

Teacher instructions: Cut apart these sheets so one question per voucher; put all question strips in a bucket from which students draw at random; plan on about four per group. Vouchers represent “food” in the zombie scenario. Correctly answered questions about prostheses enable teams to use vouchers to barter for materials. The answers are provided in the Voucher Questions Answer Key.

Voucher Questions

1. Who were some of the first people to use prostheses?
2. What advances in surgery allowed for better prosthetic fit and more accuracy?
3. What caused the need for better prostheses?
4. What is the purpose of a prosthesis?
5. What are the five design considerations for a prosthesis?
6. What is the interface/socket of a prosthesis?
7. What are the components/pylon of a prosthesis?
8. What is the cover of the prosthesis?
9. What are three methods of attachment of a prosthesis to a residual limb?
10. What do we call a prosthesis that replaces an arm below the elbow?
11. What do we call a prosthesis that replaces an arm above the elbow?
12. What do we call a prosthesis that replaces a leg below the knee?
13. What do we call a prosthesis that replaces a leg above the knee?

14. What do carbon fiber and advanced plastics do for prostheses?
15. What are the three types/categories of modern prostheses?
16. Why might people not survive the amputation process before the 1840s?
17. What are the important properties of carbon fiber that enable it to be a successful prosthetic material?
18. What is the purpose of a cosmetic prosthesis?
19. How does an external cable/switch control system work?
20. If an electronic system is utilized for a prosthesis, what is attached to the residual limb to monitor muscle movements?
21. If electrodes are implanted into the brain, what signals do they monitor to determine how a limb should move?
22. What is the purpose of implanting electrodes into the brain?
23. What subjects are useful for biomedical and mechanical engineers when designing prostheses?
24. In what year anesthesia used for the first time during surgery?