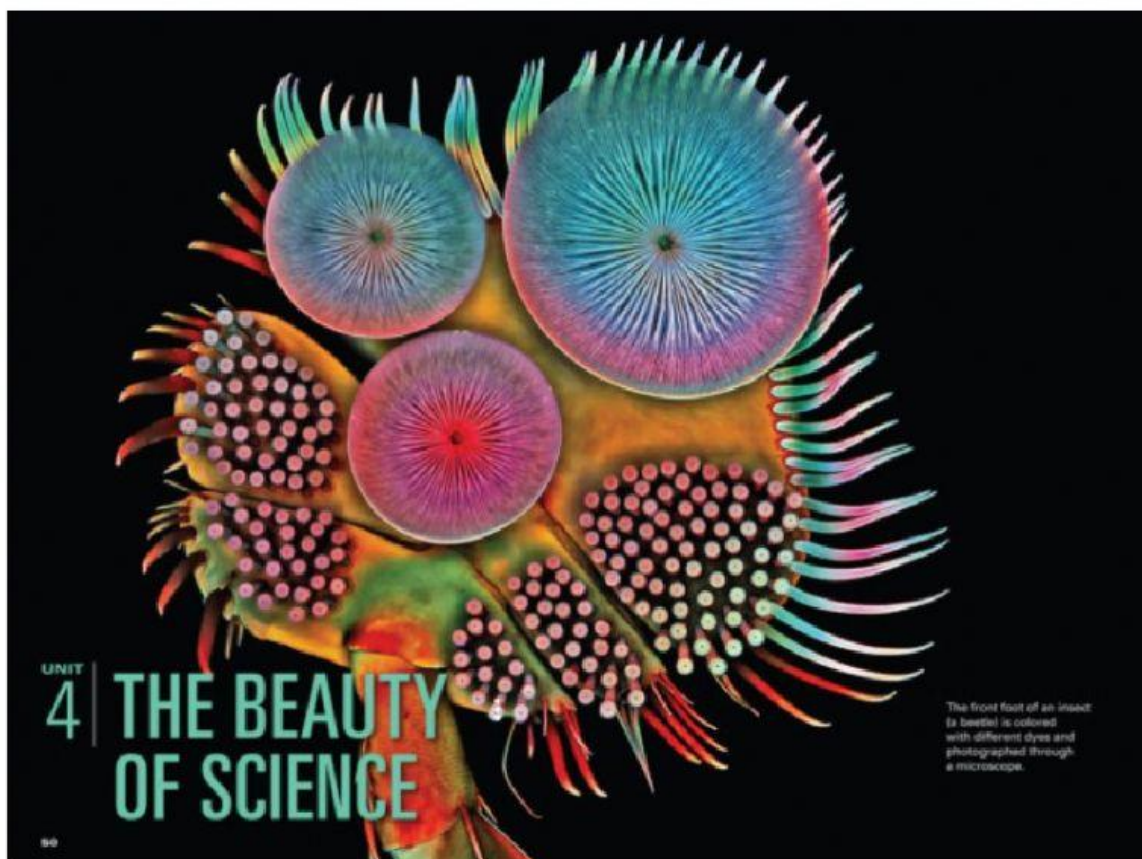




UNIT 4: THE BEAUTY OF SCIENCE

A VOCABULARY Listen to the words. Match the words with the definitions. **141**

disease (n)	fall (v)	heavy (adj)	light (n)	prove (v)
experiment (n)	gravity (n)	hit (v)	medicine (n)	scientist (n)

1. _____ move or drop to the ground
2. _____ a person who studies or works in science
3. _____ opposite of light in weight
4. _____ something that you take when you are ill or sick
5. _____ to touch someone or something quickly and with force
6. _____ an illness
7. _____ something that allows us to see things
8. _____ the force that pulls things toward each other and to the ground
9. _____ to show that something is true
10. _____ a test to learn something new

LISTEN TO 5 CONVERSATIONS AND WRITE TRUE OR FALSE.

Science Fact or Science Fiction?

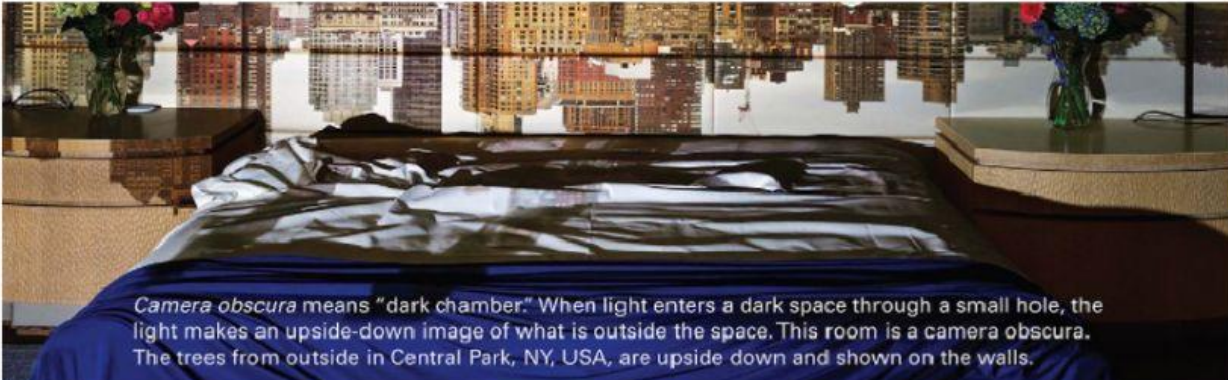
1. _____ If a penny falls from a very tall building and hits someone on the ground, it can kill them.
2. _____ Gravity makes heavy things fall faster than light things.
3. _____ It takes 8 minutes for light from the sun to reach Earth.
4. _____ Malaria has killed more people than any other disease in history.
5. _____ Before Albert Einstein became a brilliant scientist, he was a very bad student at school.

D Listen again. Complete the sentences with one or two words. Then check your answers with your partner.  42

1. The penny might hurt you, but it wouldn't _____ you.
2. Gravity _____ heavier things fall faster than lighter things.
3. The sun is 93 _____ from Earth.
4. Malaria has killed more people than any other _____ in history.
5. Einstein was always a good student, but he didn't like the way of _____.

LISTEN & SPEAK

**THREE SCIENCE EXPERIMENTS
THAT CHANGED THE WORLD**



Camera obscura means "dark chamber." When light enters a dark space through a small hole, the light makes an upside-down image of what is outside the space. This room is a camera obscura. The trees from outside in Central Park, NY, USA, are upside down and shown on the walls.

Listen and choose the correct answer

B MAIN IDEAS Use your notes and choose the correct answer.

1. What did Alhazen's experiment show?
 - a. We see when light enters our eyes.
 - b. We see because we have light in our eyes.
 - c. We need lamps to see.
2. What did Galileo's experiment show?
 - a. Heavy things fall faster than light things.
 - b. Heavy things fall at the same speed as light things.
 - c. Heavy things fall slower than light things.
3. What did Tu Youyou's experiment show?
 - a. Artemisinin comes from the plant *Artemisia annua*.
 - b. Artemisinin can help people with malaria.
 - c. Artemisinin is not safe for people with malaria.

C DETAILS Listen again. Write T for *True* or F for *False*. Then correct the false statements. 4.3

Alhazen

1. _____ Alhazen was born 1,000 years ago in Egypt.
2. _____ There were two lamps outside the room and a small hole in the wall.
3. _____ The two lamps made one spot of light on the wall.

Galileo

4. _____ Galileo dropped two similar balls from the Leaning Tower of Pisa.
5. _____ The two balls hit the ground at the same time.
6. _____ On the moon, the hammer hit the ground before the feather.

Tu Youyou

7. _____ Tu and her team wanted to find a new medicine for malaria.
8. _____ Tu made a medicine called artemisinin from a plant.
9. _____ Nobody dies from malaria anymore.

LISTENING SKILL Understand cause

To explain the cause of an event, we often use *because* followed by a clause (subject + verb).

*They believed this **because it seemed natural**.*

We can also use *because of* and *due to* followed by a noun, noun phrase, or pronoun.

*They believed we can see **because of a light in our eyes**.*

***Due to her interest in plants**, Tu Youyou began studying traditional plant medicines.*

- **E** Listen to a description of another experiment. What was the disease, and what was the "medicine"? 🎧 4.4

In the 16th and 17th centuries, [] often became ill with a disease called *scurvy*. Sailors with *scurvy* lost their teeth and became very []. Many of them died because of the disease. In 1747, a Scottish doctor, James Lind, wanted to find a [] for *scurvy*. He believed that poor [] was the cause of the disease. He decided to carry out an experiment. He found some sailors with *scurvy*. He gave [] and limes to two of the sailors. Those two sailors got better quickly. The others didn't get better. We now know that sailors got *scurvy* because they didn't have enough vitamin C. The two sailors got better due to the vitamin C in the oranges and limes. From then on, British sailors always took [] with them on long trips and because of this they got the name "limeys."

- F APPLY** Listen again. Then complete each sentence with one or two words. 🎧 4.4

1. Many of the sailors died _____ the disease.
2. We now know that sailors got *scurvy* _____ they didn't have enough vitamin C.
3. The two sailors got better _____ the vitamin C in the oranges and limes.
4. British sailors took limes on long trips and _____ this, they got the name "limeys."

H GRAMMAR Complete the sentences with the simple past form of the verbs.

Problem: This ¹_____ (happen) to me a few months ago. I ²_____ (notice) that something was wrong. When I ³_____ (go) to bed, I couldn't sleep because I ⁴_____ (not feel) tired.

Idea: I ⁵_____ (decide) to try an experiment with coffee.

Experiment: Before the experiment, I ⁶_____ (drink) four cups of coffee every day. For the experiment, I ⁷_____ (stop) drinking coffee for two weeks. It ⁸_____ (not be) easy!

Conclusion: When I stopped drinking coffee, I ⁹_____ (not have) sleeping problems. After two weeks, I ¹⁰_____ (start) drinking coffee again, and the sleeping problems ¹¹_____ (come) back. My experiment ¹²_____ (prove) that coffee was the cause of the problem.

PRONUNCIATION -ed endings 4.5

- ▶ Remember to pronounce an additional syllable only when -ed is added after a verb ending in a -t or -d.

list-en (2 syllables) → list-ened (2 syllables; no additional syllable)

re-port (2 syllables) → re-port-ed (3 syllables; additional syllable)

- ▶ Remember that the -ed can sound like /t/, /d/, or /ɪd/.

I PRONUNCIATION Write the number of syllables of each past tense verb. Circle the pronunciation of -ed. Then listen and repeat each word. 4.6

1. watched	_____	/t/	/d/	/ɪd/
2. noticed	_____	/t/	/d/	/ɪd/
3. wanted	_____	/t/	/d/	/ɪd/
4. happened	_____	/t/	/d/	/ɪd/
5. talked	_____	/t/	/d/	/ɪd/
6. needed	_____	/t/	/d/	/ɪd/