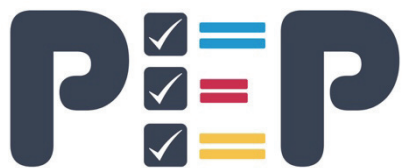




Ministry of Education, Youth & Information
Student Assessment Unit



Primary Exit Profile
Bringing Abilities to Light

SAMPLE ITEM
PUBLICATION 2018

SCIENCE: SAMPLE ITEM #1

This item has the following characteristics:

Strand:	Energy, Forces and Matter
Objectives:	Explore specific properties of everyday materials (rough, smooth, hard, ductile, malleable, colour)
Science Practice:	ScP4. Analyzing and interpreting data ScP7. Engaging in argument from evidence ScP8. Obtaining, evaluating, and communicating information
Item Type:	Order Match
About this Item Type:	This item type asks students to fill in some blanks with some choices. All blanks must be filled in, but some of the choices may not be used, and no choice can be used more than once.

In 1812, Fredrich Mohs, a scientist, invented a method to compare materials according to the hardness. This method is based on the idea that **a harder material only scratches a softer material.**

Carol wants to determine how hard three minerals, Mineral A, Mineral B and Mineral C, are. The results of Carol's experiment are shown in the table below.

	Mineral X	Mineral Y
Mineral A scratches	No	No
Mineral B scratches	No	Yes
Mineral C scratches	Yes	Yes

Place the three minerals, Mineral A, Mineral B and Mineral C, in order according to how hard they are, from most hard to least hard. Write the name of the minerals in the empty boxes.

Most Hard

Least Hard

Best Answer:

Mineral C, Mineral B, Mineral A

What information can this item give us about a student's Science competence?

This item is assessing how well students can:

- 1. use simple test cases of empirical data—that is, compare their outcomes with what is known about the real world.*
- 2. make observations from physical models.*
- 3. use tables, charts, graphs to explore relationships between variables.*



SCIENCE: SAMPLE ITEM #2

This item has the following characteristics:

Strand:	Living Things, Life Processes and the Environment
Objectives:	Carry out fair tests
Science Practice:	ScP3. Planning and carrying out Investigations ScP4. Analyzing and interpreting data ScP6. Constructing explanations and designing solutions
Item Type:	Table Grid
About this Item Type:	This item type presents a partially completed table for the student to complete. The student indicates by a tick (✓) his/her answer in each of the empty cells in the table.

Latoya carried out an investigation, involving three plants (Plant A, Plant B and Plant C), to determine the effect of water on plant growth.

Indicate whether each of the following activities is **correct** or **not correct** to determine the effect of water on plant growth.

Investigation Activity	Correct	Not Correct
Latoya planted the three plants in identical soil		
Latoya exposed Plant A to 0.5 hours of sunlight, Plant B to 1 hour of sunlight and Plant C to 1.5 hours of sunlight		
Latoya gave Plant A 0.5 litre of water every day, Plant B 1 litre of water every day, and Plant C 1.5 litre of water every day		

Best Answer:

Correct

Not Correct

Correct

What information can this item give us about a student's Science competence?

This item is assessing how well students can:

- 1. use tables to explore relationships between variables*
- 2. identify relevant independent and dependent variables and, when appropriate, the need for controls*



SCIENCE: SAMPLE ITEM #3

This item has the following characteristics:

Strand:	Living Things, Life Processes and the Environment
Objectives:	Investigate the importance of light energy to plants.
Science Practice:	ScP8. Obtaining, evaluating, and communicating information
Item Type:	Table Grid
About this Item Type:	This item type presents a partially completed table for the student to complete. The student indicates by a tick (✓) his/her answer in each of the empty cells in the table.

The table shows the result of an investigation in which a student tried to determine the effects of light on plant growth.

The student placed each of 5 pea plant seedlings in sunlight for fixed times each day. The student measured and recorded the height reached by each pea plant at the end of 5 weeks.

Pea Plant Name	Time Exposed to Sunlight each Day (hr.)	Plant Height (cm)
Plant A	1	7
Plant B	4	19
Plant C	6	30
Plant D	9	29.8
Plant E	11	29

Based on the results, indicate using a tick (✓) whether the following statements are **supported** or **not supported** by the results of the investigation?

Statements	Supported	Not Supported
Less than 4 hours of sunlight per day will minimize plant growth		
The amount of sunlight a plant is exposed to each day will NOT affect its growth.		
A plant exposed to 12 hours of sunlight per day for 5 weeks should likely reach a height above 31cm		

Best Answer:

Supported

Not Supported

Not Supported

What information can this item give us about a student's Science competence?

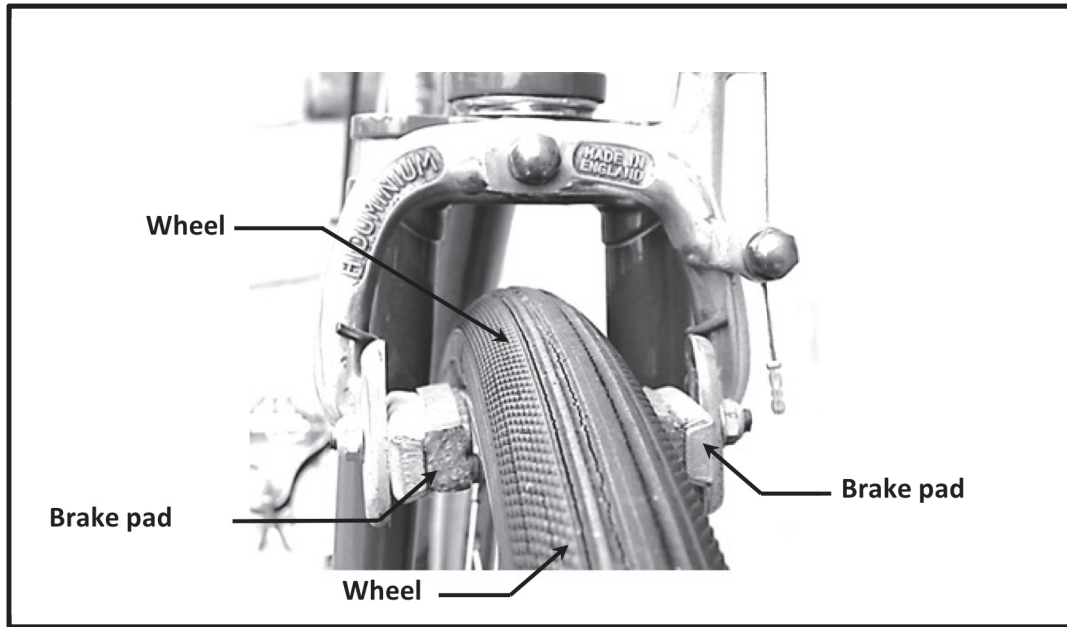
*This item is assessing how well students can:
Demonstrate their understanding that a system can be described in terms of its components and their interactions.*



SCIENCE: SAMPLE ITEM #4

This item has the following characteristics:

Strand:	Energy, Forces and Matter
Objectives:	Communicate scientific information. Investigate the effects of friction and how these may be reduced
Science Practice:	ScP4. Analyzing and interpreting data ScP6. Constructing explanations and designing solutions ScP8. Obtaining, evaluating, and communicating information
Item Type:	Order Match
About this Item Type:	This item type asks students to fill in some blanks with some choices. All blanks must be filled in, but some of the choices may not be used, and no choice can be used more than once.



In the picture above, a bicycle's brake-pads squeeze both the sides of the wheel. When the brake-pads tightly squeeze both sides of the wheel, the bicycle will have a change in motion.

Place **two** of the following five choices in the blank spaces below so that the resulting sentence is correct.

Choices: speeds slows friction heat turns

The bicycle _____ due to the increase of _____ between the brake-pad and the wheel.

Best Answer:
slows; friction

What information can this item give us about a student's Science competence?

This item is assessing how well students can: use cause and effect for explaining causal relationships for prediction and explain events in contexts.

