

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

**Grade 8 Unit 1: Forces and Energy** 

Task 3 Prompt 2 Scored and Annotated Anchor Set

August 2024

Grade 8 Unit 1: Forces and Energy, Task 3 Prompt 2 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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**Prompt 2 Rubric** 

Prompt	Score Point 0	Score Point 1	Score Point 2	Score Point 3	Score Point 4
Prompt 2	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:  Gravitational forces exist between all objects  Earth's gravitational attraction is exceptionally large compared to the attraction between any other two objects on Earth  Because the gravitational attraction is so large between an object and the Earth, the attraction between smaller objects is not observed	NA

#### Score Point 3 (3/3 aspects met)

- Includes that gravitational forces exist between all objects.
- Includes that Earth's
   gravitational attraction is
   exceptionally large compared
   to the attraction between any
   other two objects on Earth
   (i.e., The student's answer
   includes, ". . . they have to be
   big like the Earth to be
   seen.").
- Includes that because the gravitational attraction is so large between an object and the Earth, the attraction between smaller objects is not observed.

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Some people think only massive objects have gravity. They also think that there is no gravitational force of attraction between objects such as a pencil and a car because they do not observe a pencil being attracted toward a car.

Explain why the gravitational force of attraction between a pencil and a car is not observable. In your explanation, include information about the mass of objects and gravitational force.

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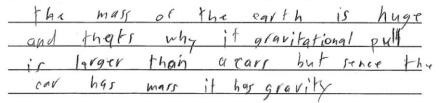
## Score Point 2 (2/3 aspects met)

- Includes that gravitational forces exist between all objects (i.e., Although not stated explicitly, the student does say, ". . . since the car has mass, it has gravity.").
- Includes that Earth's gravitational attraction is exceptionally large compared to the attraction between any other two objects on Earth.
- Does NOT include that because the gravitational attraction is so large between an object and the Earth, the attraction between smaller objects is not observed.

#### Prompt 2

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Explain why the gravitational force of attraction between a pencil and a car is not observable. In your explanation, include information about the mass of objects and gravitational force.



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## Score Point 1 (1/3 aspects met)

- Includes that gravitational forces exist between all objects (i.e., The student states, "All objects have gravitational force.").
- Does NOT include that Earth's gravitational attraction is exceptionally large compared to the attraction between any other two objects on Earth.
- Does NOT include that because the gravitational attraction is so large between an object and the Earth, the attraction between smaller objects is not observed.

#### Prompt 2

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Explain why the gravitational force of attraction between a pencil and a car is not observable. In your explanation, include information about the mass of objects and gravitational force.

All objects have gravitational force. But you can't see it because it's so small of a force.

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#### Score Point 0 (0/3 aspects met)

- Does **NOT** include that gravitational forces exist between all objects.
- Does NOT include that Earth's gravitational attraction is exceptionally large compared to the attraction between any other two objects on Earth (i.e., The student states that the gravitational force is strong on Earth, but also that "The mass doesn't matter against the gravitational pull . . .").
- Does NOT include that because the gravitational attraction is so large between an object and the Earth, the attraction between smaller objects is not observed.

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