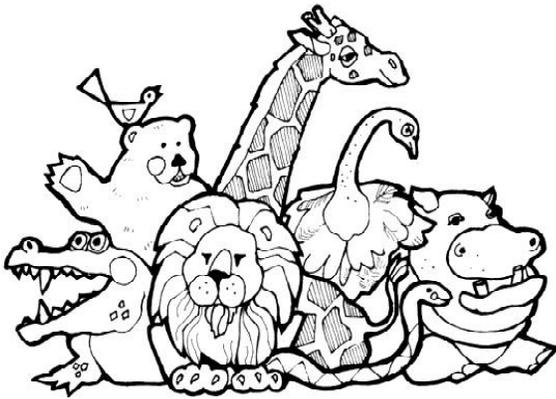


Life Systems

Zoo Central



Including:
Is It Alive?
A Part of Me
Our Senses
Senses Two
Where Do I Belong?
Moving
To Your Health!
Can't Live Without It!
Grow! Grow! Grow!
Change, Change, Change
Survivor!
Survivor Two!
Zoo Central

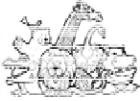
An Integrated Unit for Grade 1/2

Written by:

The Curriculum Review Team 2005

Length of Unit: approximately: 20 hours

August 2005



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

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Participating Lead Public School Boards:

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Grand Erie District School Board

Kawartha Pine Ridge District School Board

Renfrew District School Board

Science and Technology, Grades 1-8

Lakehead District School Board

Thames Valley District School Board

York Region District School Board

Social Studies, History and Geography, Grade 1-8

Renfrew District School Board

Thames Valley District School Board

York Region District School Board

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An Integrated Unit for Grade 1/2

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This unit was written using the Curriculum Unit Planner, 1999-2002, which 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 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.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Unit Context

Zoos encourage children's interest in the natural world and introduce them to many fascinating forms of life. The students in this Grade 1/2 combined grade class will develop an understanding of the characteristics and needs of living things (Grade 1) and growth and changes in animals (Grade 2).

"The study of life systems in Grade 1 focuses on an investigation of the characteristics and basic needs of living things. Students will explore aspects of movement and behaviour in humans and other animals, and will learn about their nutritional requirements. Students will also explore some basic aspects of growth in animals and plants. In all their investigations, students will continually refine their ability to observe, using all five senses, and will attempt to describe their observations as accurately as possible." (*The Ontario Curriculum, Grades 1-8: Science and Technology, p. 15*)

"The study of animals in Grade 2 focuses on patterns of growth and change. Since children are interested in the changes that take place in different types of animals, observing these changes can be a powerful learning experience for them. In their exploration of growth, students will also compare patterns of growth in different animals with their own growth, and they will learn about the conditions needed to support healthy development in an animal." (*The Ontario Curriculum, Grades 1-8: Science and Technology, p. 17*)

Unit Summary

During this unit, the Grade 1 students will be learning the basic needs of living things using their senses, while the Grade 2 students will be learning about the life cycle of animals and the adaptations they have made to survive. Assuming the roles of zookeeper and zoo researcher, the students will build a model environment and include in that environment plants and an animal that suit that environment. The Grade 1 students, as zookeepers, will show, through their model and a conference, how the animal's needs are met by the environment. The Grade 2 researchers will design an animal in its natural habitat and show it during its stages of life.

Key Concepts

Grade 1

Major parts of the human body have specific functions.

Observable characteristics of living things can be described using the five senses.

Humans and other living things have basic needs and are dependent on their environment to meet these basic needs.

Humans change as they grow.

Animals adapt their movement to suit their needs.

Grade 2

Animals can be classified using observable characteristics.

Animals have basic needs.

Growth and change in an animal can be observed.

Life cycles of animals can be compared in order to understand their similarities and differences.

Animals adapt to their environment in order to survive.

Humans can affect animals.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Culminating Task Assessment

Key Concepts

Grade 1

Plants and animals have basic needs for food, air, and water.

Animals and plants have identifiable characteristics.

Animals and plants depend on their environment to meet their needs.

Grade 2

There are similarities and differences among types of animals and the ways that animals adapt to their environment.

Growth patterns in different types of animals have similarities and differences.

Humans affect animals in both helpful and harmful ways.

The Culminating Activity

Using information gathered from the subtasks, students will take on the role of caring for animals in a zoo setting. The zoo setting should be appropriate to the situation and the interests of the students. It might be a petting zoo, a local habitat zoo, or a large urban zoo with animals from all over the world. The students will design and create an environment for a new zoo animal. This environment must provide for the basic needs of the plants and animals that will be living in it (Grade 1) and show the different stages of the life cycle, how the animal adapts to its environment, and how humans affect animals (Grade 2).

Links to Prior Knowledge

Students in Grade 1 will have some knowledge of the natural world, the difference between living and non-living things, patterns, and seasonal changes.

Students in Grade 2 will build on their prior knowledge of their senses, patterns, seasonal changes, and the characteristics and needs of living things. They will also continue to develop their skills in inquiry, design, and communication.

Considerations

Notes to Teacher

While it has been attempted to have all students in the class participate in the same activity, occasionally the expectations of the individual strands call for the two grade levels to perform separate tasks with a common theme. In these situations, one grade level task is designed to be worked on independently (perhaps at an activity centre), while the teacher devotes more time to the other grade's task.

Each subtask is designed to address one or more of the **Key Concepts** outlined in the Task Summary. These key concepts are a cluster of the expectations from The Ontario Curriculum, Grades 1-8: Science and Technology. By acquiring these concepts, students will be well prepared to complete the Culminating Performance Task, as an authentic assessment of what the students have learned throughout the unit.

Throughout the unit, students will keep learning logs to document their learning from each subtask. The learning log can be a source of information for the student to use when doing the culminating task.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Learning Styles

Teachers should keep in mind at all times that students learn in different ways. We need to be aware of each student's learning style and vary ways of presenting lessons. Teachers need to encourage a variety of ways for children to communicate their learning.

Activity Centres

During this unit, some subtasks, such as our Senses, lend themselves to learning centres. Expectations must be clearly stated regarding behaviour and routines and must be consistently reinforced. "As with any new skill, routines take time, modelling, and practice before they are understood and consolidated; be patient, consistent and positive." (*Explorations in Science*, Level 1, Wortzman) These centres could be organised around the five senses and students of both grades invited to discover or review the location and function of each sense organ. As students work on these discoveries, they will begin to become aware of how we perceive and process information about the world around us. It is strongly recommended that learning centres be used in conjunction with many subtasks.

Seasonal Patterns

It is recommended that this topic be visited at different times throughout the year or be part of ongoing classroom discussions (e.g., keeping a weather chart, changes in seasons mean changes in clothing). However, students' achievement should only be reported upon at one of the reporting periods. Outdoor activities could be built into each subtask to allow students to observe and experience nature and its cycles and see animals in their natural habitat. A collection of pictures of animals throughout the seasons would be an asset.

Animals in the Classroom

During this unit, you may want to have an animal as a class pet or an animal to observe (e.g., life cycle of a mealworm). Check your Board's policies concerning animals in the classroom and consider any allergies before making this commitment. If it is not possible to have an animal in the classroom, then many visuals will be needed throughout the unit. A selection of animal pictures representing the six animal groups (mammals, birds, fish, insects, reptiles, and amphibians) is recommended.

Co-operative Learning

Co-operative learning activities are an excellent strategy for building community and bridging the differences between the Grade 1 and 2 students. Many of the subtasks lend themselves to working together to extend learning.



1 Is It Alive?

Key Concepts

Grade 1

Differences exist between living and non-living things

Grade 2

Characteristics and needs of living things can be classified

This subtask will help the teacher assess the students' level of previous knowledge. Using a set of pictures depicting living and non-living things, students will sort the pictures into two groups based on their prior knowledge. They will develop criteria for classifying living and non-living things (Grade 1) and identify the characteristics and needs of living things (Grade 2).

2 A Part of Me

Key Concepts

Grade 1

Bodies of living things can be grouped by different parts based on their function (e.g., lungs for breathing, heart for circulation, legs and arms for movement) by using appropriate vocabulary and tools.

Grade 2

Human body parts can be compared and contrasted with animal body parts using appropriate vocabulary and tools.

Through the use of hands-on activities, games, songs, picture books, and creative movement, students will understand and be able to explain orally that human body parts have a specific function (Grade 1). Using pictures, written language, and concrete materials, they will explain that similarities and differences exist between human and animal body parts (Grade 2).

3 Our Senses

Key Concepts

Grade 1

Each of our sense organs has a unique function and location.

Grade 2

The location and function of sense organs in humans and animals can be compared

Through the use of whole class discussion, a video, and exploration centres, the students will be able to locate and describe the functions of each sense organ (Grade 1) and compare these functions between humans and animals (Grade 2).



4 Senses Two

Key Concepts

Grade 1

Senses can protect and mislead us.

Senses help us learn about our world.

People adapt to a loss or limitation of a sense by developing a stronger ability in another sense or the use of aids, such as hearing aids, glasses, and wheelchairs

Grade 2

Animals use their senses to help them adapt to their environment.

Using questioning skills and investigative tasks, students will learn about how humans use their senses (Grade 1) and how animals use their senses in their environment (Grade 2).

5 Where Do I Belong?

Key Concepts

Grade 1

Using the senses, plants and animals can be classified.

Grade 2

Animals can be classified into a variety of groups using observable characteristics.

Using real plants, experiments, and hands-on activities, students will come to understand that there is a difference between animals and plants (Grade 1) and that animals can be classified into sub-groups based on observable characteristics (Grade 2)

6 Moving

Key Concepts

Grade 1

Animals move in different ways to meet their needs

Grade 2

Animals respond and adapt to their environment to meet their needs

Students will understand, through a brainstorming activity, the various movements different body parts can make. They will first discuss body parts that humans use for movement and then move on to animals. The Grade 1 and 2 students will participate together for the first part of the activity. The Grade 2 students will then extend their learning about animal body parts and how they help the animal respond and adapt to their environment.



7 To Your Health!

Key Concepts

Grade 1

The Canada Food guide is made of four food groups.

Making food choices from the four food groups helps you grow and stay healthy.

Some food comes from natural sources.

Grade 2

Humans produce food by raising livestock.

Using copies of *Canada's Food Guide*, students will graph the contents of teacher-provided lunch bags to plan a healthy meal or snack (Grade 1). Through games, reading, viewing, or taking a class trip to a grocery store, farm, or dairy, students will learn where their food comes from (Grade 2).

8 Can't Live Without It!

Key Concepts

Grade 1

Living things have basic needs: food, air, water, light.

Grade 2

Animals have four common needs: air, water, food, shelter.

Through planned investigations, using real plants and hands-on activities, the students will begin to investigate basic needs and how the basic needs of humans compare with other living things (Grade 1) and how to care for and meet the needs of an animal (Grade 2).

**9 Grow! Grow! Grow!****Key Concepts****Grade 1**

Patterns occur in nature.

Humans change as they grow.

Changes in humans can be compared with changes in other living things.

Grade 2

Patterns occur in nature.

Animals change as they grow.

Through observation and pictures, students will understand that humans change as they grow, changes in humans may differ from other living things (Grade 1), and animals change as they grow (Grade 2).

10 Change, Change, Change**Key Concepts****Grade 1**

Plants change as they grow.

Grade 2

Animals' appearance and behaviours change with the seasons.

Animals' appearance and behaviours change during a life cycle.

Animals have similar and different life cycles.

After planned investigations, students will record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (Grade 1) and observe changes to animals through the seasons and their life cycles (Grade 2).

11 Survivor!**Key Concepts****Grade 1**

Maintaining a healthy environment for humans and other living things is important.

Grade 2

Animals are dependent upon their environment.

Humans can help or harm living things.

The students will learn the importance of maintaining a healthy environment (Grade 1) and how humans can help or harm other living things (Grade 2).



12 Survivor Two!

Key Concepts

Grade 1

Animals move in different ways to meet their needs.

Grade 2

Animals are dependent upon their environment.

Animals eat food, move, and use their environment to meet their needs.

Animals adapt and respond to their environment.

Students will review the basic needs of animals, how movement helps animals meet their needs (Grade 1), and how adaptations have helped animals survive (Grade 2).

13 Zoo Central

Key Concepts

Grade 1

Plants and animals have basic needs for food, air, and water.

Animals and plants have identifiable characteristics.

Animals and plants depend on their environment to meet their needs.

Grade 2

There are similarities and differences among types of animals and the ways that animals adapt to their environment.

Growth patterns in different types of animals have similarities and differences.

Humans affect animals in both helpful and harmful ways.

The Culminating Activity

Using information gathered from the subtasks, students will take on the role of caring for animals in a zoo setting. The zoo setting should be appropriate to the situation and the interests of the students. It might be a petting zoo, a local habitat zoo, or a large urban zoo with animals from all over the world.

The students will design and create an environment for a new zoo animal. This environment must provide for the basic needs of the plants and animals that will be living in it (Grade 1) and show the different stages of the life cycle, how the animal adapts to its environment, and how humans affect animals (Grade 2).



Description

Key Concepts

Grade 1

Differences exist between living and non-living things

Grade 2

Characteristics and needs of living things can be classified

This subtask will help the teacher assess the students' level of previous knowledge. Using a set of pictures depicting living and non-living things, students will sort the pictures into two groups based on their prior knowledge. They will develop criteria for classifying living and non-living things (Grade 1) and identify the characteristics and needs of living things (Grade 2).

Expectations

- 1s1 • demonstrate an understanding of the basic needs of animals and plants (e.g., the need for food, air, and water);
- 1s2 • investigate the characteristics and needs of animals and plants;

Groupings

Students Working As A Whole Class
Students Working Individually

Teaching / Learning Strategies

Review
Anticipation Guide
Discussion

Assessment

The teacher will conference with the students individually while the others are engaged in the drawing activity. The teacher will assess the students' ability to select two living and two non-living things from a group of pictures and the Grade 2 students will support their choice with an explanation of why it is a living or non-living thing. They should refer to the fact that living things have basic needs. If the students are uncertain of the concept of living and non-living, then more practice and time spent sorting and talking is suggested.

The teacher may want to use the conferencing record from *Getting Assessment Right: Science and Technology*.

Assessment Strategies

Conference



Assessment Recording Devices

Anecdotal Record

Teaching / Learning

Discussion

The teacher will show the class a few pictures of living and non-living things.

Ask the students to discuss how the objects in the pictures are similar and different.

List some of the students' responses in separate columns without writing the subtitles living and non-living things.

Review

Read the lists and ask the class if they know the terms used to describe these two categories. If the students are unable to give the terms living and non-living, tell the class.

Add the subtitles **living** and **non-living** above the columns previously given during the class discussion.

Ask students if they know other criteria that can be used to describe living or non-living objects. If the students do not suggest that living things have needs, the teacher will provide the explanation. (e.g., the need for food, water, air).

Anticipation Guide

Choose a picture from your collection . Ask the students to help you determine which heading the picture belongs under.

Show the class a picture and state "This is a living thing" or "This is a non-living thing."

The students must state whether they agree or disagree with the statement given and give a reason to support their choice, such as the living thing needs food.

The teacher then mounts the picture under the correct heading.

The students will use the blackline master (**Living and Non-Living Things**) provided to draw two pictures of living and non-living things under the appropriate headings.

The students must draw different pictures than the pictures used in the previous class activity.

Adaptations

Resources



Living and Non-Living Things

1_living.cwk



What keeps you alive?



Life Systems

Zoo Central An Integrated Unit for Grade 1/2



Sleepyheads



What's the Biggest Living Thing?



The Tree



Places Where Animals and Plants Live



Learning about living things

Kit

Notes to Teacher

Teachers are encouraged to find and use pictures from magazines, papers, flyers, old calendars, websites, and other available resources. The use of real-life objects is another effective way to enhance the learning experience.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Description

Key Concepts

Grade 1

Bodies of living things can be grouped by different parts based on their function (e.g., lungs for breathing, heart for circulation, legs and arms for movement) by using appropriate vocabulary and tools.

Grade 2

Human body parts can be compared and contrasted with animal body parts using appropriate vocabulary and tools.

Through the use of hands-on activities, games, songs, picture books, and creative movement, students will understand and be able to explain orally that human body parts have a specific function (Grade 1). Using pictures, written language, and concrete materials, they will explain that similarities and differences exist between human and animal body parts (Grade 2).

Expectations

- 1s4 – identify major parts of the human body and describe their functions (e.g., arms and legs for movement; lungs and nose for breathing);
- 1s8 – identify and describe common characteristics of humans and other animals that they have observed, and identify variations in these characteristics (e.g., eye and hair colour);
- 1s11 – select and use appropriate tools to increase their capacity to observe (e.g., magnifying glass, stethoscope);
- 1s14 – use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use body, legs, wings, and feelers in describing an insect);
- 2s4 – identify and describe the major physical characteristics of different types of animals (e.g., mammals, reptiles, insects);
- 2s15 – use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use the words egg, caterpillar, larva, chrysalis, and adult in describing the metamorphosis of a butterfly);

Groupings

- Students Working Individually
- Students Working As A Whole Class
- Students Working In Pairs

Teaching / Learning Strategies

- Direct Teaching
- Word Wall
- Classifying

Assessment

This subtask does not have any formal assessment.

Assessment Strategies

Assessment Recording Devices

Teaching / Learning

Day 1

Direct Teaching



Sing "Head and shoulders knees and toes" with the class while touching the appropriate body parts.

Post a large picture of a body outline on the board.

Ask the class to help you name the parts of the body. Point to a part of your body and ask "Who can tell me what this is?" "Do you know why we need it?"

Label the poster with the body parts labels provided (**Body Parts**) as the children respond.

Encourage the children to explain what each body part is used for when they give an answer and tell the class the function it serves if they do not know.

Invite students to point at or move the body part being referred to each time a new body part is mentioned.

Day 2

Word Wall

Begin the class by playing "Simon Says."

Show the class pictures of various body parts (if pictures are not available, the teacher can point to a part of his/her body) and ask students to orally call out the names of the the body parts shown.

Explain to the children that there are other body parts inside the body that we cannot see and invite them to share the name and location of any that they may know.

Introduce the function of the brain, lungs, and heart by reading or showing a film.

Display the pre-written list of the new vocabulary words and tape the picture of the body parts beside the appropriate word on the list.

Mount the words in an area where the students will be able to easily view the words for future reference.

Play Body Parts Bingo

(copies of the Bingo cards are found at <http://www.oecta.on.ca/curriculum/curriculumintro.htm>: Subtask 1: My Beautiful Body)

The teacher will explain that the object of the game is to correctly identify each body part called and cover five spaces in a vertical or horizontal line.

The teacher will provide each pair of students with a Body Parts Bingo Card and a handful of tokens.

The teacher will call the name of a body part and the student will place a token on the correct space.

Classifying

The teacher will provide pictures of animals to pairs of students and ask the pairs to sort them into groups that have similar characteristics.

Working in partners, the Grade 2 students will sort animal pictures into the following three groups: mammals, insects, and reptiles. The pairs will share their classification rules for grouping with the whole class. This introduces the Grade 2 students to characteristics of animals.

Adaptations

Teachers need to be sensitive to the needs of physically challenged students when singing songs and playing games about the various body parts.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Resources



Body Parts Labels

2_bodyparts.cwk



How it grows



OECTA Teacher Resources



Zoom Animals



Discovery School



bingo tokens

16

Notes to Teacher

The game Body Parts Bingo is adapted from the OECTA Unit Science and Technology, Life Systems, Grade 1, SubTask 1: My Beautiful Body.

Teachers need to mount and cut up the bingo sheet blackline master in advance.

Teachers are encouraged to find and use pictures from magazines, papers, flyers, old calendars, websites, and other available resources. The use of real-life objects is also another effective way to enhance the learning experience.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Description

Key Concepts

Grade 1

Each of our sense organs has a unique function and location.

Grade 2

The location and function of sense organs in humans and animals can be compared

Through the use of whole class discussion, a video, and exploration centres, the students will be able to locate and describe the functions of each sense organ (Grade 1) and compare these functions between humans and animals (Grade 2).

Expectations

- 1s5 A – identify the location and function of each sense organ;
- 1s18 – compare ways in which humans and other animals use their senses to meet their needs (e.g., use of the senses of sight and smell in finding food);
- 2s15 – use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use the words egg, caterpillar, larva, chrysalis, and adult in describing the metamorphosis of a butterfly);

Groupings

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

Teaching / Learning Strategies

- Learning Centres
- Learning Log/ Journal
- Discussion

Assessment

The teacher will use the learning log to make anecdotal records along with observations of the student's learning at the centres. The teacher should note language being used by the student, completeness of the log, and any difficulties the student is encountering in recording or completing the tasks. If the student has little written or drawn information in the learning log, then a mini-conference may be in order to orally discover if the concepts are understood.

Assessment Strategies

- Learning Log

Assessment Recording Devices

- Anecdotal Record

Teaching / Learning



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Day 1 -3

Discussion

The teacher leads discussion, saying, "We have explored different body parts and today we will begin to discover our senses. We have five senses. One of them is smell. Can anyone name another sense we have?" The teacher records on separate chart paper each of the five senses.

The children will view a video on the five senses, looking for the location and function of each sense organ.

After viewing, discuss and record the location and function on each chart.

The teacher will introduce the learning log to the students. The teacher will need to set up centres prior to the lesson. Centres should stay in place over a 2 to 3-day period, to allow all children to explore. Grade 2 students may explore centres to review previous learning.

The students will then explore centres after discussion of safety rules relating to tasting food. (Taste only food for which the teacher has given permission.) The teacher will introduce centres to the whole group. Centres will have explicit instructions in simple language and/or pictures showing expectations.

1. SMELL

Materials: empty 35 mm film containers, cotton balls, various scents - vanilla, lemon, vinegar, perfume, cinnamon, baby powder.

Fill each film container with scented cotton balls.

Students will smell each container and record on blackline master, The Nose Knows, which can be included in learning log.

2. HEAR

Materials: a variety of recycled containers (e.g., margarine or yoghurt containers, soft drink cans, empty water bottles, lids), scissors, construction paper or plastic, masking tape, a variety of shaker contents, such as small gravel, lentils, buttons, sand, beads or beans.

Students will create a shaker that will make a sound. Students will draw their shaker and describe the sounds that their shaker makes (e.g., loud or soft sounds).

3. TASTE

Materials: samples of sweet, sour, salty, and bitter foods, (e.g., miniature marshmallows, lemon slices, pretzels, unsweetened chocolate). Be aware of students with food allergies. Be especially vigilant to ensure that none of the food has been in contact with nuts. Do not force students to taste the food.

Students will taste each type of food and record their reactions in learning logs. They will also draw their favourite food and tell why they like it using terms like salty, sweet, or sour.

4. TOUCH

Materials: numbered shoe boxes, with a hole large enough for a child's hand, or paper bags and small objects of various textures (e.g., marbles, cotton balls, pieces of sponge, pieces of corduroy, chalk, pine cones).

Students will record their observations of the mystery objects and try to identify them using only their sense

of touch. Students need to consider the following questions: "What does the surface of the object feel like? What shape is the object? What does it feel like?"

5. SIGHT

Materials: kaleidoscope, viewmaster, magnifying glass, binoculars, simple microscope, various materials to observe (e.g., feathers, keys, chalk).

Students will explore what they can see using the various tools provided. They will record their observations using the following questions: "What is the largest thing you have ever seen? smallest, prettiest, ugliest?"

After all students have explored each centre, they will share their observations, using their learning logs to help them remember.

Grade 2

The students will compare the location and function of the five senses in humans to the five senses in animals using a T-chart (a T-chart is a two-column chart in the shape of a T; Write the word Animals at the top of one column and Humans at the top of the other column) in their learning logs. Students might respond

Life Systems

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Our Senses

Subtask 3

~ 120 mins



with dogs can smell food, humans can smell food; cats see well at night, humans don't see as well at night.

Adaptations

Resources

-  **Brown Bear, Brown Bear, What do you see?** Bill Martin
-  **Polar Bear, Polar Bear, What do you hear?** Bill Martin
-  **King Midas and The Golden Touch** Freya Littledale
-  **I Spy: A book of picture riddles** Jean Marzollo
-  **Sense Suspense, A Guessing Game for the Five Senses** Bruce MacMillan
-  **My Five Senses** Aiki
-  **Sniffing and Smelling** Henry Pluckrose
-  **The Fabulous Five: Our Senses**
-  **Our Five Senses**
-  **Getting the Message**
-  **Learning to use your senses**

Notes to Teacher

Please read the note about Activity Centres found in the Unit Overview.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Description

Key Concepts

Grade 1

Senses can protect and mislead us.

Senses help us learn about our world.

People adapt to a loss or limitation of a sense by developing a stronger ability in another sense or the use of aids, such as hearing aids, glasses, and wheelchairs

Grade 2

Animals use their senses to help them adapt to their environment.

Using questioning skills and investigative tasks, students will learn about how humans use their senses (Grade 1) and how animals use their senses in their environment (Grade 2).

Expectations

- 1s4 – identify major parts of the human body and describe their functions (e.g., arms and legs for movement; lungs and nose for breathing);
- 1s5 – identify the location and function of each sense organ;
- 1s21 – describe ways in which the senses can both protect and mislead (e.g., seeing enables us to avoid walking into an obstacle; the sense of smell is not reliable when we have a cold);
- 1s19 – describe ways in which people adapt to the loss or limitation of sensory or physical ability (e.g., blind people develop more acute hearing; people who cannot walk may use a wheel chair);
- 2s11 – describe ways in which animals respond and adapt to their environment (e.g., weasels change colour for camouflage in summer and winter; mammals living in colder climates have longer fur);

Groupings

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

Teaching / Learning Strategies

- Role Playing
- Open-ended Questions
- Brainstorming

Assessment

The conferences will be informal and may be done while the students are drawing their pictures from the brainstorming activity. The teacher will ask students to give an example of how our senses protect and mislead us (Grade 1) and how animals have adapted to their environment (Grade 2).

Assessment Strategies

- Conference

Assessment Recording Devices

- Anecdotal Record



Teaching / Learning

Day 1

Open-Ended Questions

The teacher will review the location and function of the five senses by singing an appropriate song or reading a book.

The teacher will engage the entire class in a discussion about why the senses are important. Ask questions, such as "What do we need our senses for?" and "How do our senses help us?"

Record the responses on chart paper. If necessary, give prompts.

Role Playing

Learning Centre 1

The teacher will provide blindfolds for each student (an old sheet can be cut up to make blindfolds), pencils, paper, boxes, pre-cut papers for wrapping, and tape at a learning centre.

In pairs, the students will put on the blindfold and attempt the following tasks:

- Tie a shoe with laces.
- Write their name on paper.
- Wrap a box in paper (pre-cut paper so no scissors will be used).

Learning Centre 2

The teacher will provide masking tape, pencils, papers, paper clips, and sealed letters.

Working in pairs, one student uses masking tape to tape their partner's thumb to the palm of the partner's hand.

They will then try to do the following tasks with their thumbs taped down (or mittens may be used instead of taping thumbs):

- Tear a paper in half.
- Write your name.
- Open the letter.
- Fold a paper in half.
- Put a paper clip on a paper.

After the students have visited the learning centres, the teacher will ask the children to share how they were able to wrap the box without seeing it, tear the paper without the use of their thumbs, and complete some of the other tasks. "If you lost the use of one of your senses, how would your life change?" "Imagine that you cannot see; how would this change the way you live?"

Day 2

Brainstorming

The teacher will brainstorm with the class ways in which people cope with the loss or limitation of one of their senses.

List the five senses on the board vertically and write the subtitles **Protect** and **Mislead** horizontally across the board.

The teacher will ask the students to think of ways that the senses protect us.

Challenge the students to think about ways that the senses might mislead people. Students might respond with, "when you have a cold and cannot smell properly".

Record the students' responses under the correct column.

The teacher will ask the Grade 1 students to draw a picture of a person who has lost one of their senses and how they deal with the loss. Give examples, such as using a hearing aid or a white cane. If the students



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

suggest the loss of an eye or limb, give examples of eye patches or artificial limbs. Be sensitive to the needs of students and direct the conversation away from the sensational. Ask the students to write a sentence explaining their picture.

View the film **On Animal Adaptations** with the class.

The teacher will ask the students to share what they have learned from the film.

Grade 2 students will draw a picture of an animal, showing how they have used their senses to help them adapt to their environment. Students may draw a bat using radar to avoid objects in flight, wolves howling, or camouflaged animals. Grade 1 students will be completing their picture of a person who has lost one of their senses.

Adaptations

Resources



Brown Bear, Brown Bear, What do you see? Bill Martin



Polar Bear, Polar Bear, What do you hear? Bill Martin



Animal Adaptations: why do zebras have stripes?



Why do cats have whiskers?

Notes to Teacher

The teacher will need to keep safety precautions in mind and handle equipment and materials with care. If possible, the teacher might ask for adult volunteers for Day 1 activities.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Description

Key Concepts

Grade 1

Using the senses, plants and animals can be classified.

Grade 2

Animals can be classified into a variety of groups using observable characteristics.

Using real plants, experiments, and hands-on activities, students will come to understand that there is a difference between animals and plants (Grade 1) and that animals can be classified into sub-groups based on observable characteristics (Grade 2).

Expectations

- 2s6 – classify a variety of animals using observable characteristics (e.g., size, body covering, teeth);
- 2s16 – record relevant observations, findings, and measurements, using written language, drawings, and concrete materials (e.g., make accurately labelled drawings showing the life cycle of an animal);
- 1s15 – record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (e.g., make a drawing of an insect, observing with the unaided eye, and a drawing of the same insect while using a magnifying glass);
- 1s2 • investigate the characteristics and needs of animals and plants;
- 2s4 – identify and describe the major physical characteristics of different types of animals (e.g., mammals, reptiles, insects);

Groupings

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

Teaching / Learning Strategies

- Experimenting
- Classifying
- Demonstration

Assessment

Use a **Group Skills Checklist** to observe how the students are working in groups. Use learning logs to check for completeness of students' observations on the growth of their plants. Use a Checklist to see if the student is able to classify animals using an observable characteristic.

Assessment Strategies

- Observation
- Learning Log

Assessment Recording Devices

- Checklist

Teaching / Learning

Day 1



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

~ 120 mins

The teacher organises the **Grade 1 and 2** students into small groups and gives each group a container with a variety of seeds. Let the students examine the seeds and share their observations. Using the following questions, guide their investigation. "How are the seeds the same? How are they different? What kind of plants do you think will grow from these seeds? What seeds will give you the biggest plant? What seeds will give you the smallest plant?"

Bring the class together and discuss why the seeds are not growing. How can we start them growing. (Activate any prior experience with planting seeds.)

Depending on availability of equipment, the students may work in small groups or individually. Students will need one kidney bean seed soaked overnight, and one dry kidney bean seed and a magnifying glass.

Students will compare how the seeds are the same and how they are different. Ask the children to speculate why the soaked bean seed is different from the dry. **Demonstrate** how to remove the outer coating of the soaked bean seed and break it into two halves using only your fingers. Have the children do the same and use the magnifying glass to examine the insides of the seed. Discuss how the plant gets its food from the seed before it grows roots.

Demonstrate how to plant the bean seeds.

1. Crumble up one or two paper towels and place them in a clear container (glass jar or plastic cup).
2. Place about three of the soaked beans between the paper towels and the sides of the container.
3. Add water to the container to wet the paper towels, making sure the water does not cover the seeds. Cover the container with the jar lid or plastic wrap.

Have the students plant their beans as you demonstrated. Talk about why you use more than one seed. Some seeds may not grow at all, others will not grow as quickly.

Students will need to check paper towels daily to ensure they remain moist.

Students will record the growth of their seeds in their learning logs over a period of days. The **Grade 1** students will record growth using pictures and non-standard units (e.g., paper clips, erasers) for measurement of growth. The **Grade 2** students will record growth using both pictures and words and accurate measurements with centicubes or rulers.

Day 2

Note: Having a classroom pet or having the children bring in their pets would be an excellent idea as it would allow the students to observe animals first hand. (See Unit Notes.)

Grade 1 and 2 students will choose a picture from a bag and keep it hidden. The teacher has placed four large signs around the room listing the observable characteristics. (**NO LEGS, TWO LEGS, FOUR LEGS, MORE THAN FOUR LEGS**).

Students will look at their picture and decide which sign to stand under and move to that group. When all children have moved to their group, they share their pictures and check to see if they all agree they are in the right group. Each group pastes their pictures around the sign and shares their observations ("All of these animals have no legs.") with the other groups.

After the discussion, provide each student with the whole sheet of the same pictures which they can colour, cut and glue into the correct categories.

Day 3

Read a Book about mammals to begin a discussion of what a mammal is.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

You may want to have the students sort the same sheet of animals from Day 2 using different categories, such as mammal and not a mammal.

The teacher will introduce the Culminating Activity after this subtask.

The teacher will need to make sure the students understand the concept of a zoo. What it is? What lives in the zoo? How are zoo animals kept? Who works in the zoo?

The teacher will do an activity to establish prior knowledge. Before reading a book about a zoo or zoo animals, ask the children to tell you what they already know about a zoo. List their ideas on a Before and After Reading chart. To make the chart, take a piece of chart paper and divide it in half. On the top of one side, write the words "Before Reading" and on the other half "After Reading". List their ideas on the before side of the chart. Now, read a selection about zoos. Record any new information the students have learned from the reading about the zoo on the After side of the chart.

The teacher will explain that at the end of the unit the class will be working independently on a model of an animal's environment. This task will demonstrate his/her learning throughout the unit. The learning log will be a source of information to be used to complete the culminating task. The teacher will briefly review the learning to this point (i.e., the Key Concepts) and explain that the class will learn more information in the following weeks that will help them complete the culminating activity.

Adaptations

Resources

	Anno's Magic Seeds	Mitsumasa Anno
	Broad Bean	Christine Back & Barrie Watts
	Zoo	Gail Gibbons
	A Children's Zoo	Tana Hoban
	Zoo Babies	Donna K. Grosvenor
	How do plants grow?	
	Let's Explore Plants	
	San Diego Zoo	
	variety of seeds	20

**Life Systems**

Zoo Central An Integrated Unit for Grade 1/2

~ 120 mins

 bean seeds	4
 clear containers	1
 paper towels	2
 Magnifying Glasses	1

Notes to Teacher

The teacher needs to soak dried kidney beans overnight before beginning this subtask. Four per student. The teacher needs to collect a variety of seeds to give to each small group of students. Students will need time over the next several days to record the growth of their plants. They will return to this activity in subtask 9.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Description

Key Concepts

Grade 1

Animals move in different ways to meet their needs

Grade 2

Animals respond and adapt to their environment to meet their needs

Students will understand, through a brainstorming activity, the various movements different body parts can make. They will first discuss body parts that humans use for movement and then move on to animals. The Grade 1 and 2 students will participate together for the first part of the activity. The Grade 2 students will then extend their learning about animal body parts and how they help the animal respond and adapt to their environment.

Expectations

- 1s7 – describe the different ways in which animals move (e.g., moles burrow with their large, strong front limbs; fish undulate their bodies) to meet their needs;
- 2s7 – compare ways in which animals eat their food (e.g., tear flesh, crack shells), move, and use their environment to meet their needs (e.g., gather grass and twigs to build nests);
- 2s11 – describe ways in which animals respond and adapt to their environment (e.g., weasels change colour for camouflage in summer and winter; mammals living in colder climates have longer fur);
- 1s12 – ask questions about and identify some needs of living things, and explore possible answers to these questions and ways of meeting these needs (e.g., predict how an animal will move on the basis of two or more characteristics that they have observed);

Groupings

- Students Working As A Whole Class
- Students Working Individually

Teaching / Learning Strategies

- Direct Teaching
- Learning Log/ Journal
- Brainstorming

Assessment

The teacher will observe student drawings for the following information:
Can the child identify the appropriate movement for their chosen animal? (Grades 1 and 2) and is the child able to explain how an animal's body part helps it move (Grade 2).

Assessment Strategies

- Performance Task

Assessment Recording Devices

- Anecdotal Record

Teaching / Learning

Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Moving

Subtask 6

~ 80 mins



Day 1

To show animal movement, the teacher needs to decide whether having a live animal (earthworms, mealworms, caterpillars, fish, etc.) is feasible for his/her classroom environment. Alternatives to a live animal are showing a movie or using a CD-ROM or picture books to show animal movement, life cycle, or changes in appearance, such as camouflage. You may also want to use the schoolyard or nearby parkland to observe animals in their natural habitats. See Resources.

Students in Grade 2 will participate in the first part of this activity in order to review and synthesize information.

Students will understand, through a brainstorming activity, the various movements different body parts can make. The teacher will record a body part in a word web on chart paper and the students will brainstorm the actions that body part is capable of, such as leg - dance, run, skip, jog, hop, kick, walk.

The students will then pick a body part and record in picture form a movement that part can do and describe with a sentence how that body part helps us move and do our daily activities. An extension would be to talk about how someone with a disability would compensate for the loss of that body function.

The teacher will discuss the meaning of adaptation, using examples of how humans who have lost the use of a sense or body part have made adaptations to help them in their daily routines. The teacher will then discuss animal movements and how they are similar and different from human movements.

The Grade 1 students will make a picture in their learning logs of an animal and describe how it moves.

The Grade 2 students will extend their learning about animal body parts and how they help the animal respond and adapt to their environment.

They will look at pictures of animals (see Resources for website address) like the kangaroo, grasshopper, birds, and fish. They should use a variety of pictures to help them get an overall view of the similarities and differences between species. They will pick an animal and answer two questions in their learning logs (the picture can accompany the questions):

1. What kind of movement is this animal good at?
2. What part of its body does it use to move?

The Grade 2 students will look at the pictures in small groups to discuss other features, such as body covering (e.g., fur, feathers, scales), teeth, claws, and wings, that help the animal survive in its environment. The teacher will give a small set of pictures to each group and assign the group a characteristic to observe and tell about to the other groups. The groups will report orally to other groups.

Day 2

Begin the class by reading a poem or singing a song about animals and movement. (e.g., "Five Little Speckled Frogs", or "Jump or Jiggle" by Evelyn Beyer) with the class to introduce the next activity.

The teacher will write the following words on the board:

SWIMMERS, HOPPERS, RUNNERS, CRAWLERS, FLYERS.

Ask the children to choose one of the movements and draw an animal they think is good at that movement. The students need to place their picture under the appropriate heading on the board. The children will identify the animal they drew (Grade 1) and the (Grade 2) will explain how its body helps it to move.

Adaptations



Resources



Hidden Animals

David Drew



Animal Movie



Animals hide and seek: camouflage for beginners



Animals in autumn and winter



Animals move...from here to there



How animals move



Assessment of Science and Technology

Notes to Teacher

The teacher selects pictures of animals from his/her own collection or uses the website provided to ensure a variety of types of animals. The teacher may want to ask the children to bring in their own pictures or books of animals.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Description

Key Concepts

Grade 1

The Canada Food guide is made of four food groups.

Making food choices from the four food groups helps you grow and stay healthy.

Some food comes from natural sources.

Grade 2

Humans produce food by raising livestock.

Using copies of *Canada's Food Guide*, students will graph the contents of teacher-provided lunch bags to plan a healthy meal or snack (Grade 1). Through games, reading, viewing, or taking a class trip to a grocery store, farm, or dairy, students will learn where their food comes from (Grade 2).

Expectations

- 1s22 – describe a balanced diet using the four basic food groups outlined in Canada's Food Guide to Healthy Eating, and demonstrate awareness of the natural sources of items in the food groups (e.g., bread is made from plant products; meat and milk come from animals);
- 2s24 – describe how humans produce food by raising livestock (e.g., pigs, chickens, cattle).

Groupings

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

Teaching / Learning Strategies

- Homework
- Prompts
- Mini-lesson

Assessment

The teacher will conference with the students upon completion of their healthy pizzas. Be sensitive to cultural and dietary restrictions. (e.g., vegetarian). You may want to ask for adult volunteers during conference times or use time when students are engaged in individual tasks. This is a formal conference where the students meet with the teacher in a designated location.

The teacher will ask the students to name the toppings on their pizza, explain what food group the toppings are part of, and tell where each food comes from.

The teacher will record this information, using anecdotal notes or checklist, stating "child knows the four food groups or child experiences difficulty naming the four food groups." Use this information to assess the



child's acquisition of knowledge about the food groups and possible need for remediation or reteaching.

Assessment Strategies

Quizzes, Tests, Examinations
Learning Log
Conference

Assessment Recording Devices

Rubric
Anecdotal Record

Teaching / Learning**Day 1****Prompts**

Invite the class to sit in a circle with lunch kits provided by the teacher. The teacher may choose to use real or plastic food.

The teacher asks the class the following questions; "Why do we eat food?" "Why is healthy food important?" The teacher explains to the class that one of the needs of humans is to have a healthy body.

Ask the class "What types of food can a lunch contain that help our bodies grow?"

Encourage the children to only name healthy foods.

If junk food is given as a response, discuss with the students why it is not on the chart and not healthy to have too much candy, fat, etc. in our diet.

List some of the responses given by the students, using symbols, pictures, and words on four blank chart papers previously mounted on the board. If the student gives an example of a food that is a combination of many food groups, such as pizza or a sandwich, then talk about what goes into each of these foods and list the ingredients under the appropriate food group. Record these answers, keeping the food separated by the four food groups without putting subtitles above these charts. The four blank charts will be appropriately labelled with the correct name of the food group as generated by the children at the end of the activity. Read the responses listed on one of the charts and ask the children if they notice any similarities between the items listed. Give them prompts, such as "How are oranges and apples alike?" "Why do you think I have listed bread and buns under the same list?"

Write the names of the appropriate food group (Bread and Cereals, Fruits and Vegetables, Dairy Products, Meats and Alternatives) on the top of the chart. Repeat this process for the remaining three charts.

Ask the children to read together the names of the four food groups.

Display a poster of *Canada's Food Guide* and distribute a copy to each student.

Ask the children why they think there are different servings for different people.

Briefly discuss that food comes from various sources.

Engage the children in an oral discussion about types of foods that come from plants and that come from animals.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

~ 120 mins

Before the lesson, the teacher will need to draw on the bristol board and divide it into four equal sections, to represent the four food groups. The students work in groups of four and cut healthy foods from various magazines to put together a display on the bristol board, classifying and labelling the food into the four food groups. Each group member looks for one food group and puts his/her picture in the appropriate area of the grid. Groups include a title and the names of group members on their displays.

Homework

Where does our food come from? Using the blackline master (Homework) provided, the students ask for help at home to name examples of foods that come from plants and animals.

Day 2

Review the homework and share examples of foods. Celebrate the differences in cultural foods. Discuss that different cultures will name foods that not everyone may be familiar with. Foods that are now commonplace, such as Mexican or East Indian dishes, were once unavailable. Different cultures have enriched our diet.

Mini-Lesson

If the teacher is able to arrange a class trip to a grocery store, farm, or dairy, the students will have a real-life learning experience, which enables them to learn where their food comes from (Grade 1) and how humans produce food by raising livestock (Grade 2). An alternative to a field trip would be to invite a guest speaker from a 4H Club, or local farmer, to share information with the students.

Day 3

The students will work on their own to make a healthy pizza with toppings from the four food guide groups. Have students draw a large circle on a piece of paper. Draw pictures of the toppings on their pizza. For each topping state in what food group the topping is placed and tell where each type of food comes from. They will draw pictures of the toppings and write where each type of food comes from.

Adaptations

Resources

**Homework - Grade 1**

7_homework.cwk

**Health Canada****Dairy Board of Canada**



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

~ 120 mins



Local farmer



Local grocery store

Notes to Teacher

The teacher is encouraged to obtain copies of *Canada's Food Guide* from the appropriate government agency.

The teacher may want to have the students prepare real pizza for a snack.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Description

Key Concepts

Grade 1

Living things have basic needs: food, air, water, light.

Grade 2

Animals have four common needs: air, water, food, shelter.

Through planned investigations, using real plants and hands-on activities, the students will begin to investigate basic needs and how the basic needs of humans compare with other living things (Grade 1) and how to care for and meet the needs of an animal (Grade 2).

Expectations

- 1s2 A • investigate the characteristics and needs of animals and plants;
- 1s3 A • demonstrate awareness that animals and plants depend on their environment to meet their basic needs, and describe the requirements for good health for humans.
- 1s17 – compare the basic needs of humans with the needs of other living things (e.g., the need for food, air, water, light);
- 2s12 – compare ways in which different animals care for their young (e.g., bears, alligators, sea turtles).
- 2s13 A – ask questions about and identify some needs of different animals with which they are familiar, and explore possible answers to these questions and ways of meeting these needs (e.g., examine different kinds of teeth and explain how their shape enables an animal to bite, tear, or grind its food);
- 2s18 – describe features of the environment that support the growth of familiar animals (e.g., water and insects in a frog's environment);
- 2s21 – demonstrate an understanding of the requirements of small animals for survival (e.g., by maintaining an aquarium or a terrarium);
- 1s11 A – select and use appropriate tools to increase their capacity to observe (e.g., magnifying glass, stethoscope);
- 1s8 – identify and describe common characteristics of humans and other animals that they have observed, and identify variations in these characteristics (e.g., eye and hair colour);
- 1s6 – classify characteristics of animals and plants by using the senses (e.g., texture, colour, size, sounds);
- 1s15 A – record relevant observations, findings, and

Groupings

Students Working In Small Groups
Students Working In Pairs

Teaching / Learning Strategies

Fair Test
Think / Pair / Share
Research

Assessment

Using a rubric, the teacher will evaluate the Grade 1 students' recording of the changes in their plants and the Grade 2 students' short research paper.

Assessment Strategies

Performance Task

Assessment Recording Devices

Rubric



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

- measurements, using written language, drawings, charts, and concrete materials (e.g., make a drawing of an insect, observing with the unaided eye, and a drawing of the same insect while using a magnifying glass);
- 1s16 – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (e.g., demonstrate how a bird builds a nest).
- 2s17 A – communicate the procedures and results of investigations for specific purposes, using drawings, demonstrations, and oral and written descriptions (e.g., explain how a caterpillar feeds, using a model constructed of modelling clay and a tree branch).

Teaching / Learning

Think/Pair/Share

In pairs, have the whole class discuss what they think plants and animals need to survive. The students will share their ideas and the teacher records student responses on chart paper. The teacher needs to save the chart for use at the end of this subtask. Both plants and animals need water, food, light, and air to survive; these items should be listed. Ask the students how they know that plants and animals need these things to survive. Help the students make connections between all living things.

Fair Test

The **Grade 1** students will use their bean plants from subtask 5. (The plants will have had to grow sufficiently or you will have to use other plants.)

The students will work in small groups and choose one test to perform on their growing plants. The choices are growing plants without light, water, air, or soil.

Each group needs two plants. (The teacher may want to grow extra plants for use in the following experiments.)

Light Test:

Place one plant on a sunny windowsill and another in a dark cupboard or cardboard box.

Water Test:

Water one plant as needed and leave the other plant dry. (Make sure they label the dry one and the one to be watered to avoid confusion.)

Air Test:

Seal one plant in a plastic bag, or use petroleum jelly to coat the leaves, and leave the other one in the air. Use a straw and a funnel to water the plant without removing the bag.

Soil Test:

Plant one plant in soil and the other in cotton batting or shredded paper towel.

**Life Systems****Zoo Central An Integrated Unit for Grade 1/2**~ 40 mins

Students will record changes in plants in their learning log over the next one or two weeks.

Grade 2

After a discussion about the characteristics of a mammal, the teacher will ask the Grade 2 students to bring in a picture of a mammal. It might be a picture of their own pet, a picture from a magazine, or a hand drawing. At this time, the teacher will model with the whole class, using the blackline master *Mammals Are Our Friends*, how to complete the task, using input from the students. Encourage the students to ask questions related to each category on the blackline master. You may need to repeat this activity more than once depending on the students' understanding of the task.

Using the picture of a self-chosen mammal, the students will research the food the animal eats, where it sleeps, and its needs. They may use books, ask questions of other adults (e.g., parents), or the teacher may want to bookmark some simple websites for the students to find answers to their questions. Students will record their answers on *Blackline Master - Mammals Are Our Friends*. Students will begin their initial research in class, however, the research can be completed at home. The blackline master must be completed during class time.

Day 2

The class will share the results of their investigations orally with the whole class and then by posting it to a bulletin board.

The teacher records, on the same chart paper from the beginning of the subtask, what students now know about both plant and animal needs. All students will need to record the needs of plants and animals in their learning logs to use for the culminating activity.

Adaptations**Resources****Fair Test of Our Plants****Mammals****Mammals Are Our Friends**

8_mammals.cwk

**Zoom Animals**

**Life Systems****Zoo Central** An Integrated Unit for Grade 1/2~ 40 mins

Notes to Teacher

The teacher will need to provide opportunities for the students to observe and record changes to their plants. If this is the first time the students are exposed to research, the teacher will need to ensure they have the prior knowledge of conducting research.

The teacher may want to ask the Grade 2 students to bring in a picture of a mammal. It might be their own pet or a picture from a magazine.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Description

Key Concepts

Grade 1

Patterns occur in nature.

Humans change as they grow.

Changes in humans can be compared with changes in other living things.

Grade 2

Patterns occur in nature.

Animals change as they grow.

Through observation and pictures, students will understand that humans change as they grow, changes in humans may differ from other living things (Grade 1), and animals change as they grow (Grade 2).

Expectations

- 2m63 – identify repeating, growing, and shrinking patterns found in real-life contexts (e.g., a geometric pattern on wallpaper, a rhythm pattern in music, a number pattern when counting dimes);
- 1s9 – describe some basic changes in humans as they grow (e.g., growth of feet, hands, arms; loss of baby teeth), and compare changes in humans with changes in other living things;
- 1s10 – describe patterns that they have observed in living things (e.g., sunflower, pine cone, turtle's shell).
- 1s20 – identify a familiar animal or plant from seeing only a part of it (e.g., a feather of a bird, a leaf of a tree);
- 2s2 • investigate physical and behavioural characteristics and the process of growth of different types of animals;
- 2s10 – identify constant traits (e.g., number of legs) and changing traits (e.g., weight) in animals as they grow, and compare the appearance of young and mature animals of the same species;
- 1m60 – identify, describe, and extend, through investigation, geometric repeating patterns involving one attribute (e.g., colour, size, shape, thickness, orientation);

Groupings

- Students Working In Small Groups
- Students Working Individually
- Students Working In Pairs

Teaching / Learning Strategies

- Collaborative/cooperative Learning
- Mini-lesson

Assessment

The student will bring his/her learning log to a designated conferencing area. The teacher may use a checklist and/or anecdotal notes to assess the student's progress.

Grade 1

The teacher will use the following as a guide.

"Tell me how you have changed since you were a baby."

(The child may refer to their learning log to remind them of some changes. Possible responses may include size of arms, legs, body, number of teeth, what they can do now.)

Grade 2

The teacher will use the following



questions as a guide.

"Tell me what is the same about a kitten and a cat or any other animal." They may respond with the constant traits (eye colour, sex, shape of eyes, face) and the changing traits (size, number of teeth, hair colour).

The teacher needs to keep in mind that this is only an idea of what the students can do and further conferencing may be needed to gain a full picture of the students' understanding.

Assessment Strategies

Learning Log
Conference

Assessment Recording Devices

Checklist

Teaching / Learning**Day 1**

The students will observe and identify patterns in nature.

Cooperative Learning

In a small group, have the students **from both Grades 1 and 2** make a pattern to share with the class. Using natural objects, such as rocks, shells, feathers, pine cones or dried flowers, the students will describe an observed pattern or make a pattern using the objects. The children will do a Gallery Walk to see the patterns the other groups have made. (A Gallery Walk is a walk around the classroom to observe other students' work. The children are instructed not to touch other students' work but to talk about what they are seeing.) Then they discuss as a whole group the patterns they observed during the Gallery Walk. They may respond with repeated shape, texture, similar size, or similar colours.

Next, use pictures of animals with obvious markings on their fur and display only a portion of the animal's covering. For example, show only the stripes of a skunk, tiger, or zebra. Ask the children to name the animal. Encourage the children to explain how they know it is that animal. Draw connections to the pattern on the fur if the students do not use it in their explanations.

Finally, give each group a picture of a part of a living thing (possibly from the natural objects that they have previously seen), such as a feather from a bird, a leaf from a tree, or the feet of an elephant, and have the group identify it and then share with the class. (*Chickadee Magazine* is a possible resource for this activity.)

Day 2**Mini-Lesson**

**Life Systems****Zoo Central An Integrated Unit for Grade 1/2**~ 80 mins

The teacher provides a picture(s) of an infant for the class to observe. The class will brainstorm the things that have changed about them since they were infants. The teacher will record their observations on chart paper. The teacher will direct the students so they include changes in hair, eye colour, growth, teeth, weight, and physical abilities.

Following this discussion, the teacher will ask, "What has stayed the same about you since you were born?" Students may respond with, "My hair is still curly (or straight). My eye colour is the same. My birth mark is still the same. I have the same number of fingers and toes."

The Grade 1 students will record in their logs one change and one thing that has stayed the same since they were born. They may illustrate it if they wish.

The class will view a video or look at books showing animal mothers and babies (see Resources list in subtask 5 for books and videos). The teacher will assign an animal to each Grade 2 student and ask the child to draw a picture of the adult animal and the baby animal. The pages will be collected to create a class booklet.

Adaptations**Resources**

-  **The Reasons for Seasons** Gail Gibbons
-  **WHY Do Seasons Change?** Scholastic
-  **Growing, growing**
-  **That's My Baby**
-  **Mammal Mothers and Babies**
-  **Mammals and Their Young**
-  **various materials for patterning**

**Life Systems****Zoo Central** An Integrated Unit for Grade 1/2~ 80 mins

Notes to Teacher

The teacher may want to introduce patterning in math at the same time students are discussing patterns in nature. The teacher will need to gather a collection of natural objects before teaching this lesson. The teacher needs to be aware that all children may not have baby pictures and pictures will need to be provided.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Description

Key Concepts

Grade 1

Plants change as they grow.

Grade 2

Animals' appearance and behaviours change with the seasons.

Animals' appearance and behaviours change during a life cycle.

Animals have similar and different life cycles.

After planned investigations, students will record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (Grade 1) and observe changes to animals through the seasons and their life cycles (Grade 2).

Expectations

- 1s15 – record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (e.g., make a drawing of an insect, observing with the unaided eye, and a drawing of the same insect while using a magnifying glass);
- 1s16 A – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (e.g., demonstrate how a bird builds a nest).
- 2s8 – describe changes in the appearance and activity of an animal as it goes through a complete life cycle (e.g., mealworm);
- 2s9 A – compare the life cycles of some animals that have similar life cycles (e.g., bee and butterfly) and some that have different life cycles (e.g., gerbil and butterfly);
- 2s19 – identify and compare the effects of the seasons on animals (e.g., some animals grow a thicker coat in cold weather);
- 1p8 – describe simple life cycles of plants and animals, including humans;
- 1s23 – identify ways in which individuals can maintain a healthy environment for themselves and for other living things (e.g., practise cleanliness to reduce the spreading of germs; ensure that materials such as toy balloons are not left outdoors since they are harmful to birds if they are ingested).
- 2s3 • identify ways in which humans can affect other animals.

Groupings

Students Working In Small Groups
Students Working Individually

Teaching / Learning Strategies

Learning Centres

Assessment

The teacher will collect the Label a Bird worksheets and see if the students are putting the labels in the correct place.

The teacher will collect the Life Cycle of a Butterfly worksheets to see if the students are correctly sequencing the stages.

The learning logs should also be checked periodically for completeness and understanding of the activities.

Assessment Strategies

Performance Task

Assessment Recording Devices

Anecdotal Record



Teaching / Learning

Day 1

The teacher will set up the learning centres (**Nest Making & Bird Feeders**) prior to the lesson.

Learning Centres

The teacher will display a picture of a bird and discuss the parts of a bird and its needs. Ensure that the students understand that the bird needs a nest for its shelter and food. The teacher will ask what happens to birds through the seasons. Prompt the children to discuss how birds survive in the winter. Some birds fly away; some birds stay, but food is difficult to find. Then ask how humans can help the birds get food in the winter. Explain to the class that they will be going to centres to make a bird feeder and a nest. The class will discuss various types of bird nests and bird feeders and how they are constructed. Pictures or real-life examples of nests would be helpful.

The teacher will introduce the expectations for the two centres for both grades. The students will work in small groups, which include both Grade 1 and 2 students.

Nest Centre

Using various art materials, such as modelling clay, straw, hay or string, and paper, the students will create a small bird's nest.

Bird Feeder Centre

Using materials provided, the students will make a bird feeder. The feeder can be put in the schoolyard to attract birds.

Provide each student with a diagram of a bird. When not involved in the centres, students should label the diagram (crown, bill, breast, foot, wing, back, tail, eye, leg).

Day 2

Viewing

The Grade 1 and Grade 2 students will observe the changes that occur in animals through their life cycles, using videos, books, or live animals (e.g., mealworms or painted lady caterpillars).

Read a book, or show a video to start a discussion on the various life cycles of animals. The teacher will need to discuss complete and incomplete life cycles. A selection of books describing various life cycles of animals would be helpful.

The teacher will have pictures of different animals' life cycles for the whole class to sequence. The teacher can obtain pictures of animals life cycles (including insects) from a website. Ensure that a diagram of the butterfly life cycle is included.

After viewing and completing the butterfly life cycle, the whole class can compare two other animals' life cycles and discuss

- where they live;
- what they eat;
- whether they go through distinct stages;
- how they resemble or are different from the parent animal;
- how they change as they grow;
- the extent to which the parent animals are involved in the care of their young.

In their learning logs, the Grade 2 students will choose two animal life cycles and compare the differences and



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

similarities.

The Grade 1 students make observations about their plants and record their findings.

Adaptations

Resources

	Monarch Butterfly	Gail Gibbons
	From Tadpole to Frog	Wendy Pfeffer
	Growing Frogs	Vivian French
	Life Cycle of a Rabbit	John Williams
	Little Wonders: Animal Babies and Their Families	Marilyn Baillie
	Dragonfly	
	Don't: the metamorphosis of the monarch butterfly	
	modelling clay	
	straw	
	string	
	paper	
	clay	
	egg cartons	1
	bird seed	
	hole punch	1
	pine cones	



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

~ 80 mins



lard



Mammals of Ontario

Notes to Teacher

The teacher may want to complete or return to this activity when working on the Structures Unit.

The questions about comparing life cycles have been adapted from *Science Everywhere 2* (Teacher's Guide).

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Description

Key Concepts

Grade 1

Maintaining a healthy environment for humans and other living things is important.

Grade 2

Animals are dependent upon their environment.

Humans can help or harm living things.

The students will learn the importance of maintaining a healthy environment (Grade 1) and how humans can help or harm other living things (Grade 2).

Expectations

- 1s23 A – identify ways in which individuals can maintain a healthy environment for themselves and for other living things (e.g., practise cleanliness to reduce the spreading of germs; ensure that materials such as toy balloons are not left outdoors since they are harmful to birds if they are ingested).
- 2s3 • identify ways in which humans can affect other animals.
- 2s20 A – describe ways in which humans can help or harm other living things (e.g., protecting endangered species);
- 1s1 • demonstrate an understanding of the basic needs of animals and plants (e.g., the need for food, air, and water);

Groupings

- Students Working As A Whole Class
- Students Working In Pairs

Teaching / Learning Strategies

- Brainstorming
- Discussion

Assessment

The teacher will assess the final activity of the poster with a rubric and formal conference with the students about their poster's message. Students will be expected to discuss ways in which people can help maintain a healthy environment for themselves and other living things (Grade 1) and describe ways that can help or harm other living things (Grade 2).

Assessment Strategies

- Performance Task

Assessment Recording Devices

Teaching / Learning

Day 1

Take a walk outside in the schoolyard, neighbourhood or local park (depending on what is accessible to your school).

The students will observe and record the living and non-living things (blackline master Living/Non-Living from



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

subtask 1) they see on a sheet to be put into their learning logs. (The teacher will instruct the students to record what they see, including examples of garbage.)

Discussion

As a whole class, the students will share observations. The teacher will direct the students to think in pairs and share their observations in terms of plants, animals, and helpful or harmful objects, giving students examples to follow. Example: **Helpful:** garbage can, rock as habitat for insects; **Harmful:** litter, broken glass. After a brief discussion in pairs, the students share their observations with the class. The teacher will record these observations under the **Helpful or Harmful** categories on chart paper.

Brainstorming

The teacher will brainstorm ideas with the whole class about ways they can make the environment friendlier for plants and animals. (Review basic needs of plants and animals if necessary.) Record this information on chart paper to be saved for the next day.

The teacher may want to introduce the idea of Reduce, Reuse, and Recycle and promote it in the classroom.

Day 2

Review ideas from the chart paper and add any new ideas the students may have for helping the environment.

The students will complete a poster to promote awareness of how humans can help the environment. The poster may include messages, such as Stop Littering, Plant a Tree, or Save Trees - Use Both Sides of a Piece of Paper.

The teacher will collect the completed posters and display them in classroom or school.

An art period may be used to complete the poster or for sharing the posters with the class.

Adaptations

Resources



Time To Eat: Animals Who Hide and Save Their Food

Marilyn Baillie



Wild Talk: How Animals Talk to Each Other

Marilyn Baillie



Animals in Winter

Henrietta Bancroft & Richard G. Van Gelder



Secrets of Animal Survival



Where Animals Live



Where did they go?

Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Survivor!

Subtask 11

~ 80 mins



Notes to Teacher

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Description

Key Concepts

Grade 1

Animals move in different ways to meet their needs.

Grade 2

Animals are dependent upon their environment.

Animals eat food, move, and use their environment to meet their needs.

Animals adapt and respond to their environment.

Students will review the basic needs of animals, how movement helps animals meet their needs (Grade 1), and how adaptations have helped animals survive (Grade 2).

Expectations

- 1s7 – describe the different ways in which animals move (e.g., moles burrow with their large, strong front limbs; fish undulate their bodies) to meet their needs;
- 2s7 – compare ways in which animals eat their food (e.g., tear flesh, crack shells), move, and use their environment to meet their needs (e.g., gather grass and twigs to build nests);
- 2s5 – identify and describe behavioural characteristics that enable animals to survive (e.g., migration, dormancy, hibernation);
- 2s11 – describe ways in which animals respond and adapt to their environment (e.g., weasels change colour for camouflage in summer and winter; mammals living in colder climates have longer fur);

Groupings

- Students Working In Pairs
- Students Working As A Whole Class

Teaching / Learning Strategies

- Role Playing
- Learning Centres
- Field Trip

Assessment

This subtask does not have any formal assessment.

Assessment Strategies

Assessment Recording Devices

Teaching / Learning

Day 1

Role Playing

Begin the class by playing a game of animal charades. Emphasize the importance of representing the true characteristics and habits of animals, such as the way a grasshopper hops, whale swims, and worm wiggles. (Prior learning for this activity was done in subtask 6.)

After playing the game, the teacher will lead a discussion on how animal movement helps the animal to meet its needs. The children may respond with: "The animal moves to catch or find its food and to protect itself by running away from enemies."

The teacher will then tell the students that movement is one way animals survive and meet their needs. What are some other ways? After giving some time for a Think/Pair/Share, ask the following questions to guide the



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

discussion:

Why do animals and insects need to hide?

How could their colour help them go undetected?

What colours might make an animal well camouflaged on the grass? on a tree?

Do you think it would be easy to see a white rabbit in the snow? A brown one in a field?

Read *Hidden Animals* by David Drew

The Grade 1 students will use their learning logs to draw a picture of an animal and how it moves. Encourage the students to write a sentence or two describing how its movements help it to find food. The teacher could model an example "The cat pounces on a mouse." The teacher and students could brainstorm a list of movement words together.

The Grade 2 students will use their learning logs to draw a picture of an animal hiding in its environment. They might draw an insect on a leaf or a rabbit in a field.

Day 2

The teacher will take the students outdoors to demonstrate how animals adapt to their environment and use their environment to meet their needs.

Field Trip

The teacher will go on a short trip outdoors with the class. Prior to going outdoors, the teacher should review the safety rules for field trips and outdoor activities. (Refer to the Subtask Notes to prepare for the activity.)

The students will search for and collect, in bags provided, the coloured materials. The teacher will define the area and give about 10 minutes to find the pasta. After returning indoors, they will count and sort how many of each colour they found. They should easily find the red and blue but may need to search more closely to find the brown and green. The teacher will discuss the following questions:

"Which colours are difficult to see? Which are easy to see? Why is there a difference? What colours are easy to see on green grass? The pavement? The dirt?"

If these colours represent animal colours which ones would be easy to find? hard to find?

If the animal was moving, would they be easier or more difficult to see?"

Remind the students, if needed, that animals use camouflage to hide from their enemies. This is a survival technique.

The students can make a graph together with the pasta. This activity will demonstrate that the bright colours are easier to see; therefore, a bright coloured animal might be easily caught by its enemy.

Day 3

Discussion

The Grade 1 students and Grade 2 students will review the importance of food and water for an animal's survival and how its mouth, teeth, and claws, feet, or hands help it meet these needs.

The teacher will provide pictures of different birds' beaks and feet. Pictures can be obtained from a picture collection or the website Zoom Animals listed in Resources. The class will discuss the differences among the types of beaks and feet (e.g., webbed, clawed, sharp, large). The teacher may need to teach some new vocabulary before the students are able to complete their work (i.e., definitions of probing, perching, preying, and ground feeding). The teacher will ask why there are differences in birds' beaks and feet and prompt the students for habitat and food source. "Why does a duck have webbed feet?" (e.g., a duck swims and eats plants; woodpeckers climb trees and dig for insects).

Students will invent a bird with a certain type of beak and feet that is suited to its habitat. Students will draw a picture of their bird in their learning logs and describe how the bird is suited to its habitat.

Adaptations



Resources

	Hidden Animals	David Drew
	Sun, Snow, Stars, Sky	Catherine and Laurence Anbolt
	In the Snow: Who's Been Here?	Lindsay Barrett George
	Around the Pond: Who's Been Here?	Lindsay Barrett George
	Have you seen my duckling?	Nancy Tafuri
	Zoom Animals	
	pasta	
	food colouring	

Notes to Teacher

The charades game is based on the OECTA document Science and Technology: Life Systems, Grade 1. Before taking the class outdoors, the teacher will have prepared pasta in the following colours: brown, red, blue, green. The teacher may want to spread the materials in an area before taking the students outside or can do it on the walk.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.



Description

Key Concepts

Grade 1

Plants and animals have basic needs for food, air, and water.

Animals and plants have identifiable characteristics.

Animals and plants depend on their environment to meet their needs.

Grade 2

There are similarities and differences among types of animals and the ways that animals adapt to their environment.

Growth patterns in different types of animals have similarities and differences.

Humans affect animals in both helpful and harmful ways.

The Culminating Activity

Using information gathered from the subtasks, students will take on the role of caring for animals in a zoo setting. The zoo setting should be appropriate to the situation and the interests of the students. It might be a petting zoo, a local habitat zoo, or a large urban zoo with animals from all over the world. The students will design and create an environment for a new zoo animal. This environment must provide for the basic needs of the plants and animals that will be living in it (Grade 1) and show the different stages of the life cycle, how the animal adapts to its environment, and how humans affect animals (Grade 2).

Expectations

- 2s23 – demonstrate awareness of ways of caring for animals properly (e.g., avoid handling them too much; research nutritional requirements);
- 2s17 A – communicate the procedures and results of investigations for specific purposes, using drawings, demonstrations, and oral and written descriptions (e.g., explain how a caterpillar feeds, using a model constructed of modelling clay and a tree branch).
- 2s15 A – use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use the words egg, caterpillar, larva, chrysalis, and adult in describing the metamorphosis of a butterfly);
- 2s14 A – plan investigations to answer some of these questions or find ways of meeting these needs, and describe the steps involved;
- 1s13 A – plan investigations to answer some of these questions or find ways of meeting these needs;
- 1s1 A • demonstrate an understanding of the basic needs of animals and plants (e.g., the need for food, air, and water);

Groupings

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

Teaching / Learning Strategies

- Brainstorming
- Model Making
- Oral Explanation

Assessment

The teacher will evaluate the diorama using the rubric.

The teacher will have a formal conference with each student to find out what they know.

The conferencing will be organised such that several students can be seen each day. The other children need to be engaged in other activities, such as art, writing, or computers, so that 5-7 minutes can be spent talking to the student with minimal interruption. It is a good idea to have key questions ready to ask the child. Record the child's responses and send



him/her back to the larger group activity.

Conference Questions for Culminating Task:

Grade 1

Using your senses, describe your animal and its environment.

Point to and name three of your animal's body parts.

Tell me how the environment meets the needs of the animal?

How can humans help or harm your animal?

Grade 2

Describe the life cycle of your illustrated animal.

How do the different parts of the environment help your animal meet its needs?

How has your animal adapted to its environment?

How can humans help or harm your animal and its environment?

Assessment Strategies

- Performance Task
- Classroom Presentation

Assessment Recording Devices

Rubric

Teaching / Learning

Day 1

Brainstorming

The teacher will describe the chosen zoo to the class. The students will then brainstorm a list of animals for the zoo, which the teacher records on chart paper for later reference. The teacher may want to add or delete animals from the list.



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

In small groups, the students will discuss what should be included in the animal's environment to support the healthy living and growth of that animal.

The teacher will meet with each Grade group to discuss specific expectations as listed below for the diorama that will be made of the environment.

The teacher will share the expectations from the rubric with the students.

Days 2 and 3

Model Making

Each student will choose an animal from the list brainstormed earlier. They will use the Planning Sheet (Blackline Master) to plan what they need to include in the environment they will create.

Each student will make a diorama of the environment for the animal they have chosen (see materials list).

The Grade 1 students will need to include the basic needs of food, water, and shelter for their animals. The animals should be in their natural habitat (e.g., a duck in water, a deer in the forest).

The Grade 2 students will need to include the animal's life cycle (both the early life form and the adult life form and any in between stages) and label each stage. The students can choose to make the animals from modelling clay or other art materials or draw the stages of the life cycle on paper and cut them out (e.g., butterfly: the eggs and caterpillar on a plant, the chrysalis hanging from a twig, the adult butterfly on a plant). They should include more than one type of animal in their environment. They need to show a complete or incomplete life cycle for an animal other than a mammal. For example; if they choose frog and butterfly, they could illustrate either animal, but if they choose a deer and flies, they need to illustrate the fly's life cycle.

Oral Explanation

The students will each explain their diorama to their own class or invite another class in and do a walkabout.

For Grade 1 students, the oral explanation needs to include how the animal meets its needs in its environment and how humans can help or harm the animal.

For Grade 2 students, the oral explanation needs to include how the different parts of the environment help the animal meet its needs, how the animal is adapted to its environment, and how humans can affect the animal.

Adaptations

Resources

Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Zoo Central

Subtask 13

~ 120 mins



Culminating Activity: Grade 1



Culminating Activity: Grade 2



Planning Sheet

13_Planning Sheet.cwk



A Children's Zoo

Tana Hoban



Zoo Babies

Donna K. Grosvenor



Zoo

Gail Gibbons



shoe box

1



modelling clay



construction paper



paint



natural materials

Notes to Teacher

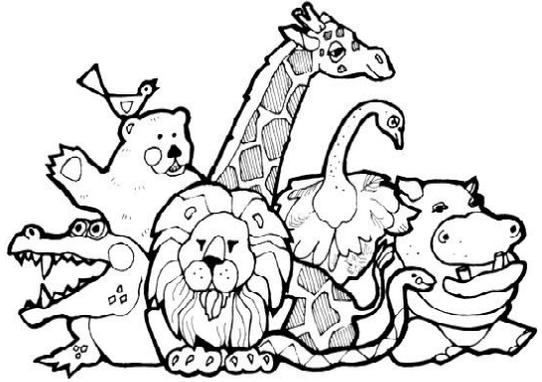
The zoo setting should be appropriate to the situation and the interests of the students. It might be a petting zoo, a local habitat zoo, or a large urban zoo with animals from all over the world.

The teacher will need to obtain shoe boxes for dioramas; various art materials, such as modelling clay, construction paper, paint, glue, markers, and scissors; and possible natural materials, such as grass, leaves, and twigs.

Teacher Reflections

Outline potential changes/improvements you would make to the subtask, or raise questions/concerns for future thought.

Record decisions you wish to pass on in the Subtask Notes; contents of this field are not passed along in the published unit.

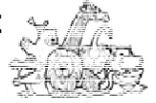


Appendices

Life Systems

Zoo Central

Resource List:
Blackline Masters:
Rubrics:
Unit Expectation List and Expectation Summary:
Unit Analysis:



Life Systems

Zoo Central An Integrated Unit for Grade 1/2



Rubric

- Culminating Activity: Grade 1** ST 13
3
- Culminating Activity: Grade 2** ST 13
3
- Fair Test of Our Plants** ST 8
2
- Mammals** ST 8
2



Blackline Master / File

- Body Parts Labels** ST 2
2_bodyparts.cwk
- Homework - Grade 1** ST 7
7_homework.cwk
- Living and Non-Living Things** ST 1
1_living.cwk
- Mammals Are Our Friends** ST 8
8_mammals.cwk
- Planning Sheet** ST 13
13_Planning Sheet.cwk



Print

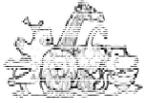
- A Children's Zoo** ST 5
Tana Hoban
0-688-05202-9
Book contains large photographs of zoo animals along with descriptive words.
- A Children's Zoo** ST 13
Tana Hoban
0-688-05202-9
Book contains large photographs of zoo animals along with descriptive words.
- Animals in Winter** ST 11
Henrietta Bancroft & Richard G. Van Gelder
0-06-445165-8
- Anno's Magic Seeds** ST 5
Mitsumasa Anno
- Around the Pond: Who's Been Here?** ST 12
Lindsay Barrett George
0-688-14376-8
- Bats** Unit
Nancy J. Shaw
0-88682-958-5
Part of the Let's Investigate Science "Wildlife" Series.
- Broad Bean** ST 5
Christine Back & Barrie Watts
0-7136-2427-2
Stopwatch Books - Watch a broad bean grow.
- Brown Bear, Brown Bear, What do you see?** ST 3
Bill Martin
- Brown Bear, Brown Bear, What do you see?** ST 4
Bill Martin
- Bug Book Series** Unit
Jill Bailey
1-57572-459-6
Deals with life cycle, excellent pictures, easy informational read aloud.
Other titles include Ant, Bee, Ladybug, Snail, Worm.
- Butterfly House** Unit
Eve Bunting
0-59084884-4
- Early Explorations in Mathematics and Science** Unit
L. Harcourt/ R. Wortzman
0-201-55501-8
Teacher's Guide
- Explorations in Science: Level 1** Unit
R. Wortzman
0-201-55502-6
Teacher's Guide



Life Systems

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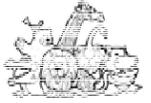
<input type="checkbox"/> From Tadpole to Frog Wendy Pfeffer 0-06-023117-3 A selection from the series Let's Read and Find Out Science.	ST 10	<input type="checkbox"/> My Five Senses Aliko	ST 3
<input type="checkbox"/> Growing Frogs Vivian French 0-7636-0317-1	ST 10	<input type="checkbox"/> Polar Bear, Polar Bear, What do you hear? Bill Martin	ST 3
<input type="checkbox"/> Hands-On Science: Level 2 J. Lawson et al. 1-894110-40-4 Teacher's Guide	Unit	<input type="checkbox"/> Polar Bear, Polar Bear, What do you hear? Bill Martin	ST 4
<input type="checkbox"/> Have you seen my duckling? Nancy Tafuri 0-590-44385-2	ST 12	<input type="checkbox"/> Science Everywhere 1 Asselstine/Peterson 0-7747-0561-2 Teacher's Guide	Unit
<input type="checkbox"/> Hidden Animals David Drew 0-17-007297-5 Informazing Series from Ginn Publishing	ST 6	<input type="checkbox"/> Science Everywhere 2 Asselstine/Peterson 0-7747-0562-0 Teacher's Guide	Unit
<input type="checkbox"/> Hidden Animals David Drew 0 17 007297 5	ST 12	<input type="checkbox"/> Science Everywhere 2 Asselstine/Peterson 0-7747-0555-8 Student Book	Unit
<input type="checkbox"/> I Spy: A book of picture riddles Jean Marzollo	ST 3	<input type="checkbox"/> Sense Suspense, A Guessing Game for the Five Senses Bruce MacMillan	ST 3
<input type="checkbox"/> In the Snow: Who's Been Here? Lindsay Barrett George 0-688-17056-0	ST 12	<input type="checkbox"/> Sniffing and Smelling Henry Pluckrose	ST 3
<input type="checkbox"/> King Midas and The Golden Touch Freya Littledale	ST 3	<input type="checkbox"/> Stellaluna Janell Cannon 0-15-280217-7	Unit
<input type="checkbox"/> Life Cycle of a Rabbit John Williams 1-85210-306-X Part of a series. Other titles include Ant, Butterfly, Sunflower, Tree.	ST 10	<input type="checkbox"/> Sun, Snow, Stars, Sky Catherine and Laurence Anbolt 0-7497-2291-6	ST 12
<input type="checkbox"/> Life Systems: Animals Olivero/Jacobson/Onady 1-894318-39-0 Teacher's Guide from GTK Press for Science and Technology Activities Resource	Unit	<input type="checkbox"/> The Reasons for Seasons Gail Gibbons 0-8234-1174-5	ST 9
<input type="checkbox"/> Life Systems: Animals Olivero, Jacobson, Onody 1-894318-40-4 Student Journal	Unit	<input type="checkbox"/> Time To Eat: Animals Who Hide and Save Their Food Marilyn Baillie 1-895688-30-2	ST 11
<input type="checkbox"/> Little Wonders: Animal Babies and Their Families Marilyn Baillie 1-895688-31-0	ST 10	<input type="checkbox"/> WHY Do Seasons Change? Scholastic 0-590-24985-1	ST 9
<input type="checkbox"/> Monarch Butterfly Gail Gibbons 0-82340773-X Metamorphosis of a butterfly	ST 10	<input type="checkbox"/> Wild Talk: How Animals Talk to Each Other Marilyn Baillie 1-895688-55-8	ST 11
		<input type="checkbox"/> Zoo Gail Gibbons 0-690-04631-6 Readers are taken on a lively tour behind the scenes at the zoo.	ST 5
		<input type="checkbox"/> Zoo Gail Gibbons 0-690-04631-6 Readers are taken on a lively tour behind the scenes at the zoo.	ST 13



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

- | | | | |
|---|-------|---|-------|
| <input type="checkbox"/> Zoo Babies
Donna K. Grosvenor
0-87044-262-7 | ST 5 | <input type="checkbox"/> Mammal Mothers and Babies
V010456A | ST 9 |
| <input type="checkbox"/> Zoo Babies
Donna K. Grosvenor
0-87044-262-7 | ST 13 | <input type="checkbox"/> Mammals and Their Young
F0003221 | ST 9 |
|  | | <input type="checkbox"/> Our Five Senses
V012261A
How our senses help us stay out of danger, identify flavours, enjoy life. What it would be like to function without one of the senses. | ST 3 |
| Media | | <input type="checkbox"/> Places Where Animals and Plants Live
K0002392 | ST 1 |
| <input type="checkbox"/> Animal Adaptations: why do zebras have stripes?
V009308A | ST 4 | <input type="checkbox"/> San Diego Zoo
F0004371 | ST 5 |
| <input type="checkbox"/> Animal Movie
V000585A
An animated cartoon showing how animals move as they do. | ST 6 | <input type="checkbox"/> Secrets of Animal Survival
F0003277
Film reveals techniques and ways animals protect themselves. | ST 11 |
| <input type="checkbox"/> Animals hide and seek: camouflage for beginners
V007281A | ST 6 | <input type="checkbox"/> Sleepyheads
V010142A
Animals need plenty of nourishing food and sleep to stay healthy. | ST 1 |
| <input type="checkbox"/> Animals in autumn and winter
F0000001 | ST 6 | <input type="checkbox"/> That's My Baby
V011579A | ST 9 |
| <input type="checkbox"/> Animals move...from here to there
V004397A
Animals move in variety of ways. | ST 6 | <input type="checkbox"/> The Fabulous Five: Our Senses
V004204A
Our five senses tell us about the world around us and about ourselves. | ST 3 |
| <input type="checkbox"/> Don't: the metamorphosis of the monarch butterfly
V007716A
The life cycle of the monarch butterfly | ST 10 | <input type="checkbox"/> The Tree
F0000837
Living things depend on each other. | ST 1 |
| <input type="checkbox"/> Dragonfly
V003459A
The life cycle of the dragonfly | ST 10 | <input type="checkbox"/> What keeps you alive?
V000150B
What children need to keep them alive, well, and growing. | ST 1 |
| <input type="checkbox"/> Getting the Message
V000149A | ST 3 | <input type="checkbox"/> What's the Biggest Living Thing?
V007371A | ST 1 |
| <input type="checkbox"/> Growing, growing
F0000913
Experiences related to plants and their growth. | ST 9 | <input type="checkbox"/> Where Animals Live
F0003538
Animals live in many environments. | ST 11 |
| <input type="checkbox"/> How animals move
F0004355 | ST 6 | <input type="checkbox"/> Where did they go?
V009225A
Video studies camouflage and other adaptations used for hiding. | ST 11 |
| <input type="checkbox"/> How do plants grow?
V007953C | ST 5 | <input type="checkbox"/> Why do cats have whiskers?
V007373A
The senses of animals | ST 4 |
| <input type="checkbox"/> How it grows
V007906A
how our bodies grow and change | ST 2 | | |
| <input type="checkbox"/> Learning to use your senses
V010027A
Experience of a birthday party teaches children about their five senses. | ST 3 | | |
| <input type="checkbox"/> Let's Explore Plants
V010730A
How do air, light, and water help plants grow. | ST 5 | | |



Life Systems

Zoo Central An Integrated Unit for Grade 1/2



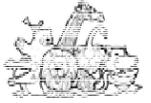
Website

- Assessment of Science and Technology** ST 6
<http://www.ysiste.com/asap/exemplar.html>
 Science and Technology Exemplars from York University.
 You can scroll down the page to the Grade 2 (Alike or Not)
 for pictures of animals
- Assessment of Science and Technology Achievement Project** Unit
<http://www.ysiste.com>
 Science and Technology Exemplars
- Dairy Board of Canada** ST 7
<http://www.ndcc.ca/>
- Discovery School** Unit
<http://www.school.discovery.com>
 Site covers many science topics and provides clipart.
- Discovery School** ST 2
<http://www.school.discovery.com>
 Site covers many science topics and provides clipart.
- Health Canada** ST 7
<http://www.hc-sc.gc.ca/hppb/nutrition/pube/ffodguid/index.html>
- OECTA Teacher Resources** Unit
<http://www.oecta.on.ca/curriculum/curriculumintro.htm>
 Science and Technology Unit available for download.
- OECTA Teacher Resources** ST 2
<http://www.oecta.on.ca/curriculum/curriculumintro.htm>
 Science and Technology Unit available for download.
- Zoom Animals** Unit
<http://www.enchantedlearning.com>
 This website has pictures and information about animals in
 an easy-to-read and printable format.
- Zoom Animals** ST 2
<http://www.enchantedlearning.com>
 This website has pictures and information about animals in
 an easy-to-read and printable format.
- Zoom Animals** ST 8
<http://www.enchantedlearning.com>
 This website has pictures and information about animals in
 an easy-to-read and printable format.
- Zoom Animals** ST 12
<http://www.enchantedlearning.com>
 This website has pictures and information about animals in
 an easy-to-read and printable format.



Material

- bean seeds** ST 5
 4
 per person
 Soak all except one per person overnight.
- bingo tokens** ST 2
 16
 per pair
- bird seed** ST 10
- clay** ST 10
- clear containers** ST 5
 1
 per person
- construction paper** ST 13
- egg cartons** ST 10
 1
 per group
- food colouring** ST 12
- hole punch** ST 10
 1
 per class
- lard** ST 10
 or other edible sticky substance
- modelling clay** ST 10
- modelling clay** ST 13
- natural materials** ST 13
 grass, twigs, leaves
- paint** ST 13
- paper** ST 10
- paper towels** ST 5
 2
 per person
- pasta** ST 12
- pine cones** ST 10
- shoe box** ST 13
 1
 per person
- straw** ST 10
- string** ST 10
- variety of seeds** ST 5
 20
 per group
- various materials for patterning** ST 9
 per group
 pasta, buttons, bottle caps, cubes



Life Systems

Zoo Central An Integrated Unit for Grade 1/2



Equipment / Manipulative

- Magnifying Glasses** **ST 5**
1
per person



Other

- Learning about living things** **ST 1**
Kit
K0003142
A kit including activity cards, audio cassettes, filmstrips, teacher's guide. Introduces students to the basics of scientific classification by showing them how to distinguish between two major groupings...living and non-living things, plants and animals
- Mammals of Ontario** **ST 10**
K0003420
ROM kit for classification, life cycles, and adaptation of mammals that live in Ontario.



Parent Community

- Local farmer** **ST 7**
- Local grocery store** **ST 7**

Living and Non-Living Things

Name: _____

Living Things

Non-Living Things

BODY PARTS LABELS

head	eye	neck
arm	hair	
leg	elbow	
thumb	ear	
fingers	heel	
toes	tongue	
knee	chest	
foot	ankle	

Name: _____

Date: _____

Homework

1. Where does our food come from?

2. Will you help me name three food items that come from:

Plants: _____, _____,

Animals: _____, _____,



Mammals Are Our Friends

Name: _____

The mammal I have chosen is

Here is a drawing of my mammal. I labelled the parts of its body.

Here is the food it eats.

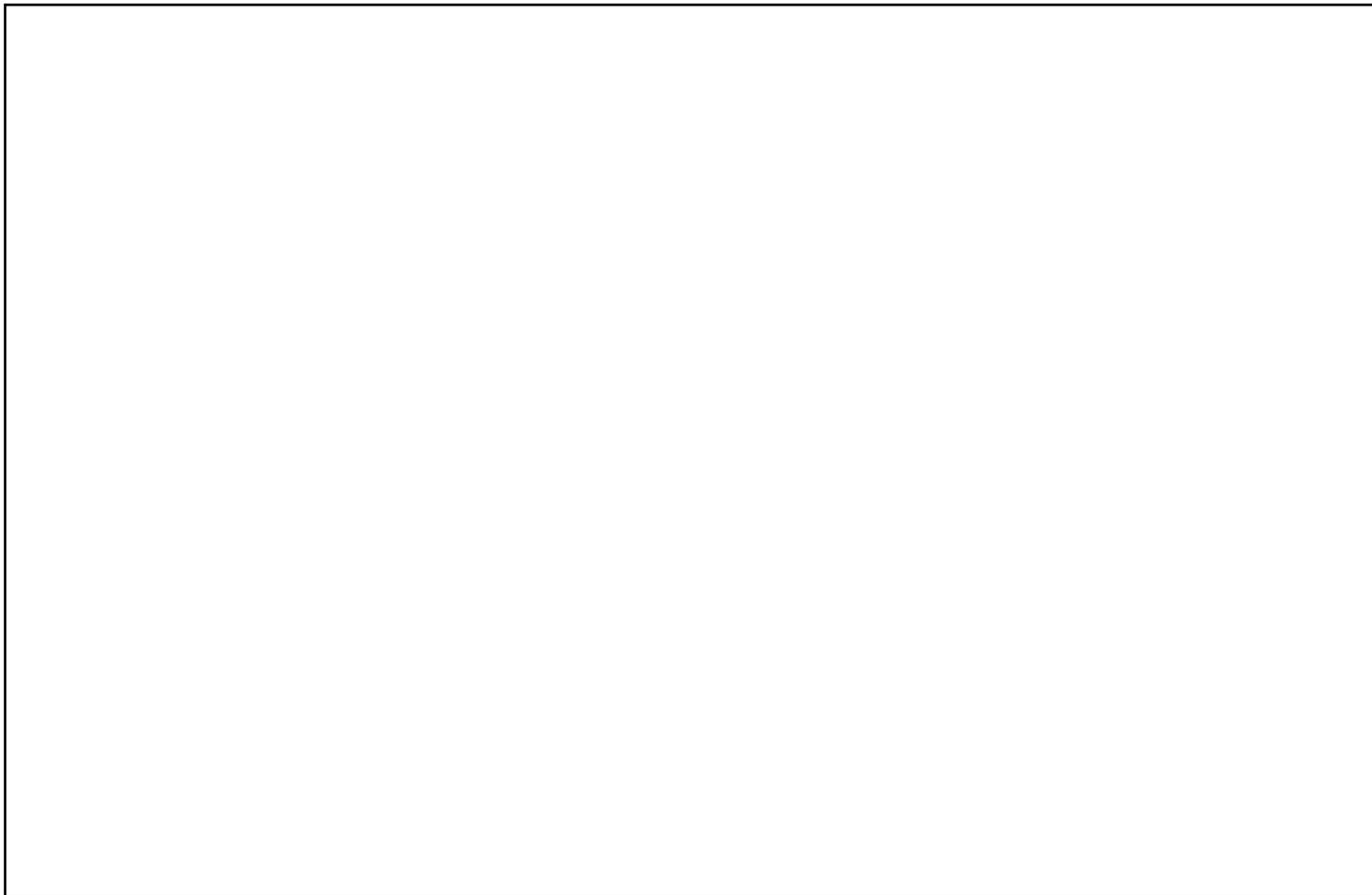
Here is where it lives.

Something else my mammal has that helps it meet its needs ...

Name: _____

Planning Sheet

What will my diorama look like?



What do I need in my diorama?

Fair Test of Our Plants

for use with Subtask 8 : Can't Live Without It!
from the Grade 1/2 Unit: Life Systems



Student Name: _____

Date: _____

Expectations for this Subtask to Assess with this Rubric:

- 1s2** • investigate the characteristics and needs of animals and plants;
- 1s3** • demonstrate awareness that animals and plants depend on their environment to meet their basic needs, and describe the requirements for good health for humans.
- 1s11** – select and use appropriate tools to increase their capacity to observe (e.g., magnifying glass, stethoscope);
- 1s15** – record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (e.g., make a drawing of an insect, observing with the unaided eye, and a drawing of the same insect while using a magnifying glass);

Category/Criteria	Level 1	Level 2	Level 3	Level 4
Inquiry and design skills	<ul style="list-style-type: none"> – shows limited awareness of the safety procedures – uses tools, equipment, and materials correctly only with assistance 	<ul style="list-style-type: none"> – shows some awareness of safety procedures – uses tools, equipment, and materials correctly with some assistance 	<ul style="list-style-type: none"> – usually shows awareness of safety procedures – uses tools, equipment, and materials correctly with only occasional assistance 	<ul style="list-style-type: none"> – consistently shows awareness of safety procedures – uses tools, equipment, and materials correctly with little or no assistance
Understanding of basic concepts	<ul style="list-style-type: none"> – shows understanding of few of the needs of plants – gives explanations showing limited understanding of the concepts 	<ul style="list-style-type: none"> – shows understanding of some of the needs of plants – gives partial explanations 	<ul style="list-style-type: none"> – shows understanding of most of the needs of plants – usually gives complete or nearly complete explanations 	<ul style="list-style-type: none"> – shows understanding of all of the needs of plants – always gives complete explanations
Communication of required knowledge	<ul style="list-style-type: none"> – communicates with limited clarity and precision – rarely uses appropriate science and technology terminology and units of measurement 	<ul style="list-style-type: none"> – communicates with some clarity and precision – sometimes uses appropriate science and technology terminology and units of measurement 	<ul style="list-style-type: none"> – generally communicates with clarity and precision – usually uses appropriate science and technology terminology and units of measurement 	<ul style="list-style-type: none"> – consistently communicates with clarity and precision – consistently uses appropriate science and technology terminology and units of measurement

Mammals



for use with **Subtask 8 : Can't Live Without It!**
from the Grade 1/2 Unit: **Life Systems**

Student Name: _____

Date: _____

Expectations for this Subtask to Assess with this Rubric:

- 2s13** – ask questions about and identify some needs of different animals with which they are familiar, and explore possible answers to these questions and ways of meeting these needs (e.g., examine different kinds of teeth and explain how their shape enables an animal to bite, tear, or grind its food);
- 2s17** – communicate the procedures and results of investigations for specific purposes, using drawings, demonstrations, and oral and written descriptions (e.g., explain how a caterpillar feeds, using a model constructed of modelling clay and a tree branch).

Category/Criteria	Level 1	Level 2	Level 3	Level 4
Understanding of basic concepts -Animal needs are food, water, shelter	– shows understanding of one of the needs of a mammal	– shows understanding of two of the needs of a mammal	– shows understanding of all of the needs of a mammal	– shows understanding of all of the needs of a mammal and adds an additional need
Communication of required knowledge -Uses correct labelling terminology for body parts (e.g., legs, head, ears, paws, tail)	– with assistance labels few body parts	– with some assistance labels some required body parts	– independently labels all required body parts with accuracy	– independently labels all required body parts plus additional parts with accuracy

Student Name: _____
 Date: _____

Culminating Activity: Grade 1
for use with Subtask 13 : Zoo Central
 from the Grade 1/2 Unit: **Life Systems**



Expectations for this Subtask to Assess with this Rubric:

- 1s1** • demonstrate an understanding of the basic needs of animals and plants (e.g., the need for food, air, and water);
- 1s13** – plan investigations to answer some of these questions or find ways of meeting these needs;

Category/Criteria	Level 1	Level 2	Level 3	Level 4
Understanding of basic concepts - needs of animal (food, shelter, water) - characteristics of the animal's environment	– one way to meet the basic needs of the animal is shown in the model – few of the characteristics related to the animal's environment are shown in the model	– two ways to meet the basic needs of the animal are shown in the model – some of the characteristics related to the animal's environment are shown in the model	– most of the ways to meet the basic needs of the animal are shown in the model – many characteristics related to the animal's environment are shown in the model	– all basic needs the animal are shown in the model – most of the characteristics related to the animal's environment are shown in the model
Communication of required knowledge	– is able to state few of the basic needs of the animal – with assistance is able to describe ways humans help or harm the animal's environment	– is able to state some of the basic needs of the animal (what it eats, where it sleeps, etc.) – with some assistance is able to describe some ways humans help or harm the animal's environment	– is able to state many of the basic needs of the animal (what it eats, where it sleeps, etc.) – independently provides detailed descriptions of ways humans help or harm the animal's environment	– is able to state most of the basic needs of the animal (what it eats, where it sleeps, etc.) – independently provides complex descriptions of ways humans help or harm the animal's environment
Inquiry and design skills	– plans and builds zoo habitat with teacher assistance	– plans and builds zoo habitat with some teacher support	– plans and builds zoo habitat with little teacher support	– plans and builds zoo habitat independently

Student Name: _____
 Date: _____

Culminating Activity: Grade 2
for use with Subtask 13 : Zoo Central
 from the Grade 1/2 Unit: **Life Systems**



Expectations for this Subtask to Assess with this Rubric:

- 2s14** – plan investigations to answer some of these questions or find ways of meeting these needs, and describe the steps involved;
- 2s15** – use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use the words egg, caterpillar, larva, chrysalis, and adult in describing the metamorphosis of a butterfly);
- 2s17** – communicate the procedures and results of investigations for specific purposes, using drawings, demonstrations, and oral and written descriptions (e.g., explain how a caterpillar feeds, using a model constructed of modelling clay and a tree branch).

Category/Criteria	Level 1	Level 2	Level 3	Level 4
Understanding of basic concepts complete or incomplete life cycle of the illustrated Animal Needs of animal in its Environment	– shows understanding of few of the basic concepts – shows few of the stages of complete or incomplete life cycle for one animal (e.g., butterfly or frog) – shows one of the needs of the animal being met in the environment	– shows understanding of some of the basic concepts – shows some of the stages of a complete or incomplete life cycle for one animal (e.g., butterfly or frog) – shows two needs of the animal being met in the environment	– shows understanding of most of the basic concepts – shows complete or incomplete life cycle for one animal (e.g., butterfly or frog) – shows a source of food, water, and shelter for one animal	– shows understanding of all of the basic concepts – shows complete or incomplete life cycle for more than one animal (e.g., butterfly and frog) – shows a source of food, water, and shelter for more than one animal
Communication of required knowledge (terminology for the stages of the life cycle)	– communicates with limited clarity the life cycle of the animal and how its needs are met in the environment – seldom uses appropriate science and technology terminology	– communicates with some clarity and precision the life cycle of an animal and how its needs are met in the environment – sometimes uses appropriate science and technology terminology	– generally communicates with clarity and precision the life cycle of an animal and how its needs are met in the environment – usually uses appropriate science and technology terminology	– consistently communicates with clarity and precision the life cycle of an animal and how its needs are met in the environment – consistently uses appropriate science and technology terminology



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

Selected **Assessed****Mathematics---Patterning and Algebra**

- 1m60** – identify, describe, and extend, through investigation, geometric repeating patterns involving one attribute (e.g., colour, size, shape, thickness, orientation);

Science and Technology---Life Systems

- 1s1** • demonstrate an understanding of the basic needs of animals and plants (e.g., the need for food, air, and water); **2** **1**
- 1s2** • investigate the characteristics and needs of animals and plants; **2** **1**
- 1s3** • demonstrate awareness that animals and plants depend on their environment to meet their basic needs, and describe the requirements for good health for humans. **1**
- 1s4** – identify major parts of the human body and describe their functions (e.g., arms and legs for movement; lungs and nose for breathing);
- 1s5** – identify the location and function of each sense organ; **1** **1**
- 1s6** – classify characteristics of animals and plants by using the senses (e.g., texture, colour, size, sounds); **1**
- 1s7** – describe the different ways in which animals move (e.g., moles burrow with their large, strong front limbs; fish undulate their bodies) to meet their needs; **2**
- 1s8** – identify and describe common characteristics of humans and other animals that they have observed, and identify variations in these characteristics (e.g., eye and hair colour);
- 1s9** – describe some basic changes in humans as they grow (e.g., growth of feet, hands, arms; loss of baby teeth), and compare changes in humans with changes in other living things;
- 1s10** – describe patterns that they have observed in living things (e.g., sunflower, pine cone, turtle's shell). **1**
- 1s11** – select and use appropriate tools to increase their capacity to observe (e.g., magnifying glass, stethoscope); **1** **1**
- 1s12** – ask questions about and identify some needs of living things, and explore possible answers to these questions and ways of meeting these needs (e.g., predict how an animal will move on the basis of two or more characteristics that they have observed);
- 1s13** – plan investigations to answer some of these questions or find ways of meeting these needs; **1**
- 1s14** – use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use body, legs, wings, and feelers in describing an insect);
- 1s15** – record relevant observations, findings, and measurements, using written language, drawings, charts, and concrete materials (e.g., make a drawing of an insect, observing with the unaided eye, and a drawing of the same insect while using a magnifying glass); **2** **1**
- 1s16** – communicate the procedures and results of investigations for specific purposes, using demonstrations, drawings, and oral and written descriptions (e.g., demonstrate how a bird builds a nest). **1** **1**
- 1s17** – compare the basic needs of humans with the needs of other living things (e.g., the need for food, air, water, light); **1**
- 1s18** – compare ways in which humans and other animals use their senses to meet their needs (e.g., use of the senses of sight and smell in finding food); **1**
- 1s19** – describe ways in which people adapt to the loss or limitation of sensory or physical ability (e.g., blind people develop more acute hearing; people who cannot walk may use a wheel chair);
- 1s20** – identify a familiar animal or plant from seeing only a part of it (e.g., a feather of a bird, a leaf of a tree); **1**
- 1s21** – describe ways in which the senses can both protect and mislead (e.g., seeing enables us to avoid walking into an obstacle; the sense of smell is not reliable when we have a cold);
- 1s22** – describe a balanced diet using the four basic food groups outlined in Canada's Food Guide to Healthy Eating, and demonstrate awareness of the natural sources of items in the food groups (e.g., bread is made from plant products; meat and milk come from animals); **1**
- 1s23** – identify ways in which individuals can maintain a healthy environment for themselves and for other living things (e.g., practise cleanliness to reduce the spreading of germs; ensure that materials such as toy balloons are not left outdoors since they are harmful to birds if they are ingested). **1** **1**

Health and Physical Education---Healthy Living

- 1p8** – describe simple life cycles of plants and animals, including humans; **1**

Mathematics---Patterning and Algebra

- 2m63** – identify repeating, growing, and shrinking patterns found in real-life contexts (e.g., a geometric pattern on wallpaper, a rhythm pattern in music, a number pattern when counting dimes); **1**

Science and Technology---Life Systems

- 2s2** • investigate physical and behavioural characteristics and the process of growth of different types of animals; **1**
- 2s3** • identify ways in which humans can affect other animals. **2**



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

		Selected	Assessed
<input type="checkbox"/> 2s4	– identify and describe the major physical characteristics of different types of animals (e.g., mammals, reptiles, insects);		2
<input type="checkbox"/> 2s5	– identify and describe behavioural characteristics that enable animals to survive (e.g., migration, dormancy, hibernation);		1
<input type="checkbox"/> 2s6	– classify a variety of animals using observable characteristics (e.g., size, body covering, teeth);		1
<input type="checkbox"/> 2s7	– compare ways in which animals eat their food (e.g., tear flesh, crack shells), move, and use their environment to meet their needs (e.g., gather grass and twigs to build nests);		2
<input type="checkbox"/> 2s8	– describe changes in the appearance and activity of an animal as it goes through a complete life cycle (e.g., mealworm);		1
<input type="checkbox"/> 2s9	– compare the life cycles of some animals that have similar life cycles (e.g., bee and butterfly) and some that have different life cycles (e.g., gerbil and butterfly);		1
<input type="checkbox"/> 2s10	– identify constant traits (e.g., number of legs) and changing traits (e.g., weight) in animals as they grow, and compare the appearance of young and mature animals of the same species;		1
<input type="checkbox"/> 2s11	– describe ways in which animals respond and adapt to their environment (e.g., weasels change colour for camouflage in summer and winter; mammals living in colder climates have longer fur);		3
<input type="checkbox"/> 2s12	– compare ways in which different animals care for their young (e.g., bears, alligators, sea turtles).		1
<input type="checkbox"/> 2s13	– ask questions about and identify some needs of different animals with which they are familiar, and explore possible answers to these questions and ways of meeting these needs (e.g., examine different kinds of teeth and explain how their shape enables an animal to bite, tear, or grind its food);		1
<input type="checkbox"/> 2s14	– plan investigations to answer some of these questions or find ways of meeting these needs, and describe the steps involved;		1
<input type="checkbox"/> 2s15	– use appropriate vocabulary in describing their investigations, explorations, and observations (e.g., use the words egg, caterpillar, larva, chrysalis, and adult in describing the metamorphosis of a butterfly);		2
<input type="checkbox"/> 2s16	– record relevant observations, findings, and measurements, using written language, drawings, and concrete materials (e.g., make accurately labelled drawings showing the life cycle of an animal);		1
<input type="checkbox"/> 2s17	– communicate the procedures and results of investigations for specific purposes, using drawings, demonstrations, and oral and written descriptions (e.g., explain how a caterpillar feeds, using a model constructed of modelling clay and a tree branch).		2
<input type="checkbox"/> 2s18	– describe features of the environment that support the growth of familiar animals (e.g., water and insects in a frog's environment);		1
<input type="checkbox"/> 2s19	– identify and compare the effects of the seasons on animals (e.g., some animals grow a thicker coat in cold weather);		1
<input type="checkbox"/> 2s20	– describe ways in which humans can help or harm other living things (e.g., protecting endangered species);		1
<input type="checkbox"/> 2s21	– demonstrate an understanding of the requirements of small animals for survival (e.g., by maintaining an aquarium or a terrarium);		1
<input type="checkbox"/> 2s23	– demonstrate awareness of ways of caring for animals properly (e.g., avoid handling them too much; research nutritional requirements);		1
<input type="checkbox"/> 2s24	– describe how humans produce food by raising livestock (e.g., pigs, chickens, cattle).		1



Life Systems

Zoo Central An Integrated Unit for Grade 1/2

English Language

1e1	1e2	1e3	1e4	1e5	1e6	1e7	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				

Science and Technology

1s1	2	1	1s2	2	1	1s3	1	1s4	2	1s5	1	1	1s6	1	1s7	2	1s8	2	1s9	1	1s10	1	
1s11	1	1	1s12	1	1s13	1	1s14	1	1s15	2	1	1	1s16	1	1	1s17	1	1s18	1	1s19	1	1s20	1
1s21			1s22	1	1s23	1	1s24		1s25				1s26		1s27		1s28		1s29		1s30		
1s31			1s32		1s33		1s34		1s35				1s36		1s37		1s38		1s39		1s40		
1s41			1s42		1s43		1s44		1s45				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

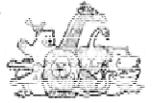
1z1	1z2	1z3	1z4	1z5	1z6	1z7	1z8	1z9	1z10
1z11	1z12	1z13	1z14	1z15	1z16	1z17	1z18	1z19	1z20
1z21	1z22	1z23	1z24	1z25	1z26	1z27	1z28	1z29	1z30
1z31	1z32	1z33	1z34	1z35	1z36	1z37	1z38		

Health and Physical Education

1p1	1p2	1p3	1p4	1p5	1p6	1p7	1p8	1	1p9	1p10
1p11	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									



Life Systems

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English Language

2e1	2e2	2e3	2e4	2e5	2e6	2e7	2e8	2e9	2e10
2e11	2e12	2e13	2e14	2e15	2e16	2e17	2e18	2e19	2e20
2e21	2e22	2e23	2e24	2e25	2e26	2e27	2e28	2e29	2e30
2e31	2e32	2e33	2e34	2e35	2e36	2e37	2e38	2e39	2e40
2e41	2e42	2e43	2e44	2e45	2e46	2e47	2e48	2e49	2e50
2e51	2e52	2e53	2e54	2e55	2e56	2e57	2e58	2e59	2e60
2e61	2e62	2e63	2e64	2e65					

Mathematics

2m1	2m2	2m3	2m4	2m5	2m6	2m7	2m8	2m9	2m10
2m11	2m12	2m13	2m14	2m15	2m16	2m17	2m18	2m19	2m20
2m21	2m22	2m23	2m24	2m25	2m26	2m27	2m28	2m29	2m30
2m31	2m32	2m33	2m34	2m35	2m36	2m37	2m38	2m39	2m40
2m41	2m42	2m43	2m44	2m45	2m46	2m47	2m48	2m49	2m50
2m51	2m52	2m53	2m54	2m55	2m56	2m57	2m58	2m59	2m60
2m61	2m62	2m63	1	2m64	2m65	2m66	2m67	2m68	2m69
2m71	2m72	2m73		2m74	2m75	2m76	2m77	2m78	2m79
2m81	2m82	2m83		2m84					2m80

Science and Technology

2s1	2s2	1	2s3	2	2s4	2	2s5	1	2s6	1	2s7	2	2s8		2s9		1	2s10	1	
2s11	3	2s12	1	2s13	1	2s14	1	2s15	2	1	2s16	1	2s17	2	2s18	1	2s19	1	2s20	1
2s21	1	2s22		2s23	1	2s24	1	2s25			2s26		2s27		2s28		2s29		2s30	
2s31		2s32		2s33		2s34		2s35			2s36		2s37		2s38		2s39		2s40	
2s41		2s42		2s43		2s44		2s45			2s46		2s47		2s48		2s49		2s50	
2s51		2s52		2s53		2s54		2s55			2s56		2s57		2s58		2s59		2s60	
2s61		2s62		2s63		2s64		2s65			2s66		2s67		2s68		2s69		2s70	
2s71		2s72		2s73		2s74		2s75			2s76		2s77		2s78		2s79		2s80	
2s81		2s82		2s83		2s84		2s85			2s86		2s87		2s88		2s89		2s90	
2s91		2s92		2s93		2s94		2s95			2s96		2s97		2s98		2s99		2s100	
2s101		2s102		2s103		2s104		2s105			2s106		2s107		2s108		2s109		2s110	

Social Studies

2z1	2z2	2z3	2z4	2z5	2z6	2z7	2z8	2z9	2z10
2z11	2z12	2z13	2z14	2z15	2z16	2z17	2z18	2z19	2z20
2z21	2z22	2z23	2z24	2z25	2z26	2z27	2z28	2z29	2z30
2z31	2z32	2z33	2z34						2z31

Health and Physical Education

2p1	2p2	2p3	2p4	2p5	2p6	2p7	2p8	2p9	2p10
2p11	2p12	2p13	2p14	2p15	2p16	2p17	2p18	2p19	2p20
2p21	2p22	2p23	2p24	2p25	2p26	2p27	2p28	2p29	2p30
2p31	2p32	2p33	2p34	2p35	2p36	2p37	2p38	2p39	2p40
2p41									

The Arts

2a1	2a2	2a3	2a4	2a5	2a6	2a7	2a8	2a9	2a10
2a11	2a12	2a13	2a14	2a15	2a16	2a17	2a18	2a19	2a20
2a21	2a22	2a23	2a24	2a25	2a26	2a27	2a28	2a29	2a30
2a31	2a32	2a33	2a34	2a35	2a36	2a37	2a38	2a39	2a40
2a41	2a42	2a43	2a44	2a45	2a46	2a47	2a48	2a49	2a50
2a51	2a52	2a53	2a54	2a55	2a56	2a57	2a58	2a59	2a60
2a61	2a62	2a63	2a64	2a65	2a66	2a67			



Analysis Of Unit Components

- 13 Subtasks
- 69 Expectations
- 123 Resources
- 95 Strategies & Groupings

- Unique Expectations --
- 2 Mathematics Expectations
- 45 Science And Tech Expectations
- 1 Health & Physical Education

Resource Types

- 4 Rubrics
- 5 Blackline Masters
- 0 Licensed Software
- 45 Print Resources
- 29 Media Resources
- 12 Websites
- 23 Material Resources
- 1 Equipment / Manipulatives
- 0 Sample Graphics
- 2 Other Resources
- 2 Parent / Community
- 0 Companion Bookmarks

Groupings

- 10 Students Working As A Whole Class
- 5 Students Working In Pairs
- 8 Students Working In Small Groups
- 10 Students Working Individually

Assessment Recording Devices

- 6 Anecdotal Record
- 2 Checklist
- 3 Rubric

Teaching / Learning Strategies

- 1 Anticipation Guide
- 4 Brainstorming
- 2 Classifying
- 1 Collaborative/cooperative Learning
- 1 Demonstration
- 2 Direct Teaching
- 3 Discussion
- 1 Experimenting
- 1 Fair Test
- 1 Field Trip
- 1 Homework
- 3 Learning Centres
- 2 Learning Log/ Journal
- 2 Mini-lesson
- 1 Model Making
- 1 Open-ended Questions
- 1 Oral Explanation
- 1 Prompts
- 1 Research
- 1 Review

Assessment Strategies

- 1 Classroom Presentation
- 4 Conference
- 4 Learning Log
- 1 Observation
- 5 Performance Task
- 1 Quizzes, Tests, Examinations



Life Systems

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- 2 Role Playing
- 1 Think / Pair / Share
- 1 Word Wall