

VIDEO SCRIPT:

Today we're going to continue talking about carbon compounds. Last time, we talked about coal; today we're going to talk about the hardest form of carbon—that's right, the diamond.

Before we talk about the chemical composition of diamonds, I want to talk a little about their history. For many years, people thought that diamonds were first used as jewelry about 2500 years ago—in India, or maybe Egypt. Now Professor Peter Lu of Harvard has discovered that diamonds were used in China 4500 years ago! But they were not used as jewelry. Let me explain. They were used to polish ceremonial axes. These axes were made of corundum. Several famous gemstones are made of corundum too—rubies and sapphires, for instance. Corundum is the second-hardest natural material.

Therefore, only the hardest natural material—the diamond—can polish corundum. As you know, even today, 80% of all diamonds that are mined are not used for jewelry. They're called industrial diamonds. Most of them are extremely small, or irregularly shaped, or they have flaws that make them unusable as jewelry.

PART 1: Video**A. Watch the lecture and then answer questions 1–6.**Questions 1–3

Choose the best answer. (1 point each)

1. What did the speaker talk about in the LAST class?
 - A.** another type of carbon compound
 - B. another use for diamonds
 - C. the chemical composition of diamonds

2. According to the lecture, where were diamonds first used?
 - A. Egypt
 - B. India
 - C.** China

3. Why does the speaker mention Professor Peter Lu?
 - A. He was the speaker's teacher.
 - B. He discovered an early use of diamonds.
 - C.** He found some of the earliest diamond jewelry.

Question 4

Choose the best answers. (3 points)

4. Which THREE of these are mentioned as characteristics of industrial diamonds?

- ☒ A. They are very small.
- ☐ B. They have an unattractive color.
- ☒ C. They have an irregular shape.
- ☐ D. They are harder than diamonds used in jewelry.
- ☒ E. They have serious imperfections.

B. Read the questions first. Then watch the lecture again. Answer questions 7–14.

Questions 5–6

Choose the best answer. (1 point each)

5. Which of these phrases does the professor use to give an explanation?

- ☐ A. "I'll explain it to you."
- ☐ B. "Here's the explanation for that."
- ☒ C. "Let me explain."

6. Which of these phrases does the professor use to give an example?

- ☐ A. "Two examples are rubies and sapphires."
- ☐ B. "... such as rubies and sapphires."
- ☒ C. "... rubies and sapphires, for instance."

Questions 7–11

Put the information A–E from the lecture in the correct column. (1 point each)

Diamond	Corundum
A	B
D	C
	E

- A. It is the hardest naturally-occurring material.
- B. It was used in China to make ceremonial axes.
- C. Rubies and sapphires are a form of this mineral.
- D. This mineral can be used to polish the other mineral.
- E. It is the second-hardest naturally-occurring material.

PART 2

Questions 12–20

Read the sentences A–I from a lecture about vitamins. Put the sentences in the correct column. (1 point each)

Example	Explanation	Agreement	Concluding summary	Support for opinion
B D H	A F	C	E I	G

- A. There are two types of vitamins: water-soluble and fat-soluble. Let me clarify what I mean by that.
- B. The value of eating certain foods was recognized long before we knew about vitamins. I'll give you an illustration of that. The ancient Egyptians knew that eating liver cured night-blindness. Today we know that's because liver contains vitamin A.
- C. Well, when it comes to multi-vitamins, I think Luz has the right idea.
- D. Most vitamins come from food, but some, such as vitamin K, are produced by micro-organisms in the intestines.
- E. To sum up, not all nutritionists agree on how much of each vitamin our bodies need every day.
- F. In large doses, some vitamins have side-effects. What I mean is, it is not safe to consume unlimited amounts of all types of vitamins.
- G. Let me tell you why I think it's better to get your vitamins from fresh foods rather than from vitamin pills.
- H. What is considered a necessary nutrient in one species is not necessarily needed by other species. Take vitamin C, for instance. Only humans and a few other types of animals require this vitamin.
- I. As we've seen today, we've learned a lot about vitamins in the last 100 years or so, but there are still things we don't completely understand.

Questions 21–22

Read the excerpts from lectures. Then choose the best notes. (1 point each)

21.

“A tornado is formed when warm, humid air and cool, dry air mix. This causes a thunderstorm. If the thunderstorm is particularly strong, it can form a supercell. The winds coming into a supercell begin to travel in a circular pattern and form a funnel cloud. The air in the funnel spins faster and faster and creates a very low pressure area which sucks more air into the funnel. If the funnel touches the ground, the result is a tornado.”

A.

TORNADO
Warm humid air
+
Cool dry air
↓
Thunderstorm
If thunderstorm strong → supercell
Air spins faster & faster → low pressure
funnel touches ground → tornado

B.

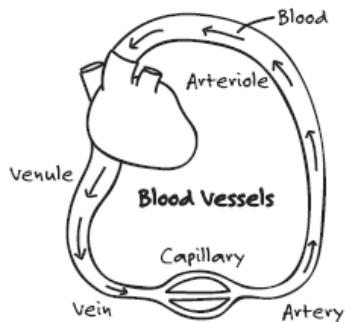
Tornados → warm air
↓
Cool dry air

Supercells = thunderstorm
Tornados = funnel clouds

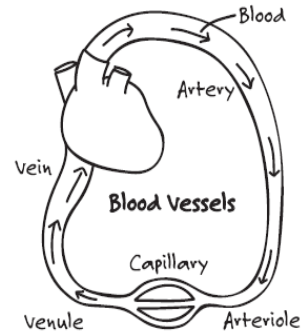
22.

“OK, here’s a simplified model of the circulation of the blood. Of course, the heart pumps the blood. It then travels through the largest blood vessels, the arteries. Blood moves from the arteries to smaller vessels called arterioles. The blood then enters the smallest blood vessels, the capillaries. Blood in the capillaries carries nourishment to the tissues of the body and carries away impurities. The blood then begins its return trip to the heart. It first enters vessels called venules, and then goes into the veins. Veins bring the blood back to the heart.”

A.



B.



Question 23

Choose the best answer. (1 point)

23. Which is NOT an expression used to open the floor?

- A. Thank you for your interest. I’m happy to answer your questions.
- B. Thank you for coming to my presentation. See you next week.
- C. Thank you for listening. And now I’d like to take your questions.
- D. Thank you. Do you have any questions?