

## Sample Items used in the Creative Thinking study

### Box B1. Sample item: Library Accessibility

#### Unit: *Library Accessibility*

In this item, students must suggest three different ideas to address accessibility issues for wheelchairs users.

<i>Item 1 of Unit</i>	<i>Domain context</i>	Social problem solving
	<i>Process</i>	Generate diverse ideas
	<i>Difficulty</i>	Level 4

*Type your answers to the question in the boxes below.*

Describe **3 different ideas** for how to improve the wheelchair accessibility of the library. The ideas should be as different from each other as possible. Be specific in your descriptions.

We recommend that you spend no longer than **5 minutes** on this question.



Most students should be aware of some existing methods to make locations more accessible. Students can describe different approaches (e.g., physical modifications, human assistance, technological assistance) or different methods of implementation within the same approach (e.g., adding ramps or lowering shelves as part of physical modifications).

To achieve full credit, students must provide three appropriate ideas that are sufficiently different. Partial credit is awarded when students suggest two appropriate and different ideas.

Box B2. Sample item: Robot Story

**Unit: Robot Story**

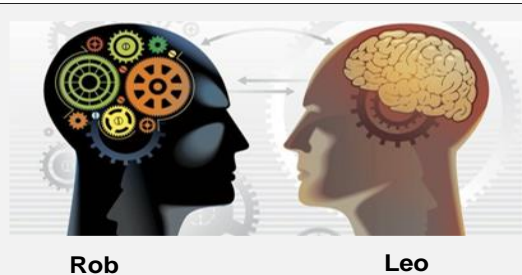
This item requires students to suggest two different story ideas for a film about an intelligent robot (“Rob”) and a human character (“Leo”).

<i>Item 1 of Unit</i>	<i>Domain context</i>	Written expression
	<i>Process</i>	Generate diverse ideas
	<i>Difficulty</i>	Level 4

Type your answers to the question in the boxes below.

Write **2 different film story ideas** for a film about a human named Leo who is interacting with an intelligent robot named Rob. You do not need to write the full film story, but only explain what the film will be about. The two stories should be as different from each other as possible.

We recommend that you spend no longer than **7 minutes** on this question, and use no more than **8 sentences** for each story idea.



**Rob**

**Leo**

To achieve full credit, students must provide two appropriate ideas that are distinct from each other. For example, the story might focus on how the robot “Rob” was created, a friendship between the two characters, or the human “Leo” becoming a robot.

Stories with similar plots can be awarded full credit if the student sufficiently changes the focus or representation of ideas, such as having the narration of the story in two different perspectives or in a very different setting or context.

There is no partial credit for this item.

Box B3. Sample item: 2983

**Unit: 2983**

In this item, students need to give an original story idea for the book with the number “2983” on its cover.

<i>Item 1 of Unit</i>	<i>Domain context</i>	Written expression
	<i>Process</i>	Generate creative ideas
	<i>Difficulty</i>	Level 4

*Refer to the book cover on the right. Type your answer to the question in the text box below.*

Write an **original** story idea for the book with the cover on the right. An original story idea is a story idea that not many people would think of. You do not need to write the full story, but only describe what the book could be about.

We recommend that you spend no longer than **5 minutes** on this question, and use no more than **8 sentences**.



Conventional themes include (a) an account of what life is like for humans in the year 2983; and (b) the number as a designation or identification for a person, a place, or an object (e.g., address, model number). Original ideas that do not correspond to conventional themes are given full credit. For example, an unconventional reference to the number 2983 in the story is its use as a code for unlocking a device.

Responses corresponding to a conventional theme are awarded partial credit unless combined with an innovative approach.

Box B4. Sample item: Science Fair Poster

**Unit: Science Fair Poster**

In this item, students are asked to create an original poster for a science fair that represents the theme, “*Life in Deep Space*”. Students could use a simple drawing tool that includes different shapes, colours, and stickers.

Item 1 of Unit	Domain context	Visual expression
	Process	Generate creative ideas
	Difficulty	Level 6

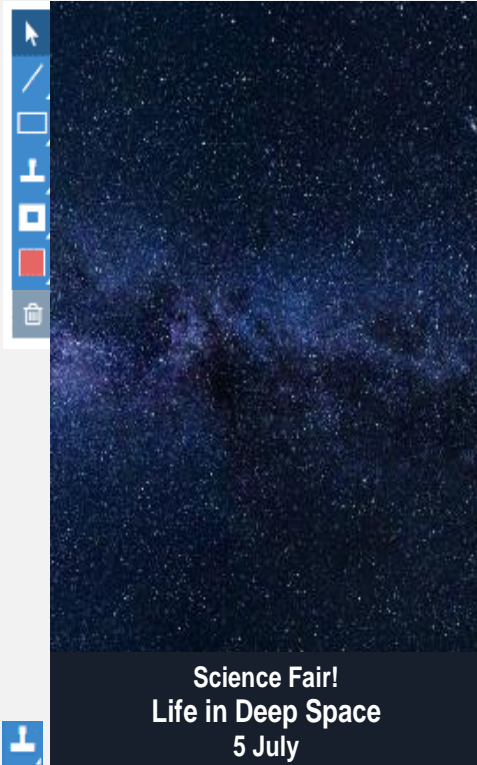
Use the drawing tools on the right and the text box below to answer the question.

Create an **original** poster for the Science Fair that represents the theme: **Life in Deep Space**.

Your poster should be **original** in the sense that not many people would think to represent the theme in this way.

Describe your design in one sentence in the box below.

We recommend that you spend no longer than **7 minutes** on this question.



To achieve full credit, students must create a poster with an original theme. Original themes include (but are not limited to) the use of text or script elements to communicate the theme, the inclusion of animate figures (e.g., humans or aliens) other than astronauts, and scientific models or notations related to life (e.g., molecules).

Themes based on the Earth and space exploration (e.g., astronauts, spacecraft, satellites) are not considered to be original, and posters using these themes are awarded partial credit.

Box B5. Sample item: Save the River

**Unit: Save the River**

In this item, students are asked to improve a proposed experiment which aims to test whether pollution is the cause of the declining frog population. Students must suggest a modification to the experiment idea by addressing a flaw or deficiency in the current design.

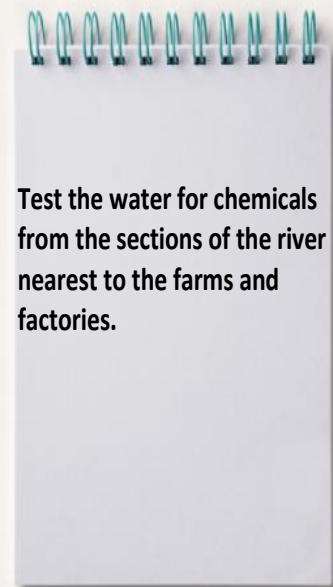
<i>Item 2 of Unit</i>	<i>Domain context</i>	Scientific problem solving
	<i>Process</i>	Evaluate and improve ideas
	<i>Difficulty</i>	Level 6

Refer to the information on the right. Type your answer to the question in the box below.

The lab team has decided to conduct an experiment to test whether pollution from the factories is the cause of the problem with the frogs. Their proposed experiment is shown on the right.

Think of a way to improve the experiment that is **original** in the sense that not many people would think of it. Your idea should help the team to gain more conclusive evidence in order to know if chemical pollution is the cause of the problem with the frogs.

Describe your improved experiment idea in the box below.



To achieve full credit, the response that students give must correspond to an original improvement theme. A suggestion to investigate the presence of invasive species that might be an alternative cause of the problem is an example of an original improvement to the experiment, and hence is awarded full credit.

Partial credit is awarded to responses that correspond with conventional themes (such as testing water from a different source as a type of control measure), unless such responses are combined with an innovative approach or method of implementation.