



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

Grade 8 Unit 2: Gravity and Motion of Objects in the Solar System

Task 3 Prompt 1 Part B Scored and Annotated Anchor Set

March 2025

Grade 8 Unit 2: Gravity and Motion of Objects in the Solar System, Task 3 Prompt 1 Part B 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 2 Task 3: Earth's Solar System

Prompt 1 Part B Score Point 3

Prompt 1 Part B Rubric

Prompt	Score Point 0	Score Point 1	Score Point 2	Score Point 3	Score Point 4
Prompt 1 Part B.	No aspect of the response is correct	Response includes one (1) of the three (3) aspects	Response includes two (2) of the three (3) aspects	Response includes the following aspects: - A planet with greater gravitational pull is one on which the student would be heavier - A planet with less gravitational pull is one on which the student would be lighter - Both conditions are accurately supported with data from Table 1	NA

Score Point 3 (3/3 aspects met)

- Part B
 - Includes that a planet with greater gravitational pull is one on which the student would be heavier.
 - Includes that a planet with less gravitational pull is one on which the student would be lighter.
 - Includes data from Table 1 to support their response.

NOTE: Rounding the gravity data and including estimates of an individual's weight do not detract from the correctness of the response.

Use information from **Table 1** to complete the statements below.

Assume a person weighs 100 lbs. on Earth. On **Jupiter**, the same person would weigh More. (Circle one.)

more the same less

This is because Earth has about 10 m/s^2 while Jupiter has double. That 100 LB person would weigh about 230 pounds.

Assume a person weighs 100 lbs. on Earth. On **Mars**, the same person would weigh Less. (Circle one.)

more the same less

This is because Earth has about 10 m/s^2 Mars only has 3.7. That person would weigh about 40 pounds.

CASCIA Grade 8 EOU Assessment 2 Task 3: Earth's Solar System

Prompt 1 Part B Score Point 2

Prompt 1 Part B Rubric

Prompt	Score Point 0	Score Point 1	Score Point 2	Score Point 3	Score Point 4
Prompt 1 Part B.	No aspect of the response is correct	Response includes one (1) of the three (3) aspects	Response includes two (2) of the three (3) aspects	Response includes the following aspects: - A planet with greater gravitational pull is one on which the student would be heavier - A planet with less gravitational pull is one on which the student would be lighter - Both conditions are accurately supported with data from Table 1	NA

Score Point 2 (2/3 aspects met)

- Part B
 - Includes that a planet with greater gravitational pull is one on which the student would be heavier.
 - Includes that a planet with less gravitational pull is one on which the student would be lighter.
 - Does **NOT** include data from Table 1 to support their response.

Use information from Table 1 to complete the statements below.

Assume a person weighs 100 lbs. on Earth. On Jupiter, the same person would weigh _____. (Circle one.)

more the same less

This is because because the bigger the gravity the bigger the person.

Assume a person weighs 100 lbs. on Earth. On Mars, the same person would weigh _____. (Circle one.)

more the same less

This is because The smaller the gravity the smaller the person.

CASCIA Grade 8 EOU Assessment 2 Task 3: Earth's Solar System

Prompt 1 Part B Score Point 1

Prompt 1 Part B Rubric

Prompt	Score Point 0	Score Point 1	Score Point 2	Score Point 3	Score Point 4
Prompt 1 Part B.	No aspect of the response is correct	Response includes one (1) of the three (3) aspects	Response includes two (2) of the three (3) aspects	Response includes the following aspects: - A planet with greater gravitational pull is one on which the student would be heavier - A planet with less gravitational pull is one on which the student would be lighter - Both conditions are accurately supported with data from Table 1	NA

Score Point 1 (1/3 aspects met)

- Part B
 - Includes that a planet with greater gravitational pull is one on which the student would be heavier.
 - Does **NOT** include that a planet with less gravitational pull is one on which the student would be lighter.
 - Does **NOT** include data from Table 1 to support their response.

Use information from **Table 1** to complete the statements below.

Assume a person weighs 100 lbs. on Earth. On **Jupiter**, the same person would weigh _____. (Circle one.)

more the same less

This is because Jupiter has a larger gravitational pull

Assume a person weighs 100 lbs. on Earth. On **Mars**, the same person would weigh _____. (Circle one.)

more the same less

This is because Mars has more gravity.

CASCIA Grade 8 EOU Assessment 2 Task 3: Earth's Solar System

Prompt 1 Part B Score Point 0

Prompt 1 Part B Rubric

Prompt	Score Point 0	Score Point 1	Score Point 2	Score Point 3	Score Point 4
Prompt 1 Part B.	No aspect of the response is correct	Response includes one (1) of the three (3) aspects	Response includes two (2) of the three (3) aspects	Response includes the following aspects: - A planet with greater gravitational pull is one on which the student would be heavier - A planet with less gravitational pull is one on which the student would be lighter - Both conditions are accurately supported with data from Table 1	NA

Score Point 0 (0/3 aspects met)

- Part B
 - Does **NOT** include that a planet with greater gravitational pull is one on which the student would be heavier.
 - Does **NOT** include that a planet with less gravitational pull is one on which the student would be lighter.
 - Does **NOT** include data from Table 1 to support their response.

NOTE: Student switches the definition of 'mass' for 'weight' in their explanation.

Use information from **Table 1** to complete the statements below.

Assume a person weighs 100 lbs. on Earth. On **Jupiter**, the same person would weigh more the same less. (Circle one.)

This is because Your weight never changes what changes is the gravitational pull it has against you, depending on what planet you are on.

Assume a person weighs 100 lbs. on Earth. On **Mars**, the same person would weigh more the same less. (Circle one.)

This is because Your weight never changes what changes is the gravitational pull it has against you, depending on what planet you are on.