

Grade 1

Matter and Materials

Cleaning Up Spills

The Task

Students were asked to select and test three materials to determine which was the most effective in cleaning up a specific kind of spill. They were then to make recommendations based on their observations and prior experience. Specifically, they were to:

- describe the spill (dry, wet, sticky, etc.);
- choose three different materials to test;
- explain why those materials were chosen;
- test each material;
- show which material best cleaned up the spill;
- explain why they thought that one was best.

For the scenario and task instructions that were presented to students, see page 48.

Students submitted completed worksheets for assessment. Once they had completed their worksheets, they were asked to respond orally to questions posed by the teacher. These interviews were videotaped, and the videos were also used for assessment purposes. (A copy of the videotape is included with this document.)

Expectations

This task gave students the opportunity to demonstrate their achievement of all or part of each of the following selected overall and specific expectations from the strand Matter and

Materials: Grade 1 – Characteristics of Objects and Properties of Materials. (The codes that follow the expectations are from the Ministry of Education's *Curriculum Unit Planner*.)

Students will:

1. distinguish between objects and materials and identify and describe the properties of some materials (1s24);
2. investigate the properties of materials and make appropriate use of materials when designing and making objects (1s25);
3. describe the function of specific materials in manufactured objects that they and others use in daily life (1s26);
4. ask questions about and identify needs and problems related to objects and materials, and explore possible answers and solutions (1s34);
5. plan investigations to answer some of these questions or solve some of these problems (1s35);
6. use appropriate vocabulary in describing their investigations, explorations, and observations (1s36);
7. record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (1s37);
8. communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (1s38).

Prior Knowledge and Skills

To complete this task, students were expected to have some knowledge or skills related to the following:

- identifying properties of materials
- describing materials using their senses
- using a simple inquiry process
- using a simple experimental method and conducting a fair test
- communicating findings orally and recording their findings using pictures and/or words

In the teacher's notes and comments accompanying the student samples that follow, the examples cited are either from the student worksheets (indicated by a "P", for "print") or from the videotape (indicated by a "V").

For information on the process used to prepare students for the task and on the materials and equipment required, see the Teacher Package, reproduced on pages 48–56 of this document.

Task Rubric – Grade 1: Cleaning Up Spills

Expectations*	Level 1	Level 2	Level 3	Level 4
Understanding of Basic Concepts				
The student:				
<p>1</p>	<ul style="list-style-type: none"> – shows limited understanding of the difference between objects and materials – chooses materials with limited understanding of their properties 	<ul style="list-style-type: none"> – shows some understanding of the difference between objects and materials – chooses materials with some understanding of their properties 	<ul style="list-style-type: none"> – shows general understanding of the difference between objects and materials – chooses materials with general understanding of their properties 	<ul style="list-style-type: none"> – shows thorough understanding of the difference between objects and materials – chooses materials with an in-depth understanding of their properties
Inquiry Skills				
2				
The student:				
<ul style="list-style-type: none"> – initiating and planning 4, 5 	<ul style="list-style-type: none"> – identifies the problem to be solved with limited clarity – provides limited reasons for the selection of material 	<ul style="list-style-type: none"> – identifies the problem to be solved with some clarity – provides somewhat logical reasons for the selection of material 	<ul style="list-style-type: none"> – clearly identifies the problem to be solved – provides logical reasons for the selection of material 	<ul style="list-style-type: none"> – clearly and precisely identifies the problem to be solved – provides insightful reasons for the selection of material
<ul style="list-style-type: none"> – performing and recording 7 	<ul style="list-style-type: none"> – describes a modelled procedure with limited accuracy – makes observations with limited accuracy – reports results using pictures and/or words with limited clarity 	<ul style="list-style-type: none"> – describes a modelled procedure with some accuracy – makes observations with some accuracy – reports results using pictures and/or words with some clarity 	<ul style="list-style-type: none"> – describes a modelled procedure with general accuracy – makes observations with accuracy – reports results using pictures and/or words with general clarity 	<ul style="list-style-type: none"> – describes a modelled procedure with precision – makes insightful and precise observations – reports results using pictures and/or words with clarity and precision
<ul style="list-style-type: none"> – analysing and interpreting 4, 7 	<ul style="list-style-type: none"> – makes a minimally reasonable recommendation – explains why one material was more effective, with limited connections to the observations 	<ul style="list-style-type: none"> – makes a somewhat reasonable recommendation – explains why one material was more effective, with some connections to the observations 	<ul style="list-style-type: none"> – makes a reasonable recommendation – explains why one material was more effective, with clear connections to the observations 	<ul style="list-style-type: none"> – makes a thoroughly reasoned recommendation – explains why one material was more effective, with insightful connections to the observations

Expectations*	Level 1	Level 2	Level 3	Level 4
Communication of Required Knowledge				
The student:				
6, 8	<ul style="list-style-type: none"> – demonstrates limited ability to communicate observations and results (orally, pictorially, or in written form) – makes limited use of appropriate science and technology vocabulary 	<ul style="list-style-type: none"> – demonstrates some ability to communicate observations and results (orally, pictorially, or in written form) – makes some use of appropriate science and technology vocabulary 	<ul style="list-style-type: none"> – demonstrates considerable ability to communicate observations and results (orally, pictorially, or in written form) – makes general use of appropriate science and technology vocabulary 	<ul style="list-style-type: none"> – demonstrates extensive ability to communicate observations and results (orally, pictorially, or in written form) – makes extensive use of appropriate science and technology vocabulary
Relating of Science and Technology to Each Other and to the World Outside the School				
The student:				
3	<ul style="list-style-type: none"> – provides limited reasons for choosing an everyday material to clean up a spill 	<ul style="list-style-type: none"> – provides somewhat logical reasons for choosing an everyday material to clean up a spill 	<ul style="list-style-type: none"> – provides logical reasons for choosing an everyday material to clean up a spill 	<ul style="list-style-type: none"> – provides insightful reasons for choosing an everyday material to clean up a spill

*The expectations that correspond to the numbers given in this chart are listed on page 12.

Note: This rubric does not include criteria for assessing student performance that falls below level 1.