

1. Is a hamburger an example of stored energy? Explain why or why not.

Question 1

Scoring Guide

Score & Description
<p>Complete</p> <p>Student response indicates "yes" and states that a hamburger contains fat (grease), protein, carbohydrate, nutrients and gives some indication of energy transfer.</p> <p>OR</p> <p>Student response indicates "yes" and traces the energy through the food chain.</p>
<p>Partial</p> <p>Student response indicates "yes" and states that a hamburger contains fat (grease), protein, carbohydrates, nutrients.</p> <p>OR</p> <p>Student response indicates "yes" and states that transfer of energy takes place.</p> <p>OR</p> <p>Student response indicates "yes" and states that food is energy/meat is energy/meat contains energy.</p>
<p>Unsatisfactory/Incorrect</p> <p>Student demonstrates no understanding of the concept of stored energy by answering "no", or answers "yes" and gives an incorrect or irrelevant or no response.</p>

Complete - Student Response

- 1 Is a hamburger an example of stored energy? Explain why or why not.

Yes. Because protein is inside of a hamburger and protein gives you energy.

- 1 Is a hamburger an example of stored energy? Explain why or why not.

yes because it comes from a animal that eats plants. That get energy from the sun.

Scorer Comments:

The two responses both state that a hamburger is an example of stored energy, and exemplify the two different types of explanations. The first response describes the energy contained in the hamburger and its transfer; the second response traces the energy through the food chain.

Partial - Student Response

- 1 Is a hamburger an example of stored energy? Explain why or why not.

A hamburger stores fat and energy because a hamburger has alot of grease and fat particles.

- 1 Is a hamburger an example of stored energy? Explain why or why not.

Yes, a hamburger is an example of stored energy, because as soon as we eat it, the hamburger turns into energy for our body to use.

Scorer Comments:

The two responses both state that a hamburger is an example of stored energy. The first response provides only a specific example of how energy is stored in a hamburger. The second example only describes how the energy is transferred.

Unsatisfactory/Incorrect - Student Response

- 1 Is a hamburger an example of stored energy? Explain why or why not.

A hamburger is not an example for stored energy because when you eat a hamburger makes you slow down all of your energy.

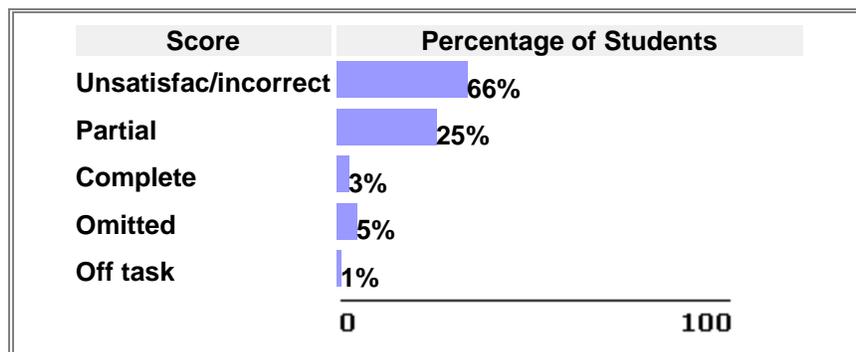
- 1 Is a hamburger an example of stored energy? Explain why or why not.

Yes, because it just sits there & does nothing.

Scorer Comments:

The first response incorrectly states that a hamburger is not an example of stored energy. The second response states that a hamburger is an example of stored energy but provides an incorrect explanation.

2005 National Performance Results



Note:

- These results are for public and nonpublic school students.
- Percentages may not add to 100 due to rounding.

The Fields of Science: *Physical Sciences* (Sub content classification: *Energy and Its Transformations*)

Knowing and Doing Science : *Conceptual Understanding*

The Fields of Science

Physical Sciences

This question measures basic knowledge and understanding of the following:

Knowing and Doing Science

Conceptual Understanding

Conceptual understanding includes the body of scientific knowledge that students draw upon when conducting a scientific investigation or engaging in practical reasoning. Essential scientific concepts involve a variety of information, including facts and events the student learns from both science instruction and experiences with natural environment; and scientific concepts, principles, laws, and theories that scientists use to explain and predict observations of the natural world.