



Converting Scanning Electron Microscope to TEM Proves Simple

Description

A man changed a scanning electron microscope (SEM) into a transmission electron microscope (TEM). This happened in a video shared online.

The SEM usually looks at a surface. It uses electrons that bounce off the sample. The TEM works differently. It uses electrons that pass through the sample. This change is not new. People can use simple adapters to make this change. But these adapters can be expensive.

The man faced a problem with space. He needed to make sure the parts inside did not touch the sample holder. He made a thinner sample holder from aluminium. This gave him more space to work.

After testing, he found a problem with the electron shield. It did not block secondary electrons well. He fixed this, and the images improved. He then looked at mosquito wings and saw details inside them.

His next goal is to use the TEM to look at cells. This will need more work to prepare the cells.

Comprehension Questions

Multiple Choice

1. What is the main function of a scanning electron microscope (SEM)?

- Option: To look inside samples
- Option: To look at surfaces
- Option: To look at living cells
- Option: To look at large objects

2. How does a transmission electron microscope (TEM) work?

- Option: It uses bouncing electrons
- Option: It uses electrons that pass through the sample
- Option: It uses X-rays
- Option: It uses visible light

3. What material did the man use to create a thinner sample holder?

- Option: Plastic
- Option: Steel



Option: Aluminium

Option: Copper

4. What problem did the man face regarding space?

Option: The sample was too big

Option: The parts inside touched the sample holder

Option: There was not enough light

Option: The SEM was too heavy

5. What did the man observe in mosquito wings?

Option: Nothing unusual

Option: Details inside them

Option: The external surface

Option: The color of the wings

6. What is the man's next goal with the TEM?

Option: To look at river samples

Option: To observe cells

Option: To create SEM models

Option: To improve image resolution

True-False

7. A man changed an SEM into a TEM using expensive adapters.

8. The SEM uses electrons that pass through the sample.

9. The man used a thicker sample holder to create more space.

10. The man faced problems with the electron shield after testing.

11. The man's next goal is to look at mosquito wings.

12. This change from SEM to TEM is a well-known process.

Gap-Fill



13. A man changed an SEM into a TEM using a _____ .
14. The SEM usually looks at a _____ while the TEM looks inside samples.
15. The man created a thinner sample holder from _____ to save space.
16. After testing, he found the electron shield did not block _____ electrons well.
17. The man is interested in using the TEM to look at _____ next.
18. He observed details inside mosquito wings after _____ the images.

Answer

Multiple Choice: 1. To look at surfaces 2. It uses electrons that pass through the sample 3. Aluminium
4. The parts inside touched the sample holder 5. Details inside them 6. To observe cells

True-False: 7. True 8. False 9. False 10. True 11. False 12. True

Gap-Fill: 13. transmission electron microscope 14. surface 15. aluminium 16. secondary 17. cells 18. fixing

CATEGORY

1. Sci/Tech - LEVEL1

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1. easy
2. ESL learning
3. esl news
4. Level 1
5. scanning electron microscope
6. TEM

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