



Coherence and Alignment Among Science Curriculum, Instruction, and Assessment (CASCIA) Project

Grade 8 Unit 4: Providing Solutions to Problems Using Simple Wave Properties

Task 3 Prompt 2 Part C Scored and Annotated Anchor Set

May 2025

Grade 8 Unit 4: Providing Solutions to Problems Using Simple Wave Properties, Task 3 Prompt 2 Part C Scored and Annotated Anchor Set was developed with funding from the U.S. Department of Education under the Competitive Grants for State Assessments Program CFDA 84.368A. The contents of this paper do not represent the policy of the U.S. Department of Education, and no assumption of endorsement by the Federal government should be made.

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CASCIA Grade 8 EOU Assessment 4 Task 3: Sounds of Silence

Prompt 2 Part C Score Point 2

Prompt 2 Part C Rubric

Prompt	Score Point 0	Score Point 1	Score Point 2	Score Point 3	Score Point 4
Prompt 2 Part C.	No aspect of the response is correct	Response includes one (1) of the two (2) aspects	Response includes a written description, model, OR graph that includes the following aspects: • Compares the pattern of motion (e.g., vibration or frequency) between two different strings • Explains the relationship between pitch and frequency	NA	NA

Score Point 2 (2/2 aspects met)

- Part C
 - Compares the pattern of motion between the two different strings (i.e., “The thicker strings will vibrate slower . . .”).
 - Explains the relationship between pitch and frequency (i.e., “The thinner strings will vibrate faster, causing a higher sound.”).

NOTE: The description of pitch as either a ‘low sound’ or ‘high sound’ is acceptable. The scenario describes guitar strings as producing ‘low-pitch and high-pitch notes’.

When each string is plucked, it will vibrate back and forth. The thicker strings will vibrate slower, causing a lower sound, and the thinner strings will vibrate faster, causing a higher sound.

CASCIA Grade 8 EOU Assessment 4 Task 3: Sounds of Silence

Prompt 2 Part C Score Point 1

Prompt 2 Part C Rubric

Prompt	Score Point 0	Score Point 1	Score Point 2	Score Point 3	Score Point 4
Prompt 2 Part C.	No aspect of the response is correct	Response includes one (1) of the two (2) aspects	Response includes a written description, model, OR graph that includes the following aspects: - Compares the pattern of motion (e.g., vibration or frequency) between two different strings - Explains the relationship between pitch and frequency	NA	NA

Score Point 1 (1/2 aspects met)

- Part C
 - Compares the pattern of motion between the two different strings (i.e., "... thicker strings will vibrate less ...").
 - Does not explain the relationship between pitch and frequency (student response describes energy and amplitude which is related to loudness of sound rather than pitch.).

Thickest string

The thicker the string, the heavier it is, which means it will vibrate less and the thicker the string the lower the sound which means lower energy which means lower amplitude.



thinnest string



thin strings are higher pitched in sound so they have a higher energy/amp.

CASCIA Grade 8 EOU Assessment 4 Task 3: Sounds of Silence

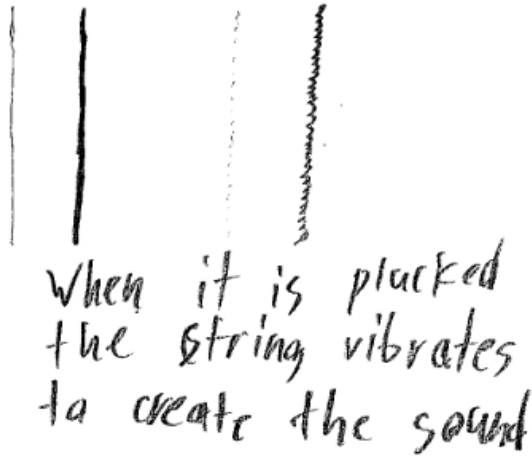
Prompt 2 Part C Score Point 0

Prompt 2 Part C Rubric

Prompt	Score Point 0	Score Point 1	Score Point 2	Score Point 3	Score Point 4
Prompt 2 Part C.	No aspect of the response is correct	Response includes one (1) of the two (2) aspects	Response includes a written description, model, OR graph that includes the following aspects: • Compares the pattern of motion (e.g., vibration or frequency) between two different strings • Explains the relationship between pitch and frequency	NA	NA

Score Point 0 (0/2 aspects met)

- Part C
 - Does **NOT** compare the pattern of motion between the two different strings.
 - Does **NOT** explain the relationship between pitch and frequency.



When it is plucked
the string vibrates
to create the sound