

Class

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## Unit 1 Cleaning Up Space Garbage

Listen to the audio and fill in the blanks.

Track 03



(1) \_\_\_\_\_ is a problem all around the world. It's even a (2) \_\_\_\_\_ in space. People have left 8,000 (3) \_\_\_\_\_ of trash there. It's called space (4) \_\_\_\_\_. It goes around the Earth (5) \_\_\_\_\_ fast. It can hit (6) \_\_\_\_\_ and even Earth.

It's time to clean it up. One (7) \_\_\_\_\_ scientists have (8) \_\_\_\_\_ is a giant (9) \_\_\_\_\_ to catch trash. The scientists will use (10) \_\_\_\_\_ cameras to find the trash. They will catch it and slow it down. Then they can bring it back to Earth.

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## Unit 2 Robot Firefighters

Listen to the audio and fill in the blanks.

Track 05



Fighting (1)\_\_\_\_\_ is a dangerous and dirty job.  
(2) \_\_\_\_\_ people (3) \_\_\_\_\_ fires every day.  
In the future, we'll have robots to (4) \_\_\_\_\_ us.

There are different firefighting robots. One is small  
and can (5) \_\_\_\_\_ through doors. A human  
(6) \_\_\_\_\_ it with a (7) \_\_\_\_\_. Another is  
much bigger. It (8) \_\_\_\_\_ water 90 (9) \_\_\_\_\_  
and (10) \_\_\_\_\_ huge fires. One firefighting robot  
even has hands and a face. It walks and carries a hose.  
Scientists are now teaching it to talk. Soon firefighters  
will have lots of robot helpers.

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## Unit 3 Cars That Drive Themselves

Listen to the audio and fill in the blanks.

Track 07



Companies are making a new (1) \_\_\_\_\_ of car.  
These cars drive themselves.

In some ways, these cars will be great. People won't have to drive their cars. So they can work or (2) \_\_\_\_\_. Also, this kind of (3) \_\_\_\_\_ will be safe. A computer watches the road and (4) \_\_\_\_\_ problems. It (5) \_\_\_\_\_ other cars and keeps a safe (6) \_\_\_\_\_. This will mean fewer (7) \_\_\_\_\_.

Not everyone likes these cars, though. Some people don't (8) \_\_\_\_\_ a car with no (9) \_\_\_\_\_. They think computers can make (10) \_\_\_\_\_. And some people just enjoy driving.

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## Unit 4 Intelligent Machines

Listen to the audio and fill in the blanks.

Track 09



Do you have a robot friend?

In the future, you might. Computers and robots have (1) \_\_\_\_\_ a lot. The first computers were (2) \_\_\_\_\_ in the Second World (3) \_\_\_\_\_. They could understand (4) \_\_\_\_\_ messages. By the 1950s, computers could (5) \_\_\_\_\_ difficult math problems. The first (6) \_\_\_\_\_ robot was built in the 1970s. Now, computers play games like (7) \_\_\_\_\_ and (8) \_\_\_\_\_. They can even (9) \_\_\_\_\_ human (10) \_\_\_\_\_.

Many people think computers and robots will soon be more like us. They may soon think and talk. What will they talk about?

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## Unit 5 Hieroglyphics

Listen to the audio and fill in the blanks.

Track 11



Hieroglyphics are the writing system of  
(1) \_\_\_\_\_ Egypt. They were used 5,000 years  
ago.

Hieroglyphics are (2) \_\_\_\_\_. So most people  
couldn't read or write. There are hundreds of pictures.  
Some are for one sound. Others are for whole words.  
Most languages are (3) \_\_\_\_\_ in one (4)  
\_\_\_\_\_. But hieroglyphics can be written in any  
direction.

For a long time, no one could read hieroglyphics. In  
1799, a French (5) \_\_\_\_\_ (6) \_\_\_\_\_ the  
Rosetta Stone. This stone had the same (7) \_\_\_\_\_  
written in hieroglyphics and Greek. (8) \_\_\_\_\_  
could use it as a (9) \_\_\_\_\_ to (10) \_\_\_\_\_.

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## Unit 6 Baseball Signs

Listen to the audio and fill in the blanks.

Track 13



When you watch baseball, you may (1) \_\_\_\_\_ something (2) \_\_\_\_\_. The players use a variety of hand (3) \_\_\_\_\_. Sometimes, a player holds up his fingers. Sometimes, he touches his (4) \_\_\_\_\_ or head.

There's a good reason. The (5) \_\_\_\_\_ and other players stand far (6) \_\_\_\_\_. But they need to (7) \_\_\_\_\_ (8) \_\_\_\_\_ about the game. They can't shout to each other. They need to keep their plans (9) \_\_\_\_\_. So they make different signs with their hands. Each team uses different signs. And they change them often so other teams don't (10) \_\_\_\_\_ them.

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Unit 7 How Animals Communicate

Listen to the audio and fill in the blanks.

Track 15



Human language seems (1) \_\_\_\_\_. But other animals also have ways to communicate.

Ants use (2) \_\_\_\_\_. An ant leaves a chemical (3) \_\_\_\_\_. Other ants (4) \_\_\_\_\_ it to the food.

Bees do a special dance. A bee moves around. Its body and wings (5) \_\_\_\_\_. This shows where flowers are.

Elephants use low sounds. These sounds travel over long (6) \_\_\_\_\_.

Dolphins (7) \_\_\_\_\_ their (8) \_\_\_\_\_ on the water. This (9) \_\_\_\_\_ other dolphins of danger.

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Animals like the firefly and the glow-worm have another way. They (10) \_\_\_\_\_ flashes of light to communicate.



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## Unit 8 Barcodes and QR Codes

Listen to the audio and fill in the blanks.

Track 17



- (1) \_\_\_\_\_ put barcodes on your  
(2)\_\_\_\_\_. (3) \_\_\_\_\_ put them on your movie  
(4) \_\_\_\_\_. They are everywhere.

A barcode looks like black (5) \_\_\_\_\_. Some stripes are thin. Others are thicker. A machine uses a laser to (6) \_\_\_\_\_ them. It reads the stripes as numbers. Barcodes are useful for some companies. Supermarkets and shipping companies (7)\_\_\_\_\_ lots of (8)\_\_\_\_\_. They need to scan them quickly.

Now there are better barcodes. They are called QR codes. You can scan them with your phone. They use dots (9)\_\_\_\_\_ of bars. And they (10)\_\_\_\_\_ more information.

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## Unit 9 The Theremin

Listen to the audio and fill in the blanks.

Track 19



The theremin is one of the first (1) \_\_\_\_\_  
(2) \_\_\_\_\_. And it is very unusual.

It doesn't look like other musical instruments. It is  
just a (3) \_\_\_\_\_ box with two (4) \_\_\_\_\_.

The way that you play the theremin is also strange.  
You don't (5) \_\_\_\_\_ it, like a piano or guitar. You  
(6) \_\_\_\_\_ your hands in the air near the antennas.  
Your hands change an (7) \_\_\_\_\_ (8) \_\_\_\_\_.  
This changes the sound.

The theremin's strange sound isn't for everyone. It  
can even sound (9) \_\_\_\_\_. You often hear it in old  
(10) \_\_\_\_\_ movies.

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## Unit 10 Beat Machines

Listen to the audio and fill in the blanks.

Track 21



Drum machines have (1)\_\_\_\_\_ of instruments like drums and (2) \_\_\_\_\_. You program (3) \_\_\_\_\_ with these sounds. Drum machines are great, but not everyone likes them.

Drum machines are better than human (4) \_\_\_\_\_ in some ways. They play faster and longer. They never get (5) \_\_\_\_\_. They don't make (6) \_\_\_\_\_. And they play a wider (7) \_\_\_\_\_ of sounds.

To some people, drum machines' beats are too (8) \_\_\_\_\_. (9) \_\_\_\_\_ drummers make small changes in the beat. These add (10) \_\_\_\_\_ to the music. Drum machines don't do this. To some people, human drummers are always better.

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## Unit 11 Auto-Tune

Listen to the audio and fill in the blanks.

Track 23



Singing is never perfect. But fixing it used to take a long time. (1)\_\_\_\_\_ recorded a song many times. Then, they took the best parts and put them together.

In 1997, Auto-(2)\_\_\_\_\_ changed everything. Engineers recorded a song once. Then, the (3)\_\_\_\_\_ could make it perfect. The song still sounded (4)\_\_\_\_\_. (5)\_\_\_\_\_ every (6)\_\_\_\_\_ wanted to use Auto-Tune.

Engineers started using Auto-Tune in (7)\_\_\_\_\_ new ways. They moved up and down a few (8)\_\_\_\_\_ very (9)\_\_\_\_\_. The singer sounded like a robot. Now, Auto-Tune is used in (10)\_\_\_\_\_ every song.

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Unit 12 The Changing Shape of Music

Listen to the audio and fill in the blanks.

Track 25



Listening to music has changed a lot. Long ago, you could only listen to music at (1)\_\_\_\_\_ halls. Starting in the 1850s, people could listen to music at home. (2)\_\_\_\_\_ played music on (3)\_\_\_\_\_ or (4)\_\_\_\_\_. But these machines were too heavy to take around. That changed in 1983. With the Sony Walkman, people could take music (5) \_\_\_\_\_. It played music on (6)\_\_\_\_\_. And it fit in a (7)\_\_\_\_\_. Now, listening to music is (8)\_\_\_\_\_. Your computer and phone can play MP3 (9)\_\_\_\_\_. You can also (10)\_\_\_\_\_ music over the internet.

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## Unit 13 The First Scales

Listen to the audio and fill in the blanks.

Track 27



(1)\_\_\_\_\_ started long ago. It was easy to find the (2)\_\_\_\_\_ of some goods. For example, one cow was (3)\_\_\_\_\_ three goats. But it was hard to (4)\_\_\_\_\_ other goods, like spices. (5)\_\_\_\_\_ (6)\_\_\_\_\_ these (7)\_\_\_\_\_.

The first weighing system was simple. Two plates (8)\_\_\_\_\_ from either side of a bar. One plate held the goods. On the other, the merchant placed (9)\_\_\_\_\_. All merchants used the stones of the same size and weight. Stones were added until the two plates were (10)\_\_\_\_\_. Then, the goods weighed the same as the stones.

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## Unit 14 Weighing a Planet

Listen to the audio and fill in the blanks.

Track 29



(1) \_\_\_\_\_ have a way to find the  
(2) \_\_\_\_\_ of a (3) \_\_\_\_\_. They look at a  
planet's (4) \_\_\_\_\_.

Scientists need to know two things. They need to  
know the (5) \_\_\_\_\_ between the planet and the  
moon. And they also need to know how long it takes  
the (6) \_\_\_\_\_ to (7) \_\_\_\_\_ the planet once.

This tells them about the (8) \_\_\_\_\_ pulling on  
the moon. The gravity comes from the weight of the  
planet. A (9) \_\_\_\_\_ planet (10) \_\_\_\_\_ harder  
on its moons. So they will orbit the planet quickly.

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## Unit 15 Catching Rain

Listen to the audio and fill in the blanks.

Track 31



Rain is (1)\_\_\_\_\_. It gives us water to grow food. But it can also be dangerous. (2)\_\_\_\_\_ can wipe out (3)\_\_\_\_\_ villages. Luckily, scientists have good tools to study rain.

One tool is called a disdrometer. It uses light. It tells scientists how fast rain is falling. It (4)\_\_\_\_\_ the size and (5)\_\_\_\_\_ of raindrops. Larger (6)\_\_\_\_\_ fall faster. They also (7)\_\_\_\_\_ many (8)\_\_\_\_\_ more water. Scientists can tell how much rain is falling per (9)\_\_\_\_\_. This helps them plan how to best use water. And how to (10)\_\_\_\_\_ us from it.



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## Unit 16 Weather Models

Listen to the audio and fill in the blanks.

Track 33



Big (1)\_\_\_\_\_ are dangerous. (2)\_\_\_\_\_ and (3)\_\_\_\_\_ can even kill. People need to know they are coming. It's the job of weather scientists to (4)\_\_\_\_\_ the weather.

Weather scientists collect (5)\_\_\_\_\_ about the weather. They watch how the air moves. They watch changes in (6)\_\_\_\_\_ and (7)\_\_\_\_\_.

This information goes to supercomputers. They run (8)\_\_\_\_\_ (9)\_\_\_\_\_ of the weather. This shows the weather (10)\_\_\_\_\_.

The system is not perfect. Scientists can't always get good information. But weather models are getting better all the time.