

the pre/post quiz

bioengineering for sustainability workshop

For instructors: Hand out the “Pre-Workshop” version before Unit 1, then the identical “Post-Workshop” version after Unit 3. Compare scores to prove the workshop actually taught something (not just vibes). Each question = 1 point, 5 points total.

pre-workshop quiz

Name: _____ Date: _____

1. **What is bioengineering?**
 - a) Building machines that mimic animals
 - b) Using biology and engineering together to solve real-world problems
 - c) A type of computer programming
 - d) The study of rocks and minerals
2. **In a closed-loop system, waste from one part of the system is:**
 - a) Thrown away
 - b) Burned for energy
 - c) Reused as an input for another part of the system
 - d) Ignored
3. **Biomass (like duckweed or algae) can be used to produce biofuel because:**
 - a) It contains stored energy from photosynthesis
 - b) It is heavier than fossil fuels
 - c) It glows in the dark
 - d) It cannot be grown quickly
4. **Bioremediation refers to:**
 - a) Using living organisms (like plants) to remove pollutants from water or soil
 - b) Repairing broken machines
 - c) Recycling plastic bottles
 - d) Measuring air temperature
5. **Why is it important to collect data (like pH or growth rate) consistently, using the same method each time?**
 - a) It isn't important, any method works
 - b) So results can be fairly compared over time
 - c) To make the experiment take longer
 - d) To use up more materials

Answer key: 1-b, 2-c, 3-a, 4-a, 5-b

post-workshop quiz

(same questions, ask again after Unit 3, no peeking at the old answers)

Name: _____ Date: _____

1. **What is bioengineering?**

- a) Building machines that mimic animals
 - b) Using biology and engineering together to solve real-world problems
 - c) A type of computer programming
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scoring sheet (instructor use)

Student	Pre-Score (/5)	Post-Score (/5)	Improvement

Average improvement = (sum of post-scores — sum of pre-scores) ÷ number of students

This number is exactly what feeds the Impact page as “average quiz score improvement.”