices hard and wins the lead role in her school's version of *Annie*.

C. Alana learns the different singing styles of artists like Aretha Franklin and Billie Holiday.

D. Alana discovers how to control her voice's pitch, range, and placement as she

6. Read these sentences from the text.

"Alana watched her belly get bigger and smaller as she breathed. She pushed with a breathy cry: 'we-aaaaather.'"

Why did the author stretch out the word weather?

A. to imitate the sound Alana made when she sang
B. to emphasize how happy Alana felt when she sang
C. to show how hard it is to sing the word weather
D. to emphasize the importance of the word weather

7. Choose the answer that best completes the sentence.

After seeing Annie, Alana went home and recorded herself singing "Tomorrow." _____, the recording didn't sound as good as she thought it would.

A. Including
B. Earlier
C. However
D. Such as

8. What assignment did Alana's music teacher give her?

9. What did Alana do to help her with the assignment?

10. Explain how her music teacher's assignment helped Alana win the lead in *Annie*.

Support your answer with evidence from the text.

* Complete the circled problems

Add Decimals—Skills Practice

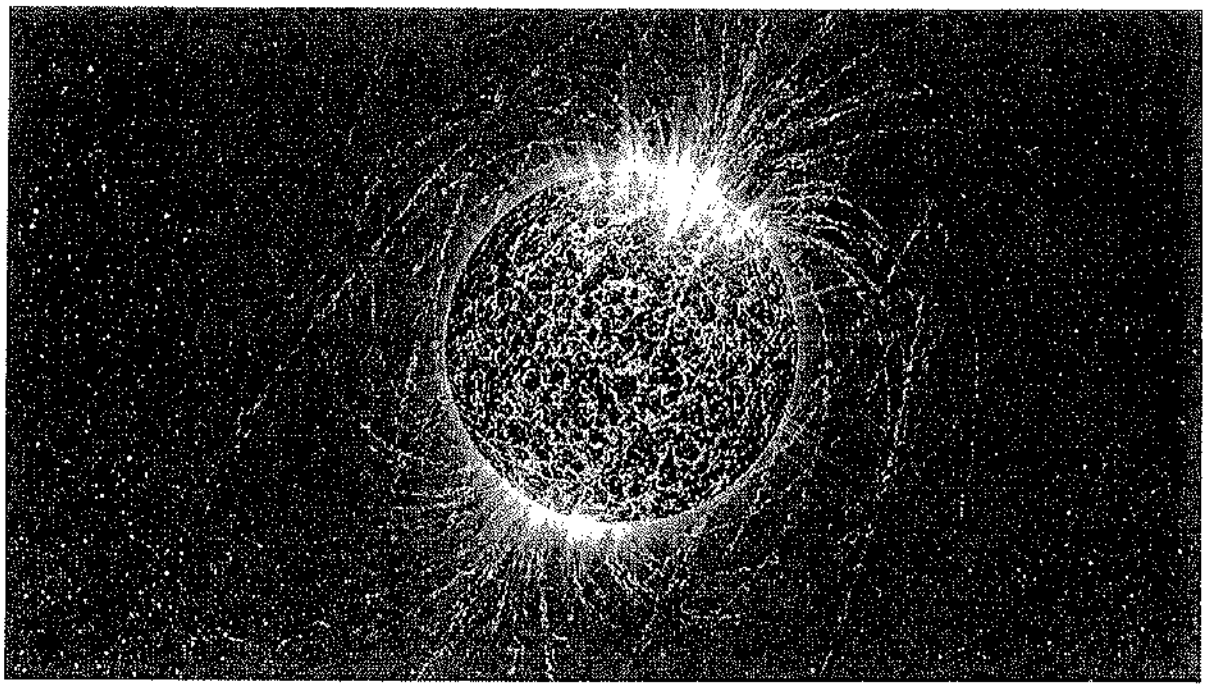
Name: _____

Add. **Form A**

1. 22.098 + 14.103 = _____
2. 6.07 + 12.149 = _____
3. 3.1 + 4.904 = _____
4. 8.062 + 7.189 = _____
5. 11.802 + 32.4 = _____
6. 13.765 + 6.23 = _____
7. 76.147 + 5.07 = _____
8. 63.98 + 0.031 = _____
9. 0.093 + 0.02 = _____
10. 5.2 + 0.871 = _____
11. 41.82 + 7.593 = _____
12. 2.76 + 27.959 = _____
13. 8.91 + 0.092 = _____
14. 33.99 + 24.002 = _____
15. 1.099 + 0.038 = _____
16. 2.08 + 0.671 = _____
17. 9.7 + 0.345 = _____
18. 1.999 + 52.651 = _____
19. 17.76 + 8 + 45.309 = _____
20. 68.821 + 15.34 + 1.009 = _____

What are neutron stars?

By Mariëtte Le Roux, Agence France-Presse, adapted by Newsela staff on 10.25.17
Word Count **516**
Level **MAX**

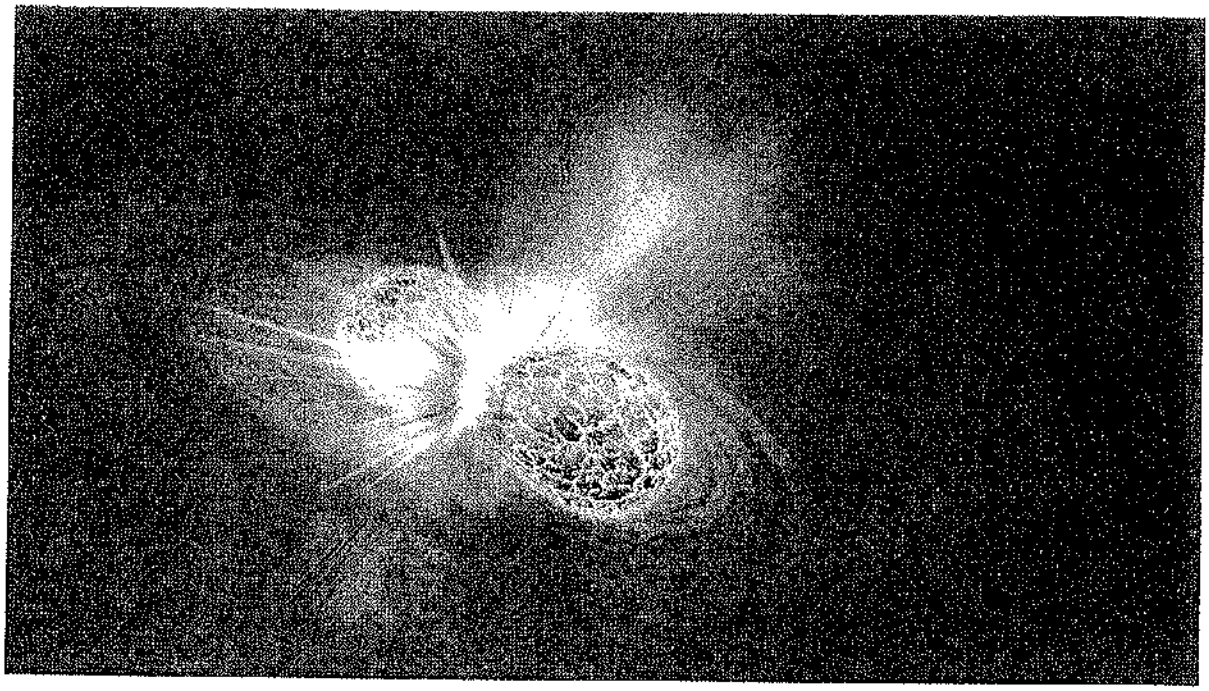


An illustration of a neutron star. Illustration from: Wikimedia.

Thrilled physicists and astronomers announced last week the first-ever observation of the merger of two neutron stars, one of the most spectacularly violent phenomena in the Universe. The crash created waves through the fabric of space-time and a flash brighter than a billion suns.

But what are neutron stars?

Patrick Sutton is the head of Cardiff University's gravitational physics department. He contributed to the discovery. Below, Sutton answers a few questions about this important finding.



What Are Neutron Stars?

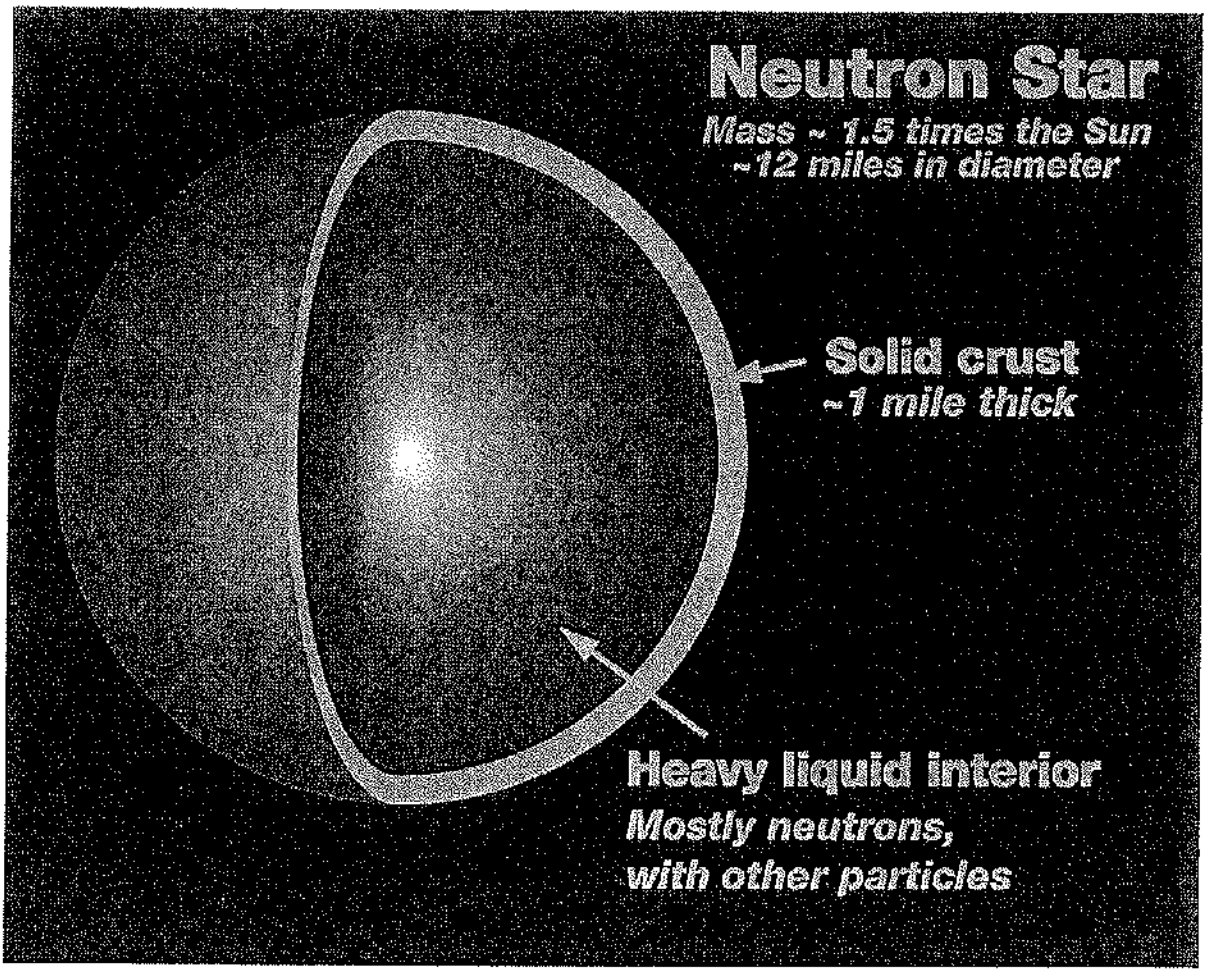
You can think of them as the collapsed, burned-out cores of dead stars.

When a large star reaches the end of its life, its core will collapse. The outer layers of the star are blown off. You're left with an extremely exotic object, this neutron star.

A neutron star typically would have a mass that's perhaps half a million times the mass of the Earth. But they're only about 12 miles across. That is about the size of London.

A handful of material from this star would weigh as much as Mount Everest.

Neutron stars are very hot, perhaps a million degrees. They are highly radioactive, and they have incredibly intense magnetic fields. They are arguably the most hostile environments in the Universe today.



Why Do Neutron Stars Merge?

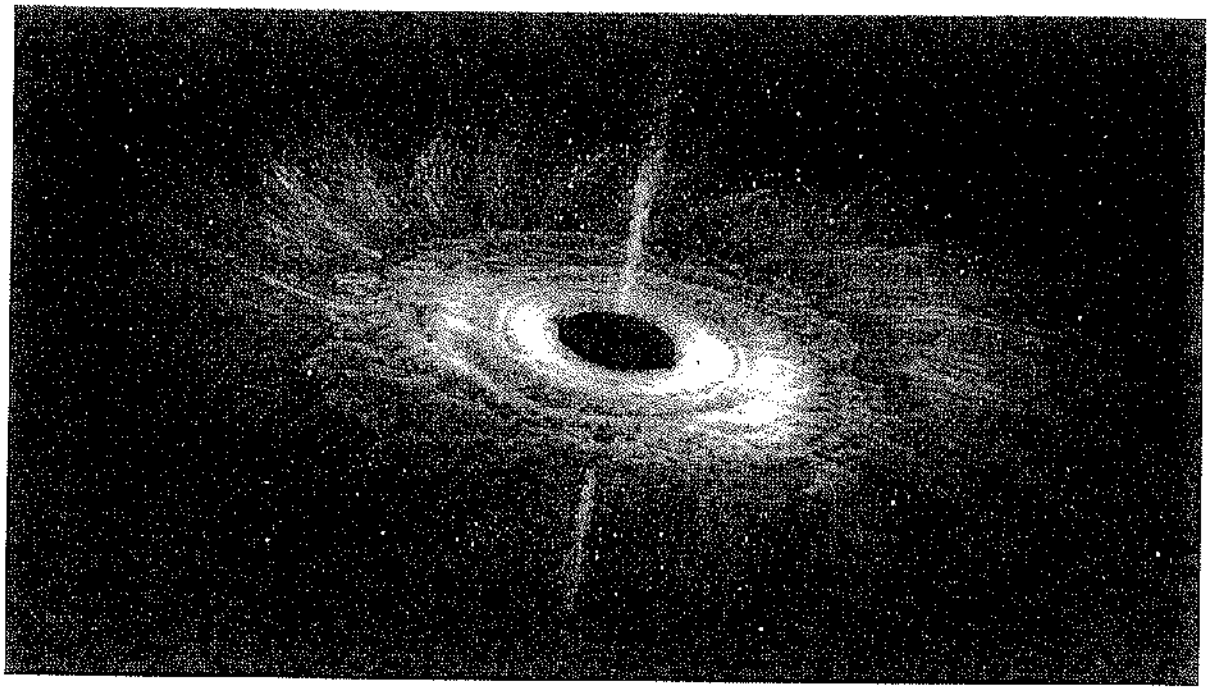
It's very common for stars ... in the Universe to actually be formed in pairs by a given gas cloud.

If the stars are large enough, then at the end of their life they explode and they leave behind neutron star cores. The neutron stars will continue orbiting each other.

As they orbit, they give off gravitational waves. These waves carry away energy and so the stars slowly fall closer and closer together.

As they get closer together they orbit more and more quickly. The gravitational wave emission speeds up.

You get a runaway process then. The two stars, in the last few moments of their lives, will be orbiting each other several hundred times per second, so moving at very close to the speed of light. Eventually they will merge.



What Happens Then?

Because we don't understand exactly the mechanics of how these neutron stars work on the interior, it's not certain what the final fate is.

If the stars are heavy enough, we're sure they will collapse to form a black hole. Some of the remaining matter ... will form what is called an accretion disk orbiting just around the black hole.

It may be that if the stars are light enough, they will actually form a single, very heavy neutron star instead of a black hole. That may be stable and stay as a neutron star forever, or it may be unstable and eventually collapse into a black hole.

Quiz

1 Read the section "What Happens Then?" Select the paragraph from the article that suggests not all collisions between neutron stars result in black holes.

2 Read the sentence from the section "What Are Neutron Stars?"

You're left with an extremely exotic object, this neutron star.

Which selection from the article BEST supports the idea that neutron stars are "exotic"?

(A) When a large star reaches the end of its life, its core will collapse. The outer layers of the star are blown off.

(B) They are highly radioactive, and they have incredibly intense magnetic fields. They are arguably the most hostile environments in the Universe today.

(C) It's very common for stars ... in the Universe to actually be formed in pairs by a given gas cloud.

(D) If the stars are large enough, then at the end of their life they explode and they leave behind neutron star cores. The neutron stars will continue orbiting each other.

3 Which two selections from the article are illustrated by the second graphic in the article?

1. *Thrilled physicists and astronomers announced last week the first-ever observation of the merger of two neutron stars, one of the most spectacularly violent phenomena in the Universe. The crash created waves through the fabric of space-time and a flash brighter than a billion suns.*
2. *A neutron star typically would have a mass that's perhaps half a million times the mass of the Earth. But they're only about 12 miles across. That is about the size of London.*
3. *If the stars are large enough, then at the end of their life they explode and they leave behind neutron star cores. The neutron stars will continue orbiting each other.*
4. *You get a runaway process then. The two stars, in the last few moments of their lives, will be orbiting each other several hundred times per second, so moving at very close to the speed of light. Eventually they will merge.*

(A) 1 and 3

(B) 2 and 3

(C) 1 and 4

(D) 2 and 4

4 How do the image and text in the section "What Happens Then?" develop a coherent understanding of neutron stars?

(A) They highlight what black holes are composed of and why they are so heavy.

(B) They show the potential result of two neutron stars colliding.

(C) They help the reader visualize what a stable, permanent neutron star looks like.

(D) They provide context for how a neutron star behaves before it burns out.