

Food Recycling Quiz

Sustainability in Space Nutrition

1. What is food recycling in a Martian or space context?

- A. Reusing food waste to generate new nutrients
 - B. Sending leftovers back to Earth
 - C. Ignoring food waste
 - D. Burning food for energy only
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2. Why is recycling food important on Mars?

- A. Resupply missions are rare and costly
 - B. To reduce waste and support long-term sustainability
 - C. To maintain a self-sufficient colony
 - D. All of the above
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3. Which method can recycle organic waste into usable resources?

- A. Composting in controlled environments
 - B. Bioreactors using microbes
 - C. Converting waste into fertilizer for crops
 - D. All of the above
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4. How can recycling help with water supply?

- A. Extracting water from food waste
 - B. Filtering and reusing cooking water
 - C. Condensing moisture from air
 - D. All of the above
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5. What role do microbes play in food recycling?

- A. Breaking down organic matter into nutrients
- B. Producing gases that can be captured
- C. Supporting hydroponic and soil systems
- D. All of the above

6. How does closed-loop recycling impact Mars colonists' nutrition?

- A. Provides consistent nutrient supply
 - B. Reduces dependency on Earth shipments
 - C. Supports growth of fresh crops
 - D. All of the above
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7. What is a key challenge in food recycling systems?

- A. Controlling pathogens and spoilage
 - B. Maintaining nutrient balance
 - C. Avoiding buildup of toxic compounds
 - D. All of the above
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8. How can recycled food waste benefit hydroponic systems?

- A. Produces organic fertilizers
 - B. Enhances water nutrient content
 - C. Supports plant growth without synthetic chemicals
 - D. All of the above
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9. Why is recycling food important for deep-space missions beyond Mars?

- A. Ensures long-term survival
 - B. Reduces cargo mass
 - C. Supports independent colonies
 - D. All of the above
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10. What is a long-term solution for food sustainability on Mars?

- A. Relying solely on Earth shipments
- B. Closed-loop food systems with recycling and fresh crop growth
- C. Eating only pre-packaged meals
- D. Ignoring waste

BONUS QUESTION

What additional benefit does recycling food provide for astronauts?

- A. Reduces psychological stress by maintaining routine
 - B. Enhances understanding of ecosystems
 - C. Promotes sustainability awareness
 - D. All of the above
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ANSWERS

1.
A

2.
D

3.
D

4.
D

5.
D

6.
D

7.
D

8.
D

9.
D

10.
B
Bonus: D