

Science Grade 4 A

Grade Level Standard(s):

4-PS3-2

Required Assessment Materials:

- Science 4 A Microwave Butter
- Science 4 A Attainment Task Questions for Student Use

Response Code:

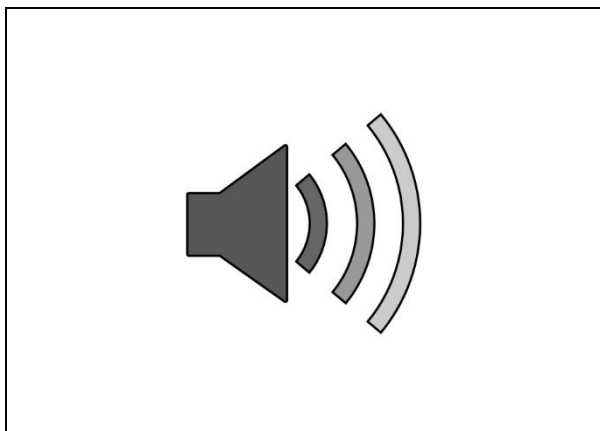
- Indicate the answer provided by the student.

Text Coding:

- “Quotation marks” indicate the script that the teacher should read to the student.
- *Italicized text* provides further direction for the test administrator.
- Words in parentheses () are optional; they may replace or be read in addition to the word(s) immediately preceding.

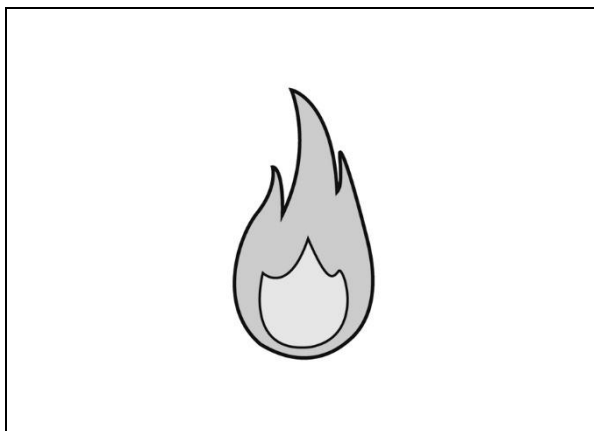
a.

Sound energy



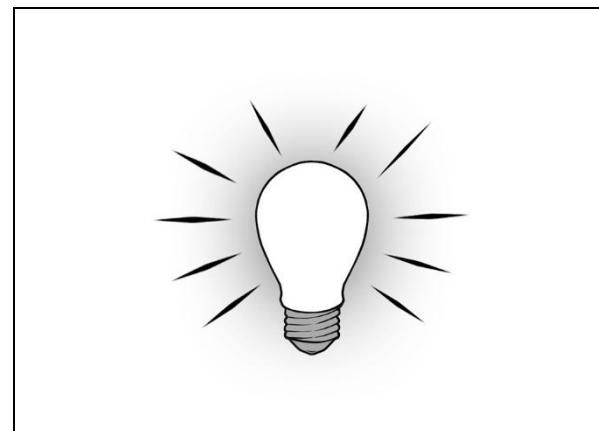
b.

Heat energy



c.

Light energy



Before beginning task administration, please ensure that all conditions specified in the administration protocol (starting on page 9 of the Administration Guide Overview and Attainment Task Administration) have been met. Inform the student that the task is about to start by saying, “We are about to start the task, and I am going to ask you some questions.”

All questions from this task are available for presentation to the student in the material Science 4 A Attainment Task Questions for Student Use.

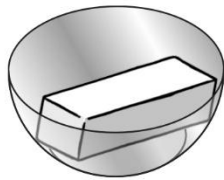
“Beau’s science class is learning about energy transfer. They learn the many ways that energy can be transferred. He wonders how many ways he can see energy transfer at home. Beau observes his mom melt butter in the microwave.”

Present the student with Science 4 A Microwave Butter.

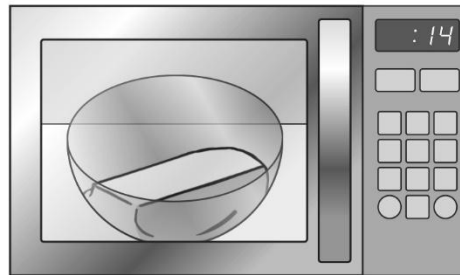
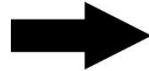
1. “The electrical energy from the microwave produces which type of energy?”

Response Option	Response Rationale
a. Sound energy	<i>The student recognizes that energy moves from place to place by sound but misunderstands that sound energy does not melt the butter.</i>
b. Heat energy (Correct)	<i>The student identifies that the energy moved from the electricity to the butter as the transfer of energy resulting in butter melting.</i>
c. Light energy	<i>The student recognizes that energy moves from place to place by light but does not understand that sound energy does not melt the butter.</i>
Depth of Knowledge (DOK) 1	

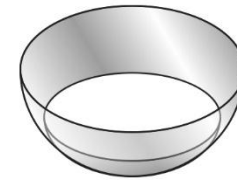
Science 4 A Microwave Butter



Cold butter



Butter
being cooked
in microwave



Melted butter

Science 4 A Attainment Task Questions for Student Use

1. The electrical energy from the microwave produces which type of energy?

Kentucky Academic Standard: 4.PS3-2 - Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

Alternate Assessment Target: *No limitations. All parts of the Kentucky Academic Standard are eligible to be included as an assessment item.*

Student Group	Number of Students*	Percent Correct #5
All Students	685	47.15%
Gender		
Female	208	44.71%
Male	477	48.22%
Ethnicity		
African American	94	44.68%
American Indian or Alaska Native	<10	Not Reported
Asian	20	55.00%
Hispanic of Latino	55	43.64%
Native Hawaiian of Pacific Islander	<10	Not Reported
White (Non-Hispanic)	478	48.12%
Two or More Races	33	42.42%
English Learner	59	38.98%
Economically Disadvantaged	463	48.81%

*Number of students that attempted the item