

UNIT 2**Complete the sentences with the correct words.**

detectives	determined	identity	mysteries	prove
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1. The _____ were looking for some evidence to help them solve the crime.
2. The documentary was about some _____ from many years ago that had not been solved.
3. We may never know the _____ of the artist, who is famous for his graffiti art and likes to keep his face and name a secret.
4. The police need to find evidence in order to _____ she is the thief.
5. Scientists have _____ that the mysterious object fell from space.

Choose the correct word to complete each sentence.

6. We saw from the patient's _____ history that she had a heart issue.
 - a. medical
 - b. specialize
 - c. combination
7. We need to _____ both sides of the argument before we decide.
 - a. reveal
 - b. delicate
 - c. consider
8. The lawyer _____ that her client had been at work at the time of the incident.
 - a. presence
 - b. revealed
 - c. examined

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9. There have been _____ in technology, which have helped detectives prove who committed the crime.
 - a. traces
 - b. placed
 - c. advances

10. He was found guilty because of a _____ of his made-up story and the evidence.
 - a. suspect
 - b. mysteries
 - c. combination

Match the statements to the words.

- | | | | |
|--|---|---|--------------|
| 11. My work involves listening to people talk about their issues and helping them find ways to live healthier lives. | ● | ● | a. therapist |
| 12. My daughter absolutely loves biology and chemistry, so I think this might be a good job for her when she is older. | ● | ● | b. novelist |
| 13. I used to love reading when I was younger, and now I write my own books. | ● | ● | c. scientist |

Write each noun as an adjective.

14. resident: _____
15. politics: _____
16. controversy: _____

Read the passage.

Tech Detectives

Police detectives have always made use of the latest technologies to solve crimes. As three cases show, modern technology can help scientists and detectives understand and solve mysteries both from the present and the past.

A Mysterious Hijacker

On November 24, 1971, a man known as D.B. Cooper got on a plane traveling from Portland, Oregon, to Seattle, Washington. He claimed to have a bomb in his suitcase and demanded \$200,000 in cash and four parachutes when the plane landed. After Cooper received the money and let the passengers off of the plane, he ordered the pilot to fly toward Mexico. Then, somewhere along the way, Cooper jumped into the ink-black night, never to be seen again.

For over 50 years, people have been fascinated by Cooper and have tried to solve the mystery of his identity. One group calling themselves “The Cooper Research Team” had a tool that the FBI didn’t have in 1971—an electron microscope capable of making things look 100,000 times bigger. In 2011, the team used their microscope to analyze a tie that was found on the plane after Cooper jumped. “The tie is the most ideal thing for him to leave on a plane, because you don’t wash a tie,” said Tom Kaye, the leader of the group. They knew that the tie had collected tiny bits of things from places Cooper had been.

At first, the team looked for plant matter because it could give them useful clues. However, they found something much more interesting—pure titanium, a metal element that we know was uncommon at the time. Later, in 2017, the team found more unusual elements. Their presence suggests that Cooper worked with chemicals or metal, or in a factory that made parts for old TVs and computer monitors.

The FBI has closed the case on D.B. Cooper, but curious citizens like Kaye are still trying to figure out his identity. Large groups of “Cooperites” in D.B. Cooper T-shirts meet on or around November 24 each year to discuss their theories. Some believe that they have discovered who he is, but no one has been able to prove it. Perhaps further developments in technology, like those used by the Cooper Research Team, may one day give us the answer.

A Murder Case in Arizona

The first conviction based on plant DNA evidence occurred in the state of Arizona, in the United States. When a murder was committed in 1992 in Phoenix, the state capital, police found a pager at the scene of the crime, leading them to a suspect. He admitted to giving the victim a ride in his truck but denied any wrongdoing. In fact, he claimed that she had actually robbed him, which is why his pager was found at the crime scene. Forensic investigators examined his truck and found seed pods, which were later identified as the fruits of the palo verde tree. And indeed, a palo verde tree at the scene of the crime looked like a truck might have hit it.

However, this evidence alone was not enough. An investigator wondered if it was possible to link the exact tree at the crime scene with the seed pods found on the truck. A geneticist at the University of Arizona in Tucson showed that it was. Individual plants—in this case, palo verde trees—have unique patterns of DNA. Through analysis of the seed pods, the geneticist determined that its DNA matched the one on the truck. This proved that the truck had definitely been to the crime scene and had collided with one specific tree—thus contradicting the suspect’s story. With this information, it was possible to convict the suspect of the crime.

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Choose *True* or *False*.

17. The FBI had special technology that helped them discover evidence from D.B. Cooper's crime.
- a. True
 - b. False
18. The discovery of plant material helped work out where D.B. Cooper may have worked.
- a. True
 - b. False
19. No one has been able to confirm D.B. Cooper's identity.
- a. True
 - b. False
20. The suspect in Arizona was convicted with the help of plant analysis.
- a. True
 - b. False
21. The main purpose of the passage is to explain how evidence found at crime scenes helps detectives look for suspects.
- a. True
 - b. False

Read the passage.

- A** Fossils—marks or signs that a dinosaur was in a specific area in prehistoric times—are rare. Most of us will never find the skeleton of a dinosaur in our yards, or even in the wild. And even when we do find the fossil of some ancient creature from a long time ago, it is usually just a small shell or an unrecognizable part of something that lived hundreds of millions of years ago. A well-preserved fossil is a beautiful object, and many people would be happy to display one in their homes. Before, it was difficult to buy fossils. These days, however, the internet means rare or unusual fossils may be just a mouse-click away. This fact, combined with how rare fossils usually are, makes them an attractive target for people seeking to make money by selling fakes.
- B** Although fossils are generally rare, there are places where they are surprisingly available. In some of these locations, it is possible to find many fossils just lying among the rocks. The vast majority of them are just ugly pieces of broken bone. To the untrained eye, in fact, they may even look like chunks of rock. Some of these low-quality fossils are sold illegally, especially over the internet, but what collectors are really interested in are high-quality fossils. People want to have a fossil that they can recognize, such as one of a

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complete animal or insect. And for those with plenty of money, the most valued and desired fossil is a well-preserved, complete dinosaur.

- C** The problem is that the demand for high-quality fossils is far higher than the number available. As a result, more and more fake fossils are now being sold. Most of the fakes that are sold online or to tourists are completely artificial and even easy for knowledgeable amateurs to spot. But some of the best fake fossils are made from real fossils, and these can be hard to recognize as fake. For example, fossils from individuals of the same species found in different places and at an earlier time can be joined to form a complete animal. Alternatively, pieces of completely different animals may be joined to make a "new species." The discovery of a new fossil species is a major scientific event, so people making fake fossils realize that a very rare fossil might be worth thousands of dollars. Consequently, extremely realistic fakes have become quite common in recent years. In fact, some fake fossils are so well made that scientists have, at first, believed they were real.
- D** In 1999, paleontologists—experts in dinosaurs—announced the discovery of a fascinating new dinosaur called Archaeoraptor. This species seemed to be a clear link between dinosaurs and birds. At that moment, news of the find was published in serious scientific journals and was widely reported in the popular media, too. However, after closer examination, it turned out that the fossil was a fake made by joining the tail of a dinosaur together with the arms of a primitive bird. Archaeoraptor is now considered one of the most successful scientific tricks of the past century.
- E** Apart from embarrassing some scientists, what is the danger of fake or illegal fossils? The biggest issue is that people collecting fossils to sell on the internet cause enormous damage to the regions in which the fossils are found. Many fossils that are important to science are destroyed in an effort to get to the most attractive specimens. Moreover, even when these fossils are collected with good intentions, a great deal of valuable information is lost. In addition to the fossil itself, scientists need to know exactly where a fossil was found in order to know how old it is and what kind of environment the animal lived in. Fortunately, governments are starting to realize the value of their fossil resources and are making an effort to protect them.

Choose the correct answers.

22. According to paragraph **A**, which statement is true?
- Fossils are usually bones from the skeleton of a dinosaur.
 - It is very difficult nowadays to buy a fossil.
 - People can make a lot of money selling fake fossils.
23. What is the main idea in paragraph **B**?
- to explain how fossils can differ in quality and value
 - to describe how expensive it is to buy fossils
 - to say where people can buy real fossils

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24. What does the passage say about fake fossils?
 - a. Fake fossils are usually sold to tourists.
 - b. People make fake fossils because it is so difficult to find real ones.
 - c. Sometimes it is hard to tell the difference between a fake fossil and a real fossil.
25. What did scientists do in the 1990s?
 - a. They wrongly believed they had discovered a new type of bird.
 - b. They created a new species of bird by combining two fossils together.
 - c. They found a fossil which showed a bird they had never seen before.
26. What is the purpose of the final paragraph?
 - a. to discuss how governments are checking if some fossils are real
 - b. to explain the problem with fake fossils
 - c. to describe the danger to scientists' research

Match the correct answers to the statements.

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|---|---|----------------------------------|
| 27. The word or phrase from the passage that refer to something that happened much earlier is _____. | ● | ● a. <i>at that moment</i> |
| 28. The word or phrase from the passage that indicates two events happened at the same time is _____. | ● | ● b. <i>in prehistoric times</i> |

Read each sentence. Choose the best option to replace the underlined information.

29. Joseph admitted to breaking the window with his soccer ball when he was playing in the garden.
 - a. impressed
 - b. confessed
 - c. guessed
30. While some people prefer sweet food, others like salty food.
 - a. have a preference for
 - b. make a discovery
 - c. allowed

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31. We met the woman on the bus. She told us about the celebrations happening downtown.
 - a. Downtown there were celebrations. The woman on the bus told us.
 - b. The woman we met on the bus told us about the celebrations happening downtown.
 - c. The woman on the bus talked to us. She said there were celebrations.
32. The program showed how people lived thousands of years ago.
 - a. revealed
 - b. prepared
 - c. welcomed
33. Everyone was impressed by what the team had achieved.
 - a. The team wanted to impress everyone.
 - b. The team made a good impression to everyone.
 - c. The team had made an impressive achievement.
34. He decided to leave the party before anyone noticed. This was probably because he was too tired to stay.
 - a. He left the party before anyone noticed, probably because he was too tired to stay.
 - b. No one noticed him leaving the party. He left because he was too tired to stay.
 - c. He was too tired to stay at the party. He decided to leave early.

Put the statements in order to describe the steps to write a summary. Write 1–5.

35. _____ Reread the passage and compare your notes against it, then correct any notes.
- _____ Use your notes to write a summary.
- _____ Read the passage once and underline important facts you can use to make notes.
- _____ Check your sentence structure and word choices, and that your ideas are expressed in the same general order.
- _____ Compare your summary with the original to make sure it expresses the same meaning as the original.

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Order the sentences to make a summary. Write 1–5.

36. _____ Real fossils can be hard to find, but people are now making money by selling fake fossils online.
- _____ More is now being done to preserve and protect these important parts of history.
- _____ Sometimes, these fake fossils are made by combining real fossils found in different places and of different species.
- _____ The danger with selling fake fossils is that many original fossils are lost in the process.
- _____ Scientists once believed they had discovered a new species, which was revealed to be a fake fossil.

You are going to write a summary of a passage.37. **Face to Face with the Past**

When archaeologists find the bodies of ancient people, usually all that remains of the individuals are bones and hair. But what if we could see what these people looked like? Thanks to advances in science and technology, we can now make very close guesses.

A 9,000-Year-Old Skull Is Found

In 1993, archaeologists discovered the skull of a woman at Theopetra cave, a site in central Greece where people have lived for about 130,000 years. They determined that she lived 9,000 years ago, around 7,000 B.C., and they named her Avgi. Little is known about her life or what kind of person she was, but we can at least see the ancient woman's facial features. Reconstructing her face was not easy. A team of scientists and medical experts from the University of Athens was needed to accurately show what Avgi would have looked like. In addition, the team worked with Oscar Nilsson, a Swedish archaeologist and sculptor who specializes in reconstructions.

Art and Technology Bring Avgi to Life

To begin, researchers took a CT scan of Avgi's skull before a 3-D printer made an exact copy using the scan's measurements. After that, Nilsson glued pegs onto the 3-D copy. He determined the size of the pegs based on what science knows about the thickness of flesh at various points on the face. This allowed him to sculpt Avgi's face, muscle by muscle. While some of her features were based on skull measurements, others, like skin and eye color, were inferred based on what people from the region generally looked like.

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A. OUTLINE Plan an outline for your summary.

Think about your topic sentences.

Include the main ideas.

Add some other important information.

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- B. Think of some strategies you can use in your summary to paraphrase (e.g., combining ideas and using synonyms and different parts of speech). Write them in the box.**

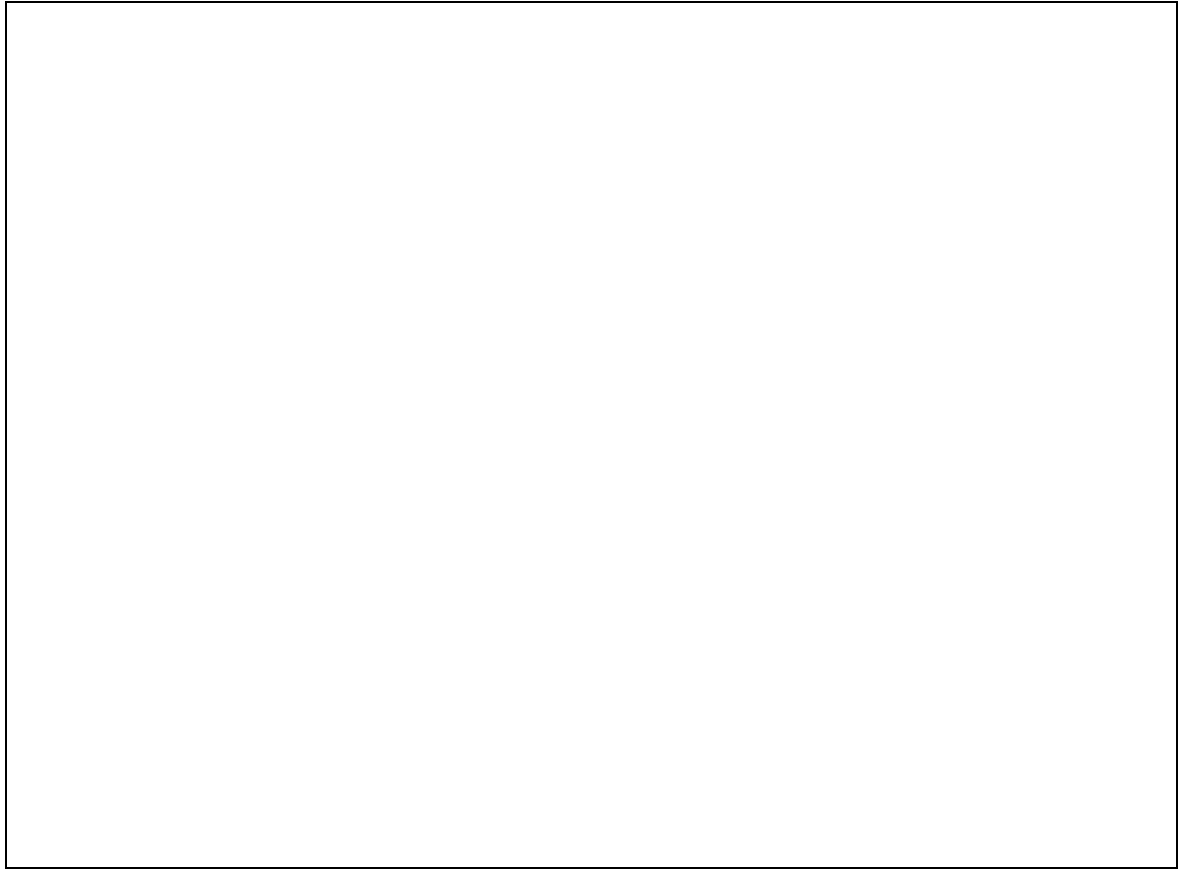
- C. Write your summary based on your outline. Use the model to help you. Remember to use the vocabulary you wrote down.**

Model:

Archaeologists often only find pieces of bone or hair when they discover the bodies of ancient people, so they are unsure what these people actually looked like. With technological developments, experts are now able to recreate their faces and reveal how ancient people looked.

Over three decades ago, experts found a head in Greece that belonged to a woman who lived 9,000 years ago. A team, made up of experts from around the world, came together to work out how this woman, named Avgi, may have looked. Although it was difficult, they followed a process that helped them. First, they took a scan of the head and then made a copy using a 3-D printer. Then, they were able to add skin to the face based on how much skin is in certain parts of the face in today's humans. An expert made a model of Avgi's head and added facial muscles. Some things such as her skin color and eye color were based on what people look like in that part of the world.

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(12 point)