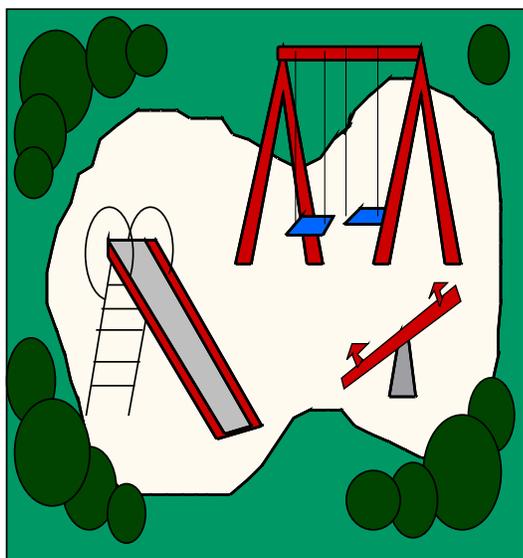


Matter and Materials

Let's Explore Materials



Including:

Let's Treasure Our Senses

Let's Explore and Discover

Let's Play "I Spy"

Let's Reuse and Recycle

Let's Create An Earth-Friendly Band!

An Integrated Unit for Grade 1

Written by:

Mary Lanoue, Denise Donais, Carol Bryden (Project Manager)

Length of Unit: approximately: 19.5 hours

August 2001



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

The developers are appreciative of the suggestions and comments from teacher colleagues involved through the internal, external and Theological review.

A sincere thank you to Barry Elliott from Windsor-Essex Catholic District School Board who facilitated the involvement of the Windsor-Essex, London, Brant/Haldimand-Norfolk, St. Clair and Durham Catholic District School Boards in the development of elementary Science units.

The following organizations have supported the elementary unit project through team building and leadership:

The Council of Directors of Ontario
The Ontario Curriculum Centre
The Ministry of Education, Curriculum and Assessment Branch
Catholic Curriculum Cooperative (CCC)

A special thank you to The Institute for Catholic Education who provided leadership, direction and support through the Advisory and Curriculum Committees.

An Integrated Unit for Grade 1

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This unit was written using the Curriculum Unit Planner, 1999-2001, which Planner was developed in the province of Ontario by the Ministry of Education. The Planner provides electronic templates and resources to develop and share units to help implement the new Ontario curriculum. This unit reflects the views of the developers of the unit and is not necessarily those of the Ministry of Education. Permission is given to reproduce this unit for any non-profit educational purpose. Teachers are encouraged to copy, edit, and adapt this unit for educational purposes. Any reference in this unit to particular commercial resources, learning materials, equipment, or technology does not reflect any official endorsements by the Ministry of Education, school boards, or associations that supported the production of this unit.



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

Task Context

Within this unit the students will explore, discover, and apply new skills and knowledge based on the Grade One Matter and Materials strand in the Curriculum Science and Technology document. Students will use their senses given to us by God, to identify, compare, classify, and alter a variety of materials and objects in their classroom and world environment. The students will describe and explore various functions of these properties, and gain a respect for their environment and awareness of using their resources, given by God, wisely. The students will accept responsibility for their own actions by understanding established safety precautions.

Task Summary

The students will use their senses to learn to distinguish between objects and materials, identify and describe various materials, and identify the purpose and function of the properties of such materials. They will ask questions and identify needs and problems related to objects and materials. Using appropriate vocabulary they will record relevant observations using written language appropriate for this age level. The unit activities require the students to sort common objects in their classroom and home environments. Through the use of inquiry, the students will discover how the property of materials help them to learn about natural and human made materials. The students will explore how objects are the same and different, and how to use them wisely. The students will recycle and reuse common materials and describe the benefits of their new uses. The students will explore effective ways to fasten objects and materials. The students will design and produce a usable product (musical instrument) that they have self-selected. They will learn and follow the correct safety procedures in using tools, materials, and equipment safely.

Culminating Task Assessment

To promote environmental awareness and a sense of responsibility for caring for God's earth, the students will use the knowledge and skills acquired in the subtasks, and reuse objects made of paper, metal, wood, extruded polystyrene, etc. to create a musical instrument. They will use their individually created instruments in an "Earth-friendly Band," and will perform for an audience (peers, parents, community) a class collaborative song, chant, or choral demonstration. They will use a variety of resources. They will design and complete a preplan, build the instrument, and demonstrate its effective performance. Opportunities will be provided for the students to reflect and report on the process and end product. The teacher will assess the ongoing process, the final product, as well as the student reflection page using the provided rubric and self-assessment. Throughout this process, the students will respect and appreciate the rights, responsibilities, and contributions of self and others when working in a group, as well as develop a respect for the environment.

CATHOLIC GRADUATE EXPECTATIONS:

CGE 5e - respects the rights, responsibilities, and contributions of self and others.

CGE 7i - respects the environment and uses resources wisely.

CGE 7j - contributes to the common good.

CGE 7e - witnesses Catholic social teaching by promoting equality, democracy, and solidarity for a just, peaceful, and compassionate society.

Links to Prior Knowledge

The students require prior knowledge that objects are made of a variety of materials. It is assumed that throughout their preschool life experiences, they have used their senses to explore the properties of materials in their familiar world. They need to have developed age appropriate communication skills and a basic awareness that different materials provide different functions in their world (e.g., furniture is made of wood, clothing is made of fabric).

Considerations

Notes to Teacher

This unit would be best taught during the month of April, in particular around Earth Day, due to the nature of the knowledge and concepts explored. Corresponding units in Religion and Family Life programs are:

Fully Alive - Grade 1 - Theme 1, Topic 2 - We Are God's Special Creation p. 7-10
Theme 5, Topic 2 - God's World is My Home p. 97-99

Religion - Grade 1 - We Belong to God - Unit 5, Theme 15 - God Takes Care of the World p. 145-152

This unit lends itself well to assessment in English Reading, Writing, and Oral Communication, to be used at the teacher's discretion. The students are involved in creating an individual booklet, discussing and presenting ideas, and listening and responding to various literature and media selections.

Students are involved in a variety of groupings and activities to foster development of different learning styles. These include sorting, investigating through the scientific method of inquiry, designing and building, communicating, presenting, and reflecting.

Assessment strategies include anecdotal notes, observation of the inquiry process, rubrics, a checklist, and a self-assessment.

To prepare for this unit the teacher should begin collecting reusable materials that could be used for the culminating task (tissue boxes, cardboard rolls, cylinder containers, boxes, hangers, etc.).

Safety considerations: Remind students to follow correct procedures when joining and shaping a variety of materials, and to keep utensils and the work areas clean. Encourage students to return materials and equipment to the proper places. Bending hangers could cause potential eye injury - provide goggles.

They will return materials, tools, and equipment to their proper places.



Matter and Materials
Let's Explore Materials An Integrated Unit for Grade 1

1 Let's Treasure Our Senses

The students will explore a collection of objects made from a variety of materials using their senses. Using an appropriate children's literature book, the students will be introduced to the concept of exploring different properties of materials. Each object will be identified through the use of the senses of touching, hearing, smelling, and finally, seeing. A vocabulary word bank will be created co-operatively with the students for use throughout the unit. Initially, the teacher will collect a variety of objects made from many materials such as glass, paper, plastic, wood, metal, extruded polystyrene, elastic, rubber, aluminum, etc., keeping in mind that these materials will be needed for the culminating task of building a musical instrument. Some examples may include elastic bands, metal fasteners, paper tube rolls, cardboard boxes, washed styrofoam meat trays, and metal hangers. These objects can be placed in a Treasure Box (a blue recycle bin) to be used throughout the unit.

Safety considerations: The teacher should prepare the treasure box carefully to ensure no dangerous or biologically contaminated objects are present. Children must exercise caution when using the senses to explore substances. Remind students that when blindfolded, they should never use their sense of taste. They must also use extreme caution when feeling aluminum cans blindfolded as the sharp edges could be dangerous. Use of glass objects in the Treasure Box is a potential hazard. Feeling rough wood could cause potential slivers.

CATHOLIC GRADUATE EXPECTATIONS

CGE 5a - works effectively as an interdependent team member.

CGE 2b - reads, understands, and uses written materials effectively.

CGE 3c - thinks reflectively and creatively to evaluate situations and solve problems.

2 Let's Explore and Discover

This subtask will allow the students to compare properties of a variety of materials.

The students will immerse objects in water, bang objects to create sounds, attempt to bend objects to change their shapes, and attempt to fasten one object to another. The explorations will provide necessary experiences and concept development needed for the final culminating task. Using an inquiry method students will record results on provided blackline masters.

Safety considerations: Remind students to follow the correct procedures when joining and shaping a variety of materials and to keep utensils and work areas clean. Encourage students to return materials and equipment to the proper places. Bending hangers could cause potential eye injury - provide goggles.

CATHOLIC GRADUATE EXPECTATIONS:

CGE 3b - creates, adapts, and evaluates new ideas in light of the common good.

CGE 4f - applies effective communication, decision-making, problem-solving, time and resource management skills.

CGE 5b - thinks critically about the meaning and purpose of work.



Matter and Materials
Let's Explore Materials An Integrated Unit for Grade 1

3 Let's Play "I Spy"

The students will explore and identify objects made of different materials, explain how they are the same and different, and what their functions are. The students will use print and licensed software resources to identify materials commonly used in manufactured objects, as well as the sources of these materials. They will identify, through observation, the same materials found in different objects. Based on the "I Spy" pattern, students will create a collaborative class "I Spy" book and an individual "Thank You God" booklet.

Safety considerations: Encourage students to return materials and equipment to the proper places.

CATHOLIC GRADUATE EXPECTATIONS:

CGE 4f - applies effective communication, decision-making, problem-solving, time and resource management skills.

CGE 5g - achieves excellence, originality, and integrity in one's own work, and supports these qualities in the work of others.

4 Let's Reuse and Recycle

The students will explore the concepts of reusing and recycling. They will learn to care for God's earth and how to use its resources wisely. They will identify reusable and recyclable products found in the school and home environments. They will discover multiple uses for a variety of objects. They will become more responsible citizens by encouraging their family and classmates to initiate or improve recycling programs within the school and home.

Safety considerations: Encourage students to return materials and equipment to the proper places. Use of glass objects in the recycle box is a potential hazard.

CATHOLIC GRADUATE EXPECTATIONS:

CGE 7i - respects the environment and uses resources wisely.

CGE 7j - contributes to the common good.

5 Let's Create An Earth-Friendly Band!

To promote environmental awareness and a sense of responsibility for caring for God's earth, the students will use the knowledge and skills acquired in the subtasks, and reuse objects made of paper, metal, wood, extruded polystyrene, etc. to create a musical instrument. They will use their individually created instruments in an "Earth-friendly Band," and will perform for an audience (peers, parents, community) a class collaborative song, chant, or choral demonstration. They will use a variety of resources. They will design and complete a preplan, build the instrument, and demonstrate its effective performance. Opportunities will be provided for the students to reflect and report on the process and end product. The teacher will assess the ongoing process, the final product, as well as the student reflection page using the provided rubric and self-assessment. Throughout this process, the students will respect and appreciate the rights, responsibilities, and contributions of self and others when working in a group, as well as develop a respect for the environment.

CATHOLIC GRADUATE EXPECTATIONS:

CGE 5e - respects the rights, responsibilities, and contributions of self and others.

CGE 7i - respects the environment and uses resources wisely.

CGE 7j - contributes to the common good.

CGE 7e - witnesses Catholic social teaching by promoting equality, democracy, and solidarity for a just, peaceful, and compassionate society.



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

120 mins

Description

The students will explore a collection of objects made from a variety of materials using their senses. Using an appropriate children's literature book, the students will be introduced to the concept of exploring different properties of materials. Each object will be identified through the use of the senses of touching, hearing, smelling, and finally, seeing. A vocabulary word bank will be created co-operatively with the students for use throughout the unit. Initially, the teacher will collect a variety of objects made from many materials such as glass, paper, plastic, wood, metal, extruded polystyrene, elastic, rubber, aluminum, etc., keeping in mind that these materials will be needed for the culminating task of building a musical instrument. Some examples may include elastic bands, metal fasteners, paper tube rolls, cardboard boxes, washed styrofoam meat trays, and metal hangers. These objects can be placed in a Treasure Box (a blue recycle bin) to be used throughout the unit.

Safety considerations: The teacher should prepare the treasure box carefully to ensure no dangerous or biologically contaminated objects are present. Children must exercise caution when using the senses to explore substances. Remind students that when blindfolded, they should never use their sense of taste. They must also use extreme caution when feeling aluminum cans blindfolded as the sharp edges could be dangerous. Use of glass objects in the Treasure Box is a potential hazard. Feeling rough wood could cause potential slivers.

CATHOLIC GRADUATE EXPECTATIONS

CGE 5a - works effectively as an interdependent team member.

CGE 2b - reads, understands, and uses written materials effectively.

CGE 3c - thinks reflectively and creatively to evaluate situations and solve problems.

Expectations

- 1e7 • use and spell correctly the vocabulary appropriate for this grade level;
- 1s24 • distinguish between objects and materials (e.g., scissors are objects and they can be made of metal and/or plastic), and identify and describe the properties of some materials (e.g., flexibility of plastic, hardness of wood);
- 1s27 – identify each of the senses and demonstrate understanding of how they help us recognize and use a variety of materials (e.g., our sense of sight enables us to determine whether a banana is ripe; our sense of hearing tells us whether the washing machine is working properly);
- 1s28 – describe various materials using information gathered by using their senses (e.g., a piece of steel is hard, shiny, and cold, and makes a ringing noise when tapped; a ceramic bowl is hard and rough-textured, and makes a dull sound when tapped);
- 1s31 – sort objects (e.g., students' coats, lunch bags, cooking utensils) and describe the different materials from which those objects are made;
- 1s34 – ask questions about and identify needs and problems related to objects and materials, and explore possible answers and solutions (e.g., test materials to determine which ones insulate more efficiently; test different fabrics to determine which are waterproof);
- 1s36 – use appropriate vocabulary in describing their

Groupings

- Students Working As A Whole Class
- Students Working In Small Groups

Teaching / Learning Strategies

- Brainstorming
- Classifying
- Discussion
- Oral Explanation
- Word Wall
- Working With Manipulatives

Assessment

Assessment of achievement in this initial subtask will focus on observation and anecdotal records of student participation and response, listening to others, and taking turns. The information extracted during this initial subtask will provide valuable insights into the abilities of individual students.

Assessment Strategies

- Observation
- Questions And Answers (oral)

Assessment Recording Devices

- Anecdotal Record



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

120 mins

- investigations, explorations, and observations (e.g., use words such as soft, smooth, rough, and sticky when describing textures);
- 1s37 – record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (e.g., make a display board and record the results of their testing of chalk on different materials);
- 1s43 – identify, through observation, the same material in different objects (e.g., cotton in shirts and towels; glass in magnifying glasses and windows; wood in pencils and furniture);

Teaching / Learning

EXPLORING:

Begin by reading an appropriate children's literature book such as *Small Treasures* by Akimi Gibson, or others suggested in the resources list. These books lend themselves well to the exploration of the attributes of materials. Reflect on the variety and attributes of materials and their properties noted in the book. Ask the students:

What materials are shiny?

What materials are rough?

What materials are tiny?

What materials have a scent?

What materials are soft?

DISCOVERING:

Present a blue recycle bin as a Treasure Chest full of some of God's gifts that we use in our everyday life. As noted in the subtask description, this treasure chest should contain specific items needed for use throughout the unit. Choose a volunteer to be blindfolded and to explore an object found in the chest. Encourage the student to describe the object's properties using each sense, using the sense of sight last to confirm the guess of the found object. Record vocabulary words on chart paper to display and use throughout the unit. Consider placing the words in categories according to the sense used. Important words to include are:

round
square
soft
hard
sticky
prickly

rough
large
small
thick
loud
gritty

mushy
flexible
smooth
thin
shiny
smelly

RESPONDING:

Place the students into small groups for a classroom scavenger hunt to find objects or materials that are made of each of the following: hard plastic, flexible plastic, thin paper, thick cardboard, soft fabric, rough fabric, shiny metal, dull metal, sticky objects, smooth objects, sticky fasteners, flexible fasteners, rough wood, smooth wood, or other materials of your choice. Sort found objects into pre-established stations, made from hula hoops or tables, labelled with the name of the category and picture cues. Encourage the students to use their senses to explore each station.

EXTENDING:

Partner off the students, and have them cut out pictures of objects made of specific materials (glass, paper, metal, plastic, fabric, cardboard, wood etc.) from magazines or catalogues. Create and label a collage of the sorted pictures with the students using some of the words posted in the sorting stations. Display collages in



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120 mins

the classroom along with a vocabulary word bank to create a Matter and Materials bulletin board.

Adaptations

Refer to individual IEPs of exceptional learners to make meaningful adaptations for these students in consultation with the school's special education and ESL teachers. Whenever possible, consult with parents concerning reinforcement of learning expectations and appropriate working conditions at home. Partnering students with those who have strong communication skills for modeling of language, pronunciation, and listening is beneficial. Talk with students to ensure that they understand each task, and check often for comprehension of expectations and activities to ensure maximizing their potential.

To provide accommodations for the students, you may:

- provide an encouraging and supportive classroom environment;
- ensure the student feels he or she is a valued member of the class;
- develop and implement consistent behavioural expectations and consequences;
- recognize and praise effort and improvement as well as task completion;
- check in with the student regularly;
- provide preferential seating (e.g., at the front of the class) as necessary to assist with focusing and maintaining attention;
- allow restless students opportunities to move about;
- involve the student in setting goals for work completion;
- encourage risk-taking;
- provide varied opportunities for peer and/or group interactions (e.g., co-operative learning, sharing).

Resources

	Small Treasures	Akimi Gibson
	Harry's House	Angela Shelf Medearis
	I SPY- Treasure Hunt	Walter Wick / Jean Marzollo
	Whose Shoe?	Margaret Miller
	Alligator Shoes	Arthur Dorros
	chart paper	
	blue recycle bin	1
	magazines and catalogues	1
	collection of found objects	
	hula hoops	5-8
	scissors and glue	1



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labels for sorting stations

Notes to Teacher

Ask the librarian for theme-related books. Designate a display area for books, objects, found materials, and student-generated responses. Remember to include picture cues to support vocabulary words whenever possible for emerging readers. Be sure to include a wide variety of assorted materials found in everyday life and in your classroom. Students revisit the Treasure Box throughout the unit.

Teacher Reflections



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

200 mins

Description

This subtask will allow the students to compare properties of a variety of materials.

The students will immerse objects in water, bang objects to create sounds, attempt to bend objects to change their shapes, and attempt to fasten one object to another. The explorations will provide necessary experiences and concept development needed for the final culminating task. Using an inquiry method students will record results on provided blackline masters.

Safety considerations: Remind students to follow the correct procedures when joining and shaping a variety of materials and to keep utensils and work areas clean. Encourage students to return materials and equipment to the proper places. Bending hangers could cause potential eye injury - provide goggles.

CATHOLIC GRADUATE EXPECTATIONS:

CGE 3b - creates, adapts, and evaluates new ideas in light of the common good.

CGE 4f - applies effective communication, decision-making, problem-solving, time and resource management skills.

CGE 5b - thinks critically about the meaning and purpose of work.

Expectations

- 1s25 • investigate the properties of materials and make appropriate use of materials when designing and making objects;
- 1s24 • distinguish between objects and materials (e.g., scissors are objects and they can be made of metal and/or plastic), and identify and describe the properties of some materials (e.g., flexibility of plastic, hardness of wood);
- 1s30 – describe, using their observations, ways in which materials can be changed to alter their appearance, smell, and texture (e.g., cooking changes the smell and texture of ingredients on a pizza; painting rough wood makes it smoother).
- 1s32 – demonstrate ways in which various materials can be manipulated to produce different sounds (e.g., produce sounds by tapping the sides of glasses that contain different amounts of water) and describe their findings;
- 1s34 – ask questions about and identify needs and problems related to objects and materials, and explore possible answers and solutions (e.g., test materials to determine which ones insulate more efficiently; test different fabrics to determine which are waterproof);
- 1s36 – use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use words such as soft, smooth, rough, and sticky when describing textures);
- 1s37 – record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (e.g., make a display board and record the results of their testing of chalk on different materials);
- 1s38 – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written

Groupings

- Students Working In Small Groups
- Students Working Individually

Teaching / Learning Strategies

- Collaborative/cooperative Learning
- Experimenting
- Inquiry
- Learning Centres

Assessment

The anecdotal assessment will focus on observation and written records of student participation and response, listening to others, and taking turns while participating in experiments. The provided **Blackline Master: Observation Checklist for Properties Experiments (BLM 2.2)** focuses on assessing the student's ability to follow instructions, take turns, follow safety procedures, record observations, and interpret results.

Assessment Strategies

- Observation
- Performance Task
- Exhibition/demonstration

Assessment Recording Devices

- Anecdotal Record
- Checklist



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200 mins

- descriptions (e.g., display examples of materials tested and indicate which ones were best for writing on).
- 1s39 – describe how properties of materials (e.g., sounds, textures, lustre) help us learn about natural and human-made objects;
- 1s40 – identify materials that can be used to join and fasten other materials (e.g., tape for paper; thread for buttons);
- 1p11 – outline the potential safety risks in the home, school, and community (e.g., from fire or toys);

Teaching / Learning

The students manipulate and explore properties of found objects and materials in activity-based learning centres. They work in a co-operative group situation and are expected to use an inquiry method. Set up four centres that focus on attempting to change or alter an object or material. A word vocabulary list of all available materials and fasteners is needed for student reference. Some words to use are: wood, cardboard, paper, aluminum cans, tubes, boxes, pine cones, seashells, rocks, paper bags, plastic, glass, fabric, sponge, metal hangers, plastic hangers, pipe cleaners, glue, tape, metal fasteners, paper clips, elastic bands, and staples.

Modeling and support is required to ensure success throughout the process, as well as for completion of the blackline master.

Refer to **Blackline Master: Properties Experiment (BLM 2.1)** for the four experiment outline and recording sheets. Remind students to follow the correct safety procedures when joining and shaping materials, and to keep utensils and work areas clean. Encourage students to return materials and equipment to the proper places.

EXPLORING/DISCOVERING/RESPONDING:

Experiment #1 - Will Water Change Me?

The student chooses two materials and immerses the materials in water to observe any change, and records the results on provided recording sheets.

Experiment #2 - What Kind of Sound Will I Make?

The student chooses two materials and bangs on them to listen for the quality of sound they emit, and records the results on provided recording sheets.

Experiment #3 - Will I Fasten?

The student chooses two fasteners and attempts to join two different materials, and records the results on provided recording sheets. Safety precaution: If using metal fasteners or joining clamps, demonstrate the correct procedure, and be sure students take care with sharp edges.

Experiment #4 - Will I Bend?

The student chooses six materials and attempts to bend them, and records the results on provided recording sheets.

The provided **Blackline Master: Observation Checklist for Properties Experiments (BLM 2.2)** focuses on assessing the students ability to follow instructions, take turns, follow safety procedures, record observations, and interpret results.

EXTENDING:



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200 mins

Read the children's literature book *Harry's House* by Angela Medearis, or select a story about the construction of a building. The students observe and note through discussion the materials that are altered, changed, and fastened in the construction of a building.

Adaptations

Refer to individual IEPs of exceptional learners to make meaningful adaptations for these students in consultation with the school's special education and ESL teachers. Whenever possible, consult with parents concerning reinforcement of learning expectations and appropriate working conditions at home. Partnering students with those who have strong communication skills for modeling of language, pronunciation, and listening is beneficial. Talk with students to ensure that they understand each task, and check often for comprehension of expectations and activities to ensure maximizing their potential.

To provide accommodations for the students, you may:

- provide an encouraging and supportive classroom environment;
- ensure the student feels he or she is a valued member of the class;
- develop and implement consistent behavioural expectations and consequences;
- recognize and praise effort and improvement as well as task completion;
- check in with the student regularly;
- provide preferential seating (e.g., at the front of the class) as necessary to assist with focusing and maintaining attention;
- allow restless students opportunities to move about;
 - provide oral discussion prior to writing;
- use direct instruction and modelling to encourage the use of a variety of pre-writing and organizational strategies (e.g., conferences, brainstorming, illustrating, tape-recording, mapping, outlining, semantic webbing);
- encourage the use of drawing or sketching as part of the planning process;
- have the student tape to support writing or, if necessary, as an alternative to support draft work;
- provide models of the writing process for the student;
 - involve the student in setting goals for work completion;
- encourage risk-taking;
- provide varied opportunities for peer and/or group interactions (e.g., co-operative learning, sharing);
- provide frequent opportunities for feedback on the student's writing;
- provide opportunities for collaborative writing.

For spelling accommodations or modifications:

- reduce the number of words;
- allow students to use a spelling reference (e.g., spell checker, dictionary, electronic speller);
- encourage students to have a buddy who will help them proofread their work.

Resources

	Properties Experiments	2.1_properties experiments.cwk
	Observation Checklist for Properties Experiments	2.2_Observation Checklist.cwk
	Harry's House	Angela Shelf Medearis
	Word vocabulary list	



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200 mins



Collection of natural and man made objects and materials.

Notes to Teacher

These experiments have been presented as learning centres; however, you may prefer to present them as a whole class activity. Remember to include picture cues to support vocabulary words whenever possible for emerging readers.

Safety issues are presented throughout the subtask and need to be addressed and reviewed regularly.

Teacher Reflections



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

200 mins

Description

The students will explore and identify objects made of different materials, explain how they are the same and different, and what their functions are. The students will use print and licensed software resources to identify materials commonly used in manufactured objects, as well as the sources of these materials. They will identify, through observation, the same materials found in different objects. Based on the "I Spy" pattern, students will create a collaborative class "I Spy" book and an individual "Thank You God" booklet.

Safety considerations: Encourage students to return materials and equipment to the proper places.

CATHOLIC GRADUATE EXPECTATIONS:

CGE 4f - applies effective communication, decision-making, problem-solving, time and resource management skills.

CGE 5g - achieves excellence, originality, and integrity in one's own work, and supports these qualities in the work of others.

Expectations

- 1s24 A • distinguish between objects and materials (e.g., scissors are objects and they can be made of metal and/or plastic), and identify and describe the properties of some materials (e.g., flexibility of plastic, hardness of wood);
- 1s26 • describe the function of specific materials in manufactured objects that they and others use in daily life.
- 1s31 A – sort objects (e.g., students' coats, lunch bags, cooking utensils) and describe the different materials from which those objects are made;
- 1s36 – use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use words such as soft, smooth, rough, and sticky when describing textures);
- 1s37 A – record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (e.g., make a display board and record the results of their testing of chalk on different materials);
- 1s38 A – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (e.g., display examples of materials tested and indicate which ones were best for writing on).
- 1s43 A – identify, through observation, the same material in different objects (e.g., cotton in shirts and towels; glass in magnifying glasses and windows; wood in pencils and furniture);
- 1s44 – compare objects constructed for similar purposes (e.g., different types of chairs) and identify the similarities and differences between their corresponding parts and the materials from which they are made (e.g., metal, wood);
- 1s45 A – identify materials commonly used in manufactured objects as well as the source of those materials

Groupings

Students Working As A Whole Class
 Students Working In Pairs
 Students Working In Small Groups
 Students Working Individually

Teaching / Learning Strategies

Classifying
 Collaborative/cooperative Learning
 Computer Assisted Learning
 Concept Clarification
 Graphing

Assessment

Using the **Thank You God Booklet Rubric** that is provided, the teacher will assess individual student "Thank You God" booklets using the specific criteria and expectations provided.

Assessment Strategies

Performance Task

Assessment Recording Devices

Rubric



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

- 1s29 A (e.g., wood from trees).
 – identify properties of materials that are important to the purpose and function of the objects that are made from them (e.g., the flexibility of plastic makes plastic wrap useful for covering food in order to keep it fresh);

Teaching / Learning

EXPLORING:

Restock the Treasure Box (blue recycle bin) with a collection of objects that are made from different sources (wood, metal, plastic, etc.).

Collections can be made from dishes, toys, footwear, writing tools, or another category of your choice. Be sure that within each subset a variety of sources can be investigated.

As a whole group the students sort the items according to use, and then by source. Hula hoops can be used as a sorting frame. Create labels and picture cues as required.

Sorting by Function:

1. Encourage the students to sort the objects according to function. Some questions could be:
 What can we wear on our feet?
 What do we use for eating?
 What do we play with?
 What do we use for drawing?

Sorting by Object's Source:

2. Encourage the students to sort the objects according to source. Some questions could be:
 What things come from God's trees? (wood, paper products)
 What things come from the rocks God made? (metals)
 What things come from the oil God gave us? (plastics)
 What things come from animals? (wool, leather)

DISCOVERING:

1. Refer to **Fully Alive - Grade 1, Theme 1, Topic 2**, "We are God's Special Creation...I see something God has made"- Big Book p.5 or Student Book p.4-5

Using the picture in the book, play a game of "I Spy." For example, "I spy with my little eye...something that comes from God's trees." Repeat several times using other sources. Invite student suggestions for sources.

2. Option A:

Gather a collection of *I Spy* books by Walter Wick and Jean Marzollo. These books contain photographs of a variety of items and objects, and lend themselves well to reviewing the concepts investigated above. Give small groups of students an *I Spy* book, and allow the students to co-operatively explore the book and investigate the items on each page. Encourage discussion about the sources, function, and uses of the manufactured materials found on each page.

Option B:

Using the licensed computer software, *My First Incredible Amazing Dictionary*, students explore and research the sources, function, and uses of the manufactured materials found within each alphabet page.

RESPONDING:

1. Collaborative class "I Spy" book

The class co-operatively creates a computer generated "I Spy" book to show the sources of manufactured objects.



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A computer graphics program such as Corel Draw or Kid Pix can be used. In pairs, the students create a computer generated page for the co-operative class "I Spy" book.

The partners select a source, and find graphics of items made from that source to include on the page.

For example: I spy things made from trees.

or

I spy things made from rocks.

Students include one corresponding sentence on the page.

Example: I spy things made from trees.

(Graphics will include a variety of objects made from trees.)

Print off the pages and compile them into a collaborative class "I Spy" book.

2. Individual student "Thank you God" booklet

(assessed using rubric)

The students create a "Thank You God" booklet to demonstrate their understanding of the sources of human made materials. The students illustrate a variety of human made materials that come from noted natural sources. Refer to the **Blackline Master: Thank You God (BLM 3.1)** for template. The pages are enlarged, cut, and stapled to create a student booklet.

Included text is:

God made trees. Wood comes from trees. Other things made from trees are:

(Students illustrate or cut magazine pictures to show two or three manufactured objects made of wood.)

God made rocks. Metal comes from rocks. Other things made from rocks are:

(Students illustrate or cut magazine pictures to show two or three manufactured objects made of metal.)

God made oil. Plastic comes from oil. Other things made from oil are:

(Students illustrate or cut magazine pictures to show two or three manufactured objects made of plastic.)

Other suggested sources:

Rocks: metal, aluminum, coins, jewelry

Oil: plastics, lunch pails

Trees: furniture, toys, paper, maple syrup

Animals: food, bacon, dairy, eggs

When they are finished, the students share their "Thank You God" booklets with the rest of the class.

Assess individual booklets using provided **Thank You God Booklet Rubric**.

Adaptations

Refer to individual IEPs of exceptional learners to make meaningful adaptations for these students in consultation with the school's special education and ESL teachers. Whenever possible, consult with parents concerning reinforcement of learning expectations and appropriate working conditions at home. Partnering students with those who have strong communication skills for modeling of language, pronunciation, and listening is beneficial. Talk with students to ensure that they understand each task, and check often for comprehension of expectations and activities to ensure maximizing their potential.

To provide accommodations for the students, you may:

- provide an encouraging and supportive classroom environment;
- ensure the student feels he or she is a valued member of the class;
- develop and implement consistent behavioural expectations and consequences;
- recognize and praise effort and improvement as well as task completion;



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- check in with the student regularly;
- provide preferential seating (e.g., at the front of the class) as necessary to assist with focusing and maintaining attention;
- allow restless students opportunities to move about;
- involve the student in setting goals for work completion;
- encourage risk-taking;
- provide varied opportunities for peer and/or group interactions (e.g., co-operative learning, sharing);
- provide oral discussion prior to writing;
- use direct instruction and modelling to encourage the use of a variety of pre-writing and organizational strategies (e.g., conferences, brainstorming, illustrating, tape-recording, mapping, outlining, semantic webbing);
- encourage the use of drawing or sketching as part of the planning process;
- have the student tape to support writing or, if necessary, as an alternative to support draft work;
- provide models of the writing process for the student;
- provide frequent opportunities for feedback on the student's writing;
- provide opportunities for collaborative writing.

For spelling accommodations or modifications:

- reduce the number of words;
- allow students to use a spelling reference (e.g., spell checker, dictionary, electronic speller);
- encourage students to have a buddy who will help them proofread their work.

Resources

	Thank You God Booklet Rubric	
	Thank You God Booklet	3.1_Thank You God.cwk
	My First Incredible, Amazing Dictionary	
	CoreIDRAW 8 Academic	
	Kid Pix 2	
	Fully Alive - Grade 1	Ontario Conference of Catholic Bishops
	Natural Resources	Bobbie Kalman
	I Spy Treasure Hunt	Jean Marzollo / Walter Wick
	I Spy Fantasy	Jean Marzollo / Walter Wick
	hula hoops	



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Notes to Teacher

You need to have available items that can be sorted according to source. It is important that these are collections of items such as dishes, toys, footwear etc.

An older class can be used as helpers for computer classes if necessary.

Note: "Thank You God" booklets can be enlarged to satisfy needs.

Teacher Reflections



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

400 mins

Description

The students will explore the concepts of reusing and recycling. They will learn to care for God's earth and how to use its resources wisely. They will identify reusable and recyclable products found in the school and home environments. They will discover multiple uses for a variety of objects. They will become more responsible citizens by encouraging their family and classmates to initiate or improve recycling programs within the school and home.

Safety considerations: Encourage students to return materials and equipment to the proper places. Use of glass objects in the recycle box is a potential hazard.

CATHOLIC GRADUATE EXPECTATIONS:

CGE 7i - respects the environment and uses resources wisely.

CGE 7j - contributes to the common good.

Expectations

- 1s41 A – demonstrate ways of reusing materials and objects in daily activities (e.g., reuse of plastic containers for storing food);
- 1s42 A – recognize that objects made of certain materials can be recycled (e.g., pop cans, plastic jugs, newspapers);
- 1p11 – outline the potential safety risks in the home, school, and community (e.g., from fire or toys);
- 1s39 – describe how properties of materials (e.g., sounds, textures, lustre) help us learn about natural and human-made objects;
- 1s34 A – ask questions about and identify needs and problems related to objects and materials, and explore possible answers and solutions (e.g., test materials to determine which ones insulate more efficiently; test different fabrics to determine which are waterproof);
- 1s35 – plan investigations to answer some of these questions or solve some of these problems;
- 1s31 – sort objects (e.g., students' coats, lunch bags, cooking utensils) and describe the different materials from which those objects are made;
- 1s29 – identify properties of materials that are important to the purpose and function of the objects that are made from them (e.g., the flexibility of plastic makes plastic wrap useful for covering food in order to keep it fresh);
- 1s28 – describe various materials using information gathered by using their senses (e.g., a piece of steel is hard, shiny, and cold, and makes a ringing noise when tapped; a ceramic bowl is hard and rough-textured, and makes a dull sound when tapped);
- 1s27 – identify each of the senses and demonstrate understanding of how they help us recognize and use a variety of materials (e.g., our sense of sight enables us to determine whether a banana is ripe; our sense of hearing tells us whether the washing machine is working properly);

Groupings

Students Working As A Whole Class
 Students Working Individually
 Students Working In Pairs
 Students Working In Small Groups

Teaching / Learning Strategies

Classifying
 Advance Organizer
 Discussion
 Expressing Another Point Of View
 Graphing

Assessment

Using the provided **Blackline Master: Reuse Objects Checklist (BLM 4.2)**, the teacher can assess individual student understanding of the specific criteria given. The students will record their responses directly on the provided checklist at the completion of this subtask.

Using the provided **Earth Friendly Poster Rubric**, the teacher can assess an individual student's understanding and ability to apply and communicate this understanding.

Assessment Strategies

Quizzes, Tests, Examinations
 Performance Task

Assessment Recording Devices

Checklist
 Rubric



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400 mins

- 1s26 • describe the function of specific materials in manufactured objects that they and others use in daily life.
- 1s25 • investigate the properties of materials and make appropriate use of materials when designing and making objects;
- 1s24 • distinguish between objects and materials (e.g., scissors are objects and they can be made of metal and/or plastic), and identify and describe the properties of some materials (e.g., flexibility of plastic, hardness of wood);
- 1s38 A – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (e.g., display examples of materials tested and indicate which ones were best for writing on).

Teaching / Learning

PART A: REUSING

EXPLORING A:

Explain to the students how materials can be reused for other purposes, and present reused objects in the classroom. Examples include bread ties used as math manipulatives and margarine containers used for storing objects.

Some questions to ask the class are:

- What is the name of this object?
- What is it made of?
- What source is it from?
- How is it being used in our classroom?
- How was it used before?
- What could it be used for?

Repeat the questions for several items.

DISCOVERING A:

Earth Detectives

The students take on the role of "Earth Detective." They explore the classroom, identify and collect objects that have been reused, and bring the objects to a designated area.

Safety Precaution: Any found glass objects should be carefully handled.

Record students' findings on a chart following the example below.

REUSING MATERIALS

Example:

Original use: Jam jar

New use in our classroom: Store modelling clay

How else could it be used?: Store marbles



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Repeat for a variety of materials.

Lead the students into a discussion about what would happen to these items if they were not reused. Guide students to realize that reusing is an important way of caring for God's earth by reducing garbage and waste.

RESPONDING A:

Grocery Ad Detectives

Provide a collection of grocery advertisements from local newspapers. Direct students' attention to certain items, and have them suggest other ways in which the advertised items could be reused.

In pairs, the students explore an ad, find an item with a potential reuse, and cut it out. Remind students to confirm their suggestions with their partners. The picture is then glued onto one half of a small piece of Bristol board that is then cut into puzzle pieces. On the other half of the Bristol board the partners illustrate a way the item can be reused.

An example: egg carton/caterpillar craft
milk carton/toy truck

Demonstrate how to cut the Bristol board into interlocking puzzle pieces.

Demonstrate various styles of cutting.

More than one puzzle can be made by each set of partners.

Create collections of several puzzles for the students to sort and solve.

EXTENSION A:

Read *Junk-Pile Jennifer* by John F. Green, or *Jillian Jiggs* by Phoebe Gilman, or other literature-based resources where the main character reuses items.

Some discussion questions to ask the class are:

What did the character collect?

What problem did this create?

How were the items reused?

How does this take care of God's earth?

The students make their own "junk art" creations using reusable and recyclable materials and objects. These can be displayed in the classroom with the heading "God Doesn't Make Junk."

PART B: RECYCLING

EXPLORING B:

Introduce the students to the concept of recycling by viewing a video, such as *Recycle Rex - Return to Sender: A Story About Littering*, or other available recycling videos. If a video is not available, an excellent literature resource is *The Berenstain Bears Don't Pollute (Anymore)*.

Ask the students to find the answers to the following questions as they view the video or read the book:

What is recycling?

Why do we recycle?

How did the characters recycle?

After the video or book, discuss with the students what they have learned.

Be sure to present the following information:



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

400 mins

Garbage or trash is everything that is thrown away. So much garbage is thrown away everyday in Canada that it becomes a big waste problem. We are running out of places to put our garbage. Some communities send their garbage to other places and pollute God's earth. We need to make less garbage. One way we can reduce the amount of garbage is to recycle. To recycle something means to save it and to use it over and over. People can save things made of glass, metal, and paper. When these things are sorted into separate containers, they can be brought to a recycling centre. At the centre, the paper, glass, and metal are sold to factories that make them into new, reusable products. By doing this we are providing for the common good of all people.

DISCOVERING B:

Class/School Recycling Projects

Take your class on a guided school tour to find examples of recycling. Upon return, list the materials which are being recycled. With the class, create survey questions to ask other classrooms about their recycling practices.

With the students, generate a list of three questions about recycling which require a yes or no answer.

Example: Do you recycle paper? Yes or No
 Do you recycle metal? Yes or No
 Do you recycle glass? Yes or No

Students record the three questions on paper. Have the students practise how to approach another class and conduct a survey. Each student asks one question and records the response.

Send the students out in groups of three, if possible, to ask other classrooms their survey questions and record the answers.

Gather in a whole group and discuss the results of the surveys. Record under material headings (metal, glass, paper, etc.) the number of yes and no answers. You may use a variety of ways to record student findings, including self-adhesive notes, check marks, words, tallies, etc.

Compile these findings into a graph to show the students the results of their inquiry. As a class, discuss ways the school can improve its recycling habits.

Some suggestions are to promote recycling throughout the school community by creating posters, slogans, earth songs, poems, etc., that will encourage others to care for God's earth, or perhaps recycle bins can be purchased through school fundraising projects.

RESPONDING B:

1. Home Recycling Project

The students explore, discover, and report on their current home recycling practices. Present students with the prepared **Blackline Master: Home Recycling Project (BLM 4.1)** and explain expectations. They identify the types of materials which are recycled in their homes, if any, and with their families, plan ways to improve their recycling practices. They draw pictures of items made of paper, metal, and glass that they find in their home recycle bins. They report their findings the next day. To prepare for the final culminating task, each student brings to school two objects from his or her recycle bin that could be reused for the subtask 5 student project. Caution the students not to bring any materials made of glass to school.

2. Earth-friendly Poster

In order to promote and encourage good recycling practices within the school, each student creates an earth-friendly poster. Discuss elements which should be included on the poster. These include a slogan, illustrations, magazine pictures, and characters showing recycling activities.

With the class, generate a list of possible slogans, such as:



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

400 mins

Take care of God's earth - Recycle!

Pick up that trash - Recycle!

My Wish for God's Earth - Recycle!

Brainstorm activities the characters could be doing on the posters, such as students sorting recycle bins. This poster can be assessed using the provided **Earth-friendly Poster Rubric**.

3. Using the provided **Blackline Master: Reuse Objects Checklist (BLM 4.2)**, the teacher can assess individual student understanding of the specific criteria given. The students record their responses directly on the provided checklist at the completion of this subtask.

Adaptations

Refer to individual IEPs of exceptional learners to make meaningful adaptations for these students in consultation with the school's special education and ESL teachers. Whenever possible, consult with parents concerning reinforcement of learning expectations and appropriate working conditions at home. Partnering students with those who have strong communication skills for modeling of language, pronunciation, and listening is beneficial. Talk with students to ensure that they understand each task, and check often for comprehension of expectations and activities to ensure maximizing their potential.

To provide accommodations for the students, the teacher may:

- provide an encouraging and supportive classroom environment;
- ensure the student feels he or she is a valued member of the class;
- develop and implement consistent behavioural expectations and consequences;
- recognize and praise effort and improvement as well as task completion;
- check in with the student regularly;
- provide preferential seating (e.g., at the front of the class) as necessary to assist with focusing and maintaining attention;
- allow restless students opportunities to move about
- involve the student in setting goals for work completion;
- encourage risk-taking;
- provide varied opportunities for peer and/or group interactions (e.g., co-operative learning, sharing).

Resources



Earth Friendly Poster Rubric



Reuse Objects Checklist

4.2_Reuse Checklist.cwk



Home Recycling Project

4.1_home recycle project.cwk



Junk-Pile Jennifer

John F. Green



Jillian Jiggs

Phoebe Gilman



The Berenstain Bears Don't Pollute
(Anymore)

Stan and Jan Berenstain



Dear Garbage Man

Gene Zion



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

400 mins



**Recycle Rex - Return to Sender: A Story
About Littering**

Magic Lantern Communications

Notes to Teacher

Corresponding units to complement this subtask in Religion and Family Life programs are:

Fully Alive - Grade 1 - Theme 1, Topic 2 - We Are God's Special Creation p. 7-10
Theme 5, Topic 2 - God's World is My Home p. 97-99

Religion - Grade 1 - **We Belong to God** - Unit 5, Theme 15 - God Takes Care of the World p. 145-152

Teacher Reflections



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

250 mins

Description

To promote environmental awareness and a sense of responsibility for caring for God's earth, the students will use the knowledge and skills acquired in the subtasks, and reuse objects made of paper, metal, wood, extruded polystyrene, etc. to create a musical instrument. They will use their individually created instruments in an "Earth-friendly Band," and will perform for an audience (peers, parents, community) a class collaborative song, chant, or choral demonstration. They will use a variety of resources. They will design and complete a preplan, build the instrument, and demonstrate its effective performance. Opportunities will be provided for the students to reflect and report on the process and end product. The teacher will assess the ongoing process, the final product, as well as the student reflection page using the provided rubric and self-assessment. Throughout this process, the students will respect and appreciate the rights, responsibilities, and contributions of self and others when working in a group, as well as develop a respect for the environment.

CATHOLIC GRADUATE EXPECTATIONS:

CGE 5e - respects the rights, responsibilities, and contributions of self and others.

CGE 7i - respects the environment and uses resources wisely.

CGE 7j - contributes to the common good.

CGE 7e - witnesses Catholic social teaching by promoting equality, democracy, and solidarity for a just, peaceful, and compassionate society.

Expectations

- 1e7 A • use and spell correctly the vocabulary appropriate for this grade level;
- 1s24 • distinguish between objects and materials (e.g., scissors are objects and they can be made of metal and/or plastic), and identify and describe the properties of some materials (e.g., flexibility of plastic, hardness of wood);
- 1s25 • investigate the properties of materials and make appropriate use of materials when designing and making objects;
- 1s33 A – design a usable product that is aesthetically pleasing (e.g., a tote bag, cookie, musical instrument) and construct it by combining and modifying materials that they have selected themselves;
- 1s35 A – plan investigations to answer some of these questions or solve some of these problems;
- 1s36 – use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use words such as soft, smooth, rough, and sticky when describing textures);
- 1s37 A – record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (e.g., make a display board and record the results of their testing of chalk on different materials);
- 1s38 A – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (e.g., display examples of materials tested and indicate which ones were best for writing on).

Groupings

- Students Working As A Whole Class
- Students Working Individually

Teaching / Learning Strategies

- Collaborative/cooperative Learning
- Model Making
- Advance Organizer
- Chanting
- Demonstration

Assessment

Using the provided **My Instrument Rubric**, the teacher can assess individual student understanding and ability to preplan, develop, design, and reflect on the inquiry and investigation process. The self-reflection/assessment component is assessed within the rubric. Continue to make anecdotal notes on observed student behaviours.

Assessment Strategies

- Performance Task
- Self Assessment
- Classroom Presentation

Assessment Recording Devices

- Rubric
- Anecdotal Record



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250 mins

- 1s40 – identify materials that can be used to join and fasten other materials (e.g., tape for paper; thread for buttons);
- 1s41 – demonstrate ways of reusing materials and objects in daily activities (e.g., reuse of plastic containers for storing food);

Teaching / Learning

EXPLORING:

Review with the students the need to improve the school's vision about caring for God's earth. You can revisit the surveys completed in subtask 4, and point out the areas that need to be improved. Reflect on the students' feelings of being proactive environmentalists as a result of their poster displays throughout the school.

DISCOVERING:

In order to review and reinforce this vision the class creates an "Earth-friendly Band" and performs an environmental chant/song/rap for an audience. Individually, students choose reusable and recyclable products to create a musical instrument to use in the class band.

1. Pattern a Familiar Song/Chant/Rap

Choose a familiar song or chant, such as Mary Had a Little Lamb, Jesus Loves Me, Here We Go Round the Mulberry Bush, or Good News, Good News - Grade 1 *We Belong to God*, song # 9.

Good News

An example of a pattern is:

Chorus:

Good news, good news

We want to save God's earth

Good news, good news

We want to save God's earth.

Another example to the tune Here We Go Round the Mulberry Bush is:

This is the way we save God's earth,

save God's earth, save God's earth,

This is the way we save God's earth

by reusing junk this way.

You may wish to create other verses incorporating students names and/or instruments.

Recognize the beat in the song and have the whole class respond by using body movement and gestures as the students sing. Observe that students can find and use the beat in their movements.

RESPONDING:

1. Create a Musical Instrument

Individual students use reusable and recyclable items to create a musical instrument to use as accompaniment for the environmental song. Provide the students with real rhythm band instruments, and explore how they are made, how the sound is created, what source materials are used, and how the students can modify and adapt available found materials to create similar instruments. Invite student suggestions for other kinds of instruments not provided in class. Modelling and support is required to ensure success throughout the process, as well as for completion of the blackline master. Various books, pictures, websites noted in resources section, as well as real instruments can be used to support student

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250 mins



understanding.

Examples of possible rhythm instruments:

1. Tissue Box Guitar - Wrap elastic bands around a tissue box. A variety of thicknesses in the elastics provides a change in the pitch.
2. Metal Hanger - Hang a variety of found objects from the hanger, such as seashells, metal pop tabs, and old metal kitchen utensils. They will clang against each other when a student shakes the hanger.
3. Maracas - Use paper rolls of any kind. Fill them with a variety of small found materials, such as beans, rice, plastic beads, etc.
4. Drums - Use a cylinder of any kind, such as a large coffee can. Cover it with a flexible material using elastics, yarn, etc.
5. Wind Instrument - Use rolls of any kind. Help the student make a hole in the top. Attach feathers at the end to see the effects of the air passing through the tube. The student uses humming sounds to produce music.

Please note: You may need to model some of these procedures.

Use the class collection of found items and fasteners as a source of materials. The students complete a provided **Blackline Master: Instrument Design Plan (BLM 5.1)** to plan and organize this project. This is a step-by-step plan for the student to follow when planning and designing his or her instrument. Teacher conferencing may be needed to encourage and guide the students in this activity.

Create a designated supply station that has a variety of fasteners, a collection of recyclable and reusable materials, and art supplies.

Include: elastic bands, masking tape, glue, paper clips, paper fasteners, hole punch, tissue boxes, tubes, cardboard, coffee cans, etc.

Students create their instruments.

1. Remind students to follow correct safety procedures when joining and shaping a variety of materials, and to keep utensils and the work areas clean. Encourage students to return materials and equipment to the proper places. Note that it might be difficult or unsafe to use a hole punch on certain materials.
2. Students complete the **Blackline Master: Self-Assessment - My Instrument (BLM 5.2)**, a student reflection and self-assessment page on the inquiry and investigation process.

3. Students rehearse a performance of the collaborative class song and use their created instruments while responding to the beat.

As a class decide on the name of the band, the target audience, the time of performance, the place of performance, the form of invitation, etc.

Some suggestions are:

Perform during Education Week, Earth Day celebrations, parent night, within the community, etc.

Students illustrate the performance on the **Blackline Master: Self-Assessment - My Instrument (BLM 5.2)**.

EXTENSION:

The instruments may be displayed after the performance in an "I Care for God's Earth" display. Allow students to provide input and suggestions for this activity.

The students may enjoy viewing the video *Stomp Out Loud*. In it, the performers use ordinary objects to make extraordinary sounds. It is a unique combination of percussion, movement, and visual comedy created by drumming, shaking, rattling, and rolling anything that makes a sound.



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250 mins

Adaptations

Refer to individual IEPs of exceptional learners to make meaningful adaptations for these students in consultation with the school's special education and ESL teachers. Whenever possible, consult with parents concerning reinforcement of learning expectations and appropriate working conditions at home. Partnering students with those who have strong communication skills for modeling of language, pronunciation, and listening is beneficial. Talk with students to ensure that they understand each task, and check often for comprehension of expectations and activities to ensure maximizing their potential.

To provide accommodations for the students, you may:

- provide an encouraging and supportive classroom environment;
- ensure the student feels he or she is a valued member of the class;
- develop and implement consistent behavioural expectations and consequences;
- recognize and praise effort and improvement as well as task completion;
- check in with the student regularly;
- provide preferential seating (e.g., at the front of the class) as necessary to assist with focusing and maintaining attention.
- allow restless students opportunities to move about;
- involve the student in setting goals for work completion;
- encourage risk taking;
- provide varied opportunities for peer and/or group interactions (e.g., co-operative learning, sharing);
- provide oral discussion prior to writing;
- use direct instruction and modelling to encourage the use of a variety of pre-writing and organizational strategies (e.g., conferences, brainstorming, illustrating, tape-recording, mapping, outlining, semantic webbing);
- encourage the use of drawing or sketching as part of the planning process;
- have the student tape to support writing or, if necessary, as an alternative to support draft work;
- provide models of the writing process for the student;
- provide frequent opportunities for feedback on the student's writing;
- provide opportunities for collaborative writing.

For spelling accommodations or modifications:

- reduce the number of words;
- allow students to use a spelling reference (e.g., spell checker, dictionary, electronic speller);
- encourage students to have a buddy who will help them proofread their work.

Resources



My Instrument Rubric



Instrument Design Plan

5.1_Instrument Design Plan.cwk



My Instrument

5.2_My Instrument.cwk



We Belong to God - Year One

Canadian Conference of Catholic Bishops



World Book Encyclopedia Presents Air



Sound Science

Etta Kaner



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

250 mins

-  **Let's Get the Rhythm** Anne Miranda
-  **Stomp Out Loud** Yes/No Productions Ltd.
-  **Stomp on Line**
-  **Orchestra Instruments**
-  **coffee can drum**
-  **Yahooligans Music Links**
-  **Rain Stick**
-  **collection of reusable and recyclable materials**
-  **variety of fasteners**
-  **musical rhythm band instruments**
-  **art supplies**

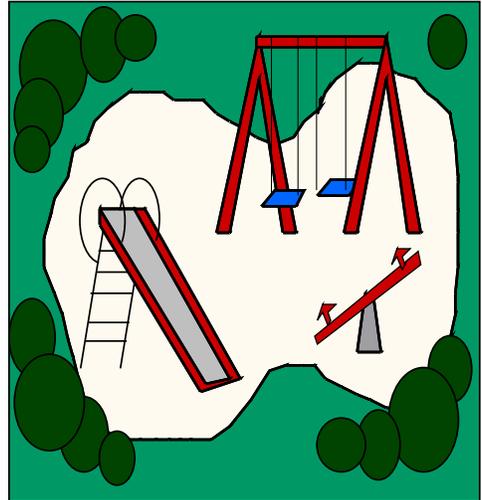
Notes to Teacher

Safety issues are presented throughout the subtask and need to be addressed and reviewed regularly. Be sure you have a variety of reusable and recyclable materials collected and available for students to use for their musical instruments.

Invite student suggestions in creating an invitation to the performance.

This culminating activity lends itself well to an Earth Day or Education Week performance.

Teacher Reflections



Appendices

Matter and Materials

Let's Explore Materials

Resource List:
Black Line Masters:
Rubrics:
Unit Expectation List and Expectation Summary:



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1



Rubric

- Earth Friendly Poster Rubric** ST 4
2
This assesses the Earth Friendly Poster in Subtask 4.
- My Instrument Rubric** ST 5
1
Assesses individual student understanding and their ability to preplan, develop, design, and reflect on the inquiry and investigation process.
- Thank You God Booklet Rubric** ST 3
1
This rubric will assess the "Thank You God" booklet using 5 criteria.



Blackline Master / File

- Home Recycling Project** ST 4
4.1_home recycle project.cwk
- Instrument Design Plan** ST 5
5.1_Instrument Design Plan.cwk
- My Instrument** ST 5
5.2_My Instrument.cwk
- Observation Checklist for Properties Experiments** ST 2
2.2_Observation Checklist.cwk
- Properties Experiments** ST 2
2.1_properties experiments.cwk
- Reuse Objects Checklist** ST 4
4.2_Reuse Checklist.cwk
- Thank You God Booklet** ST 3
3.1_Thank You God.cwk



Licensed Software

- CorelDRAW 8 Academic** Unit
- CorelDRAW 8 Academic** ST 3
- Kid Pix 2** Unit
- Kid Pix 2** ST 3
- My First Incredible, Amazing Dictionary** Unit
- My First Incredible, Amazing Dictionary** ST 3
- Sammy's Science House** Unit
- Storybook Weaver deluxe** Unit



Print

- Alligator Shoes** ST 1
Arthur Dorros
0-14-054734-7
A book about a variety of shoes
- Boxes** Unit
Pauline Cartwright
0-7901-0186-6
- Children of the Earth... Remember** Unit
Schim Schimmel
1-55971-640-1
A tender lesson of sharing and protecting our planet.
- Dear Children of the Earth** Unit
Schim Schimmel
1-55971-225-2
A letter from Mother Earth asking for help from children.
- Dear Garbage Man** ST 4
Gene Zion
0833520636
Stan the garbage doesn't seem to want to put anything in the garbage.
- Earth Child** Unit
Kathryn Sheehan and Mary Waidner
780933031937
A variety of earth friendly activities.
- Eyewitness Science: Matter** Unit

Christopher Cooper
0-7737-2615-2
- Fully Alive - Grade 1** Unit
Ontario Conference of Catholic Bishops
0-02-953508-5
- Fully Alive - Grade 1** ST 3
Ontario Conference of Catholic Bishops
0-02-953508-5



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

- | | | | |
|--|-------------|---|-------------|
| <input type="checkbox"/> Harry's House
Angela Shelf Medearis
0-590-27557-7
Doghouse built using various materials | ST 1 | <input type="checkbox"/> Sound Science
Etta Kaner
1--55074-054-7
Suggestions for making musical instruments. | ST 5 |
| <input type="checkbox"/> Harry's House
Angela Shelf Medearis
0-590-27557-7
Building a doghouse. | ST 2 | <input type="checkbox"/> The Berenstain Bears Don't Pollute (Anymore)
Stan and Jan Berenstain
0-679-82351-4
The Bears grow concerned about how pollution and waste of natural resources are damaging the world around them. | ST 4 |
| <input type="checkbox"/> I Spy Fantasy
Jean Marzollo / Walter Wick
0-590-46295-4
Collages of materials to discover. | ST 3 | <input type="checkbox"/> The Recycling Book
Elizabeth MacLeod
0-920775-58-6
Activities for recycling. | Unit |
| <input type="checkbox"/> I SPY- Treasure Hunt
Walter Wick / Jean Marzollo
0-439-04244-5
A book of picture riddles to find objects
Use of any I Spy book would be an asset | ST 1 | <input type="checkbox"/> We Belong to God - Year One
Canadian Conference of Catholic Bishops | Unit |
| <input type="checkbox"/> I Spy Treasure Hunt
Jean Marzollo / Walter Wick
0-439-04244-5
Collages of materials to look for. | ST 3 | <input type="checkbox"/> We Belong to God - Year One
Canadian Conference of Catholic Bishops
0-88997-303-2 | ST 5 |
| <input type="checkbox"/> Jillian Jiggs
Phoebe Gilman
0-590-71548-8
Jillian collects and reuses objects. | ST 4 | <input type="checkbox"/> What is the World Made Of? Read - and - Find - Out - Science Books
Kathleen Zoehfeld
0-06027144-2 | Unit |
| <input type="checkbox"/> Junk-Pile Jennifer
John F. Green
0-590-73873-9
Jennifer collects and reuses junk. | ST 4 | <input type="checkbox"/> Whose Shoe?
Margaret Miller
0-688-10008-2
A book about a variety of shoes | ST 1 |
| <input type="checkbox"/> Let's Get the Rhythm
Anne Miranda
0-590-27366-3 | Unit | <input type="checkbox"/> Woolly Woolly
Joy Cowley
0-7901-0147-5 | Unit |
| <input type="checkbox"/> Let's Get the Rhythm
Anne Miranda
0-590-27366-3 | ST 5 | <input type="checkbox"/> World Book Encyclopedia Presents Air
0-7166-7289-8
Suggestions for making musical instruments. | ST 5 |
| <input type="checkbox"/> Love the Earth
Patty Clay Comb
0-933212-47X
A variety of earth friendly activities. | Unit | <input type="checkbox"/> Your Five Senses
Ray Broekel
0-516-01932-5 | Unit |
| <input type="checkbox"/> My First Look at Touch
0-679-80623-7
Explores the sense of touch. | Unit | | |
| <input type="checkbox"/> Natural Resources
Bobbie Kalman
0-86505-077-5
Explores natural resources. | ST 3 | | |
| <input type="checkbox"/> Science Starters: Super Materials
Wendy Madgwick
0-8172-5330-0 | Unit | | |
| <input type="checkbox"/> Small Treasures
Akimi Gibson
0-590-27568-2
Explores objects | ST 1 | | |



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1



Media

- Recycle Rex - Return to Sender: A Story About Littering** **ST 4**
 Magic Lantern Communications
 401-31661G
 A group of friends learn about recycling and what happens when people litter.
- Stomp Out Loud** **ST 5**
 Yes/No Productions Ltd.
 91484
 Using ordinary objects to make extraordinary sounds, Stomp is a unique combination of percussion, movement and visual comedy.



Website

- coffee can drum** **ST 5**
<http://www.dsokids.com/1/kidsbeact1.html>
 shows how to make a drum out of a coffee can
- Earth Day Website** **Unit**
<http://www.planetpals.com/earthday.html>
 can be used for earth day activities
- Orchestra Instruments** **ST 5**
<http://tqjunior.thinkquest.org/5116/-orchestral-instruments>
- Rain Stick** **ST 5**
<http://users.hsonline.net/kidatart/htdoc/lesson44.htm>
 shows how to make a rain stick instrument
- Recycle Symbols Clip Art** **Unit**
<http://www.planetpals.com/recyclesymbols.html>
 can be used for symbols to accompany words
- Stomp on Line** **ST 5**
<http://www.stomponline.com>
 Go to percussion for kids link.
- Yahooligans Music Links** **ST 5**
<http://yahooligans.com>
 go to music link



Material

- art supplies** **ST 5**
 per class
- blue recycle bin** **ST 1**
 1
 per class
 to be used as "treasure chest"
- chart paper** **ST 1**
- collection of found objects** **ST 1**
 objects must be made from a variety of materials
- collection of reusable and recyclable materials** **ST 5**
 per class
- hula hoops** **ST 1**
 5-8
 per class
- labels for sorting stations** **ST 1**
- magazines and catalogues** **ST 1**
 1
 per person
- musical rhythm band instruments** **ST 5**
 per class
- scissors and glue** **ST 1**
 1
 per person
- variety of fasteners** **ST 5**
 per class
- Word vocabulary list** **ST 2**
 per class
 See list in Teaching/Learning Strategies.



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1



Equipment / Manipulative

- Collection of natural and man made objects and materials.** ST 2
per class
See list in Teaching/Learning Strategies
- hula hoops** ST 3

Name _____ Date _____

Will Water Change Me?

Problem: What will happen to my material when I put it in water?

Materials: Choose two from the collection.

(paper, cardboard, wood, metal, plastic, sponge, rocks, marbles, seashells, pine cones, etc.)

1. _____ 2. _____

My Guess:

1. _____.

2. _____.

- A. gets mushy
- B. stays the same
- C. comes apart
- D. holds water

Steps:

1. Choose 2 materials.
2. Put them into the tub of water.
3. Watch what happens.

Subtask 2 BLM 2.1

What happened?

Number 1 _____

Number 2 _____

- A. got mushy
- B. stayed the same
- C. came apart
- D. held water

Draw a picture of what you saw.

Number 1

Number 2

Name _____ Date _____

What Kind of Sound Do I Make?

Problem: What happens when I bang on the object with a lummi stick?

Materials: Choose 2 from the collection.

(metal, wood, cardboard tube, metal hangers, cardboard box, glass, rocks, seashells, pine cones, gems, etc.)

Safety: Use materials carefully and tap gently, especially on anything made of glass. Wear safety goggles.

1. _____ 2. _____

My Guess: Circle two sound guesses.

Number 1 _____ high or low
loud or soft

Number 2 _____ high or low
loud or soft

Steps:

1. Tap the lummi stick gently on your object.
2. Listen.
3. Circle the sound you hear.

Number 1 _____ high or low
loud or soft

Number 2 _____ high or low
loud or soft

Subtask 2 BLM 2.1

What happened?

Which object do I like to hear?

I think _____ made an interesting sound because _____

Draw the objects that:

Made a **high** sound:

Made a **low** sound:

Made a **soft** sound:

Made a **loud** sound:



Name _____ Date _____

Will I Fasten?

Problem: What can I use to attach one material to another?

Materials: Choose 2 from the collection.

(paper, cardboard, tubes, boxes, paper bags, plastic, jars, hangers, aluminum cans, etc.)

1. _____ 2. _____

Fasteners: Choose a fastener from the collection that you think will join or fasten your materials.

(elastic bands, stapler, glue, tape, metal fasteners, paper clip, clamps, pipe cleaners, straws, string, yarn, etc.)

1. _____

Safety: Keep sharp ends of objects pointed away from oneself and others.

Steps:

1. Try to join the materials using the fastener.

2. Did it join the 2 materials? Circle **YES** or **NO**

3. If NO, find a fastener that works.

What Happened?

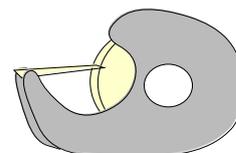
Draw a picture of what you made. The fastener that worked is _____.

It can join _____ and _____.

Draw a picture of what two friends made.

1.

2.



Name _____ Date _____

Will I Bend?

Problem: Can I bend a material?

Materials: Choose materials from the collection.

(plastic, paper, cardboard, wire hangers, wood, plastic hangers, tubes, boxes, fabric, etc.)

<u>My Materials</u>	<u>Guess: Will I Bend?</u>	
1. _____	YES	NO
2. _____	YES	NO
3. _____	YES	NO
4. _____	YES	NO
5. _____	YES	NO
6. _____	YES	NO

Steps:

1. Try to bend the material and record what happens.

What Happened? Did I bend?

Material number 1.	YES	NO
Material number 2.	YES	NO
Material number 3.	YES	NO
Material number 4.	YES	NO
Material number 5.	YES	NO
Material number 6.	YES	NO

Subtask 2 BLM 2.2

Observation Checklist

Student Name _____ Date _____

Criteria	A Little	Sometimes	Mostly	Always
1. Student follows instructions.				
2. Student is willing to take turns.				
3. Student demonstrates awareness of safety procedure				
4. Student can record observations.				
5. Student can interpret results.				

Teacher's Comments: _____

Subtask 3 BLM 3.1

Thank
You
God

by

God made trees.
Wood comes from trees.
Other things made from trees:

_____,
and _____.

God made rocks.
Metal comes from rocks.
Other things made from rocks:

_____,
and _____.

God made oil.
Plastic comes from oil.
Other things made from oil:

_____,
and _____.

HOME RECYCLING PROJECT

Name _____ Date _____

Our class has been exploring how to care for God's earth through recycling. Please help your child look through your family's recycle bin and identify, draw, and label three examples of metal, glass, and paper recycling. If your family is not presently recycling, perhaps you could complete the attached "Family Action Plan."

Safety Precaution: Be careful with glass recyclables.

Things My Family Recycles

Metal	Paper / Cardboard	Glass

1. My family recycles _____.

2. My family action plan to improve our recycling is _____

Your child will choose two items to bring to school tomorrow that could be used to create a musical instrument. These may be recyclable and reusable items found in your home.

Return this page and the items to school tomorrow, as your child will report the findings to the class.



REUSE OBJECTS CHECKLIST

Subtask 4 BLM 4.2

Name _____ Date _____

Draw a reusable object.

How can it be reused?

1.
2.
3.

CRITERIA	1	2	3	4
1. Student understands an object can be reused.				
2. Student demonstrates a way to reuse an object.				
3. Student explains how object is reused through teacher conference.				

Teacher's Comments: _____

Instrument Design Plan

Name _____ Date _____

Design a musical instrument which can be played in our band.
Use available materials and fasteners.
Be careful when using tools.

Think about what materials
and fasteners you want to
use.

Materials	Fasteners

1. Sketch your instrument design here.

2. Make your instrument.
3. Test it. Does it make a sound? Yes or No
4. Make changes to your instrument if you think they are needed.
5. Draw any changes you made.

Note: The teacher may wish to increase the size of the sketch boxes.

Self Assessment - My Instrument

Name _____ Date _____

1. This is the sound it makes.

_____ high _____ soft
_____ low _____ loud

2. I used _____ to fasten my instrument.

3. Draw objects I used. Draw a line to these items.

trees
oil
rocks

4. Next time I would _____

_____.

5. I am helping God's earth by _____

_____.

Subtask 5 BLM 5.2

6. What I liked best was _____
_____.

7. What I liked least was _____
_____.

8. This is a picture of me and my friends performing our song.



Thank You God Booklet Rubric
for use with Subtask 3 : Let's Play "I Spy"
 from the Grade 1 Unit: **Matter and Materials**



Student Name: _____
 Date: _____

Expectations for this Subtask to Assess with this Rubric:

- 1s29** – identify properties of materials that are important to the purpose and function of the objects that are made from them (e.g., the flexibility of plastic makes plastic wrap useful for covering food in order to keep it fresh);
- 1s31** – sort objects (e.g., students' coats, lunch bags, cooking utensils) and describe the different materials from which those objects are made;
- 1s38** – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (e.g., display examples of materials tested and indicate which ones were best for writing on).
- 1s43** – identify, through observation, the same material in different objects (e.g., cotton in shirts and towels; glass in magnifying glasses and windows; wood in pencils and furniture);
- 1s45** – identify materials commonly used in manufactured objects as well as the source of those materials (e.g., wood from trees).

Category/Criteria	Level 1	Level 2	Level 3	Level 4
Understanding of basic concepts -identifies properties of materials	– shows understanding of a few of the basic concepts	– shows understanding of some of the basic concepts	– shows understanding of most of the basic concepts	– shows understanding of all of the basic concepts
Inquiry and design skills -sorts objects according to source and records and labels illustrations	– applies a few of the required skills and strategies when recording and labelling illustrations	– through illustrations, applies some of the required skills and strategies	– through illustrations, applies most of the required skills and strategies	– through illustrations, applies all (or almost all) of the required skills and strategies
Communication of required knowledge -communicates the results of investigations	– communicates with limited clarity and precision	– communicates with some clarity and precision	– generally communicates with clarity and precision	– consistently communicates with clarity and precision
Relating of science and technology to each other and to the world outside the school	– shows limited understanding of connections between science and technology and the world when identifying sources	– shows some understanding of connections between science and technology and the world when identifying sources	– shows general understanding of connections between science and technology and the world when identifying sources	– shows thorough understanding of connections between science and technology and the world when identifying sources

My Instrument Rubric

for use with Subtask 5 : Let's Create An Earth-Friendly Band!
from the Grade 1 Unit: Matter and Materials



Student Name: _____
Date: _____

Expectations for this Subtask to Assess with this Rubric:

- 1e7** • use and spell correctly the vocabulary appropriate for this grade level;
- 1s33** – design a usable product that is aesthetically pleasing (e.g., a tote bag, cookie, musical instrument) and construct it by combining and modifying materials that they have selected themselves;
- 1s35** – plan investigations to answer some of these questions or solve some of these problems;
- 1s37** – record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (e.g., make a display board and record the results of their testing of chalk on different materials);
- 1s38** – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (e.g., display examples of materials tested and indicate which ones were best for writing on).

Category/Criteria	Level 1	Level 2	Level 3	Level 4
Understanding of basic concepts - can change and modify reusable materials	– gives explanations showing limited understanding of the concepts during preplan conferencing	– gives partial explanations during preplan conferencing	– usually gives complete or nearly complete explanations during preplan conferencing	– always gives complete explanations during preplan conferencing
Inquiry and design skills -can design and construct instrument using self-selected materials	– applies a few of the required skills and strategies – uses tools, equipment, and materials with limited effectiveness	– applies some of the required skills and strategies – uses tools, equipment, and materials correctly with some effectiveness	– applies most of the required skills and strategies – uses tools, equipment, and materials correctly and effectively	– applies all (or almost all) of the required skills and strategies – uses tools, equipment, and materials correctly and effectively
Communication of required knowledge -uses and spells provided vocabulary correctly	– communicates with limited clarity and precision – rarely uses appropriate science and technology terminology through-out the task	– communicates with some clarity and precision – sometimes uses appropriate science and technology terminology through-out the task	– generally communicates with clarity and precision – uses appropriate science and technology terminology through-out the task	– consistently communicates with clarity and precision – uses rich, supporting science and technology terminology through-out the task
Relating of science and technology to the outside world -applies knowledge to care for the earth	– shows limited understanding of connections between science and technology and the world outside the school through student reflection	– shows some understanding of connections between science and technology and the world outside the school through student reflection	– shows general understanding of connections between science and technology and the world outside the school through student reflection	– shows thorough understanding of connections between science and technology and the world outside the school, as well as their implications through student reflection

Earth Friendly Poster Rubric
for use with Subtask 4 : Let's Reuse and Recycle
from the Grade 1 Unit: Matter and Materials



Student Name: _____
Date: _____

Expectations for this Subtask to Assess with this Rubric:

- 1s34** – ask questions about and identify needs and problems related to objects and materials, and explore possible answers and solutions (e.g., test materials to determine which ones insulate more efficiently; test different fabrics to determine which are waterproof);
- 1s38** – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (e.g., display examples of materials tested and indicate which ones were best for writing on).
- 1s42** – recognize that objects made of certain materials can be recycled (e.g., pop cans, plastic jugs, newspapers);

Category/Criteria	Level 1	Level 2	Level 3	Level 4
Understanding of basic concepts - student can identify recyclable materials	– shows understanding of a few of the basic concepts	– shows understanding of some of the basic concepts	– shows understanding of most of the basic concepts	– shows understanding of all of the basic concepts
Inquiry and design skills - student includes four predetermined elements on the poster	– applies a few of the required skills and strategies – uses tools, equipment, and materials correctly only with assistance	– applies some of the required skills and strategies – uses tools, equipment, and materials correctly with some assistance	– applies most of the required skills and strategies – uses tools, equipment, and materials correctly with only occasional assistance	– applies all (or almost all) of the required skills and strategies – uses tools, equipment, and materials correctly with little or no assistance
Relating of science and technology to each other and to the world outside the school - demonstrates importance of recycling	– shows limited understanding of connections between science and technology and the world outside the school	– shows some understanding of connections between science and technology and the world outside the school	– shows understanding of connections between science and technology and the world outside the school	– shows understanding of connections between science and technology and the world outside the school, as well as their implications



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

Selected **Assessed**

English Language---Writing

- | | | | |
|------------------------------|--|---|---|
| <input type="checkbox"/> 1e7 | • use and spell correctly the vocabulary appropriate for this grade level; | 1 | 1 |
|------------------------------|--|---|---|

Science and Technology---Matter and Materials

- | | | | |
|-------------------------------|--|---|---|
| <input type="checkbox"/> 1s24 | • distinguish between objects and materials (e.g., scissors are objects and they can be made of metal and/or plastic), and identify and describe the properties of some materials (e.g., flexibility of plastic, hardness of wood); | 4 | 1 |
| <input type="checkbox"/> 1s25 | • investigate the properties of materials and make appropriate use of materials when designing and making objects; | 3 | |
| <input type="checkbox"/> 1s26 | • describe the function of specific materials in manufactured objects that they and others use in daily life. | 2 | |
| <input type="checkbox"/> 1s27 | – identify each of the senses and demonstrate understanding of how they help us recognize and use a variety of materials (e.g., our sense of sight enables us to determine whether a banana is ripe; our sense of hearing tells us whether the washing machine is working properly); | 2 | |
| <input type="checkbox"/> 1s28 | – describe various materials using information gathered by using their senses (e.g., a piece of steel is hard, shiny, and cold, and makes a ringing noise when tapped; a ceramic bowl is hard and rough-textured, and makes a dull sound when tapped); | 2 | |
| <input type="checkbox"/> 1s29 | – identify properties of materials that are important to the purpose and function of the objects that are made from them (e.g., the flexibility of plastic makes plastic wrap useful for covering food in order to keep it fresh); | 1 | 1 |
| <input type="checkbox"/> 1s30 | – describe, using their observations, ways in which materials can be changed to alter their appearance, smell, and texture (e.g., cooking changes the smell and texture of ingredients on a pizza; painting rough wood makes it smoother). | 1 | |
| <input type="checkbox"/> 1s31 | – sort objects (e.g., students' coats, lunch bags, cooking utensils) and describe the different materials from which those objects are made; | 2 | 1 |
| <input type="checkbox"/> 1s32 | – demonstrate ways in which various materials can be manipulated to produce different sounds (e.g., produce sounds by tapping the sides of glasses that contain different amounts of water) and describe their findings; | 1 | |
| <input type="checkbox"/> 1s33 | – design a usable product that is aesthetically pleasing (e.g., a tote bag, cookie, musical instrument) and construct it by combining and modifying materials that they have selected themselves; | | 1 |
| <input type="checkbox"/> 1s34 | – ask questions about and identify needs and problems related to objects and materials, and explore possible answers and solutions (e.g., test materials to determine which ones insulate more efficiently; test different fabrics to determine which are waterproof); | 2 | 1 |
| <input type="checkbox"/> 1s35 | – plan investigations to answer some of these questions or solve some of these problems; | 1 | 1 |
| <input type="checkbox"/> 1s36 | – use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use words such as soft, smooth, rough, and sticky when describing textures); | 4 | |
| <input type="checkbox"/> 1s37 | – record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (e.g., make a display board and record the results of their testing of chalk on different materials); | 2 | 2 |
| <input type="checkbox"/> 1s38 | – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (e.g., display examples of materials tested and indicate which ones were best for writing on). | 1 | 3 |
| <input type="checkbox"/> 1s39 | – describe how properties of materials (e.g., sounds, textures, lustre) help us learn about natural and human-made objects; | 2 | |
| <input type="checkbox"/> 1s40 | – identify materials that can be used to join and fasten other materials (e.g., tape for paper; thread for buttons); | 2 | |
| <input type="checkbox"/> 1s41 | – demonstrate ways of reusing materials and objects in daily activities (e.g., reuse of plastic containers for storing food); | 1 | 1 |
| <input type="checkbox"/> 1s42 | – recognize that objects made of certain materials can be recycled (e.g., pop cans, plastic jugs, newspapers); | | 1 |
| <input type="checkbox"/> 1s43 | – identify, through observation, the same material in different objects (e.g., cotton in shirts and towels; glass in magnifying glasses and windows; wood in pencils and furniture); | 1 | 1 |
| <input type="checkbox"/> 1s44 | – compare objects constructed for similar purposes (e.g., different types of chairs) and identify the similarities and differences between their corresponding parts and the materials from which they are made (e.g., metal, wood); | 1 | |
| <input type="checkbox"/> 1s45 | – identify materials commonly used in manufactured objects as well as the source of those materials (e.g., wood from trees). | | 1 |

Health and Physical Education---Healthy Living

- | | | | |
|-------------------------------|--|---|--|
| <input type="checkbox"/> 1p11 | – outline the potential safety risks in the home, school, and community (e.g., from fire or toys); | 2 | |
|-------------------------------|--|---|--|



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

English Language

1e1	1e2	1e3	1e4	1e5	1e6	1e7	1	1	1e8	1e9	1e10
1e11	1e12	1e13	1e14	1e15	1e16	1e17			1e18	1e19	1e20
1e21	1e22	1e23	1e24	1e25	1e26	1e27			1e28	1e29	1e30
1e31	1e32	1e33	1e34	1e35	1e36	1e37			1e38	1e39	1e40
1e41	1e42	1e43	1e44	1e45	1e46	1e47			1e48	1e49	1e50
1e51	1e52	1e53	1e54	1e55	1e56	1e57			1e58	1e59	1e60

Mathematics

1m1	1m2	1m3	1m4	1m5	1m6	1m7	1m8	1m9	1m10
1m11	1m12	1m13	1m14	1m15	1m16	1m17	1m18	1m19	1m20
1m21	1m22	1m23	1m24	1m25	1m26	1m27	1m28	1m29	1m30
1m31	1m32	1m33	1m34	1m35	1m36	1m37	1m38	1m39	1m40
1m41	1m42	1m43	1m44	1m45	1m46	1m47	1m48	1m49	1m50
1m51	1m52	1m53	1m54	1m55	1m56	1m57	1m58	1m59	1m60
1m61	1m62	1m63	1m64	1m65	1m66	1m67	1m68	1m69	1m70
1m71	1m72	1m73	1m74	1m75	1m76	1m77	1m78	1m79	1m80
1m81	1m82	1m83	1m84	1m85	1m86	1m87	1m88	1m89	1m90
1m91	1m92	1m93	1m94	1m95	1m96	1m97	1m98	1m99	1m100
1m101	1m102	1m103	1m104	1m105	1m106	1m107			

Science and Technology

1s1	1s2	1s3	1s4	1s5	1s6	1s7	1s8	1s9	1s10																		
1s11	1s12	1s13	1s14	1s15	1s16	1s17	1s18	1s19	1s20																		
1s21	1s22	1s23	1s24	4	1	1s25	3	1s26	2	1s27	2	1s28	2	1s29	1	1	1s30	1									
1s31	2	1	1s32	1	1s33	1	1	1s34	2	1	1	1s35	1	1	1s36	4	1s37	2	2	1s38	1	3	1s39	2	1	1s40	2
1s41	1	1	1s42	1	1	1s43	1	1	1s44	1	1s45	1	1s46	1s47	1s48	1s49	1s50	1s51	1s52	1s53	1s54	1s55	1s56	1s57	1s58	1s59	1s60
1s61	1s62	1s63	1s64	1s65	1s66	1s67	1s68	1s69	1s70																		
1s71	1s72	1s73	1s74	1s75	1s76	1s77	1s78	1s79	1s80																		
1s81	1s82	1s83	1s84	1s85	1s86	1s87	1s88	1s89	1s90																		
1s91	1s92	1s93	1s94	1s95	1s96	1s97	1s98	1s99	1s100																		
1s101	1s102	1s103	1s104	1s105	1s106	1s107																					

Social Studies

1z1	1z2	1z3	1z4	1z5	1z6	1z7	1z8	1z9	1z10
1z11	1z12	1z13	1z14	1z15	1z16	1z17	1z18	1z19	1z20
1z21	1z22	1z23	1z24	1z25	1z26	1z27	1z28	1z29	1z30
1z31	1z32	1z33	1z34	1z35	1z36	1z37	1z38	1z39	1z40
1z41	1z42	1z43	1z44	1z45	1z46	1z47	1z48	1z49	1z50

Health & Physical Education

1p1	1p2	1p3	1p4	1p5	1p6	1p7	1p8	1p9	1p10	
1p11	2	1p12	1p13	1p14	1p15	1p16	1p17	1p18	1p19	1p20
1p21	1p22	1p23	1p24	1p25	1p26	1p27	1p28	1p29	1p30	
1p31	1p32	1p33	1p34	1p35	1p36	1p37	1p38			

The Arts

1a1	1a2	1a3	1a4	1a5	1a6	1a7	1a8	1a9	1a10
1a11	1a12	1a13	1a14	1a15	1a16	1a17	1a18	1a19	1a20
1a21	1a22	1a23	1a24	1a25	1a26	1a27	1a28	1a29	1a30
1a31	1a32	1a33	1a34	1a35	1a36	1a37	1a38	1a39	1a40
1a41	1a42	1a43	1a44	1a45	1a46	1a47	1a48	1a49	1a50
1a51	1a52	1a53	1a54	1a55	1a56	1a57	1a58	1a59	1a60
1a61									



Matter and Materials

Let's Explore Materials An Integrated Unit for Grade 1

Analysis Of Unit Components

- 5 Subtasks
- 54 Expectations
- 74 Resources
- 58 Strategies & Groupings
- Unique Expectations --
 - 1 Language Expectations
 - 22 Science And Tech Expectations
 - 1 Health & Physical Education

Resource Types

- 3 Rubrics
- 7 Blackline Masters
- 8 Licensed Software
- 33 Print Resources
- 2 Media Resources
- 7 Websites
- 12 Material Resources
- 2 Equipment / Manipulatives
- 0 Sample Graphics
- 0 Other Resources
- 0 Parent / Community
- 0 Companion Bookmarks

Groupings

- 4 Students Working As A Whole Class
- 2 Students Working In Pairs
- 4 Students Working In Small Groups
- 4 Students Working Individually

Assessment Recording Devices

- 3 Anecdotal Record
- 2 Checklist
- 3 Rubric

Teaching / Learning Strategies

- 2 Advance Organizer
- 1 Brainstorming
- 1 Chanting
- 3 Classifying
- 3 Collaborative/cooperative Learning
- 1 Computer Assisted Learning
- 1 Concept Clarification
- 1 Demonstration
- 2 Discussion
- 1 Experimenting
- 1 Expressing Another Point Of View
- 2 Graphing
- 1 Inquiry
- 1 Learning Centres
- 1 Model Making
- 1 Oral Explanation
- 1 Word Wall
- 1 Working With Manipulatives

Assessment Strategies

- 1 Classroom Presentation
- 1 Exhibition/demonstration
- 2 Observation
- 4 Performance Task
- 1 Questions And Answers (oral)
- 1 Quizzes, Tests, Examinations
- 1 Self Assessment