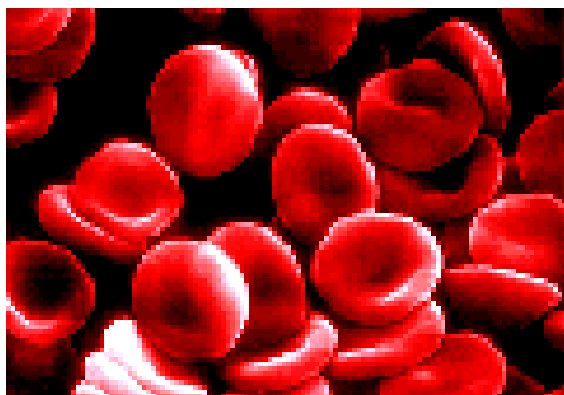


# **The Genesis Project**

## **A New Life Convention**



### **Including:**

**Action, Reaction**  
**A Vision - The New Life Convention**  
**The Micro Macrocosm**  
**Collage Crazy**  
**Science's Systems - Human Body**  
**Science's Systems - Processes of Life**  
**Dramatic Depictions**  
**Model Mania**  
**Before & After - Healthy Living**  
**Before & After - Prehistoric Links**  
**Scientists' Solutions**  
**Thumbs Up!**  
**The New Life Convention**

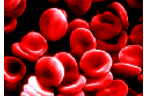
**An Integrated Unit for Grade 5/6**

**Written by:**

**Todd Miller, Nicole Walter Rowan, Scott Zamojski, Marie Clarke (Lead)**

**Length of Unit: approximately: 16 hours**

**October 2001**



## **The Genesis Project**

### **A New Life Convention An Integrated Unit for Grade 5/6**

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#### Acknowledgements

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

#### Participating Lead Public School Boards:

Mathematics, Grades 1-8

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

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

The Council of Ontario Directors of Education

The Ontario Curriculum Centre

The Ministry of Education, Curriculum and Assessment Policy Branch

### **An Integrated Unit for Grade 5/6**

#### **Written by:**

**Todd Miller, Nicole Walter Rowan, Scott Zamojski, Marie Clarke (Lead)**

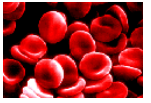
Lakehead District School Board

#### **Based on a unit by:**

Todd Miller, Nicole Walter Rowan, Scott Zamojski, Marie Clarke (Lead)

Lakehead District School Board

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



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

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## Task Context

Students will explore how the components and functions of a system can expand our understanding of the healthy functioning of the human body (Grade 5) and the organization of the study of species (Grade 6).

"Using models and simulations, students will learn where the major internal organs are located and will explore the functions and interactions of organs within specific systems. In studying the structure of organs, students will learn that all living tissues are composed of different kinds of cells. Students will also develop an understanding of the importance of proper nutrition and exercise to the healthy functioning of organ systems." (*The Ontario Curriculum, Grades 1-8: Science and Technology*, page 23)

"Particular attention is given to the classification of organisms in the animal kingdom. Classifying animals not only will enable students to learn about many different types of animals, from mammals to microscopic organisms, but will help them to observe and describe similarities and differences among species more precisely." (*The Ontario Curriculum, Grades 1-8: Science and Technology*, page 25)

## Task Summary

Both grades' overall and specific expectations have been clustered into five themes: Foundations of Life, Components & Functions, Constructions, Change, and Adaptations. These themes provide an opportunity to introduce grade specific content within a common framework as illustrated:

### **Foundations of Life:**

Grade 5 Key Concept: The cell is the basic unit of life.

Grade 6 Key Concept: All living things can be observed and described based on specific characteristics.

### **Components & Functions:**

Grade 5 Key Concept: There are five major organ systems, each with a specific structure and function.

Grade 6 Key Concept: Animals have a set of characteristics that can be observed and described in order to study the similarities and differences among species.

### **Constructions:**

Grade 5 Key Concept: Organ systems work together to perform various functions.

Grade 6 Key Concept: Animals can be most accurately classified using a system that separates them into smaller, more precise categories using structural characteristics of the animal.

### **Change:**

Grade 5 Key Concept: Many factors contribute to the good health and function of these systems.

Grade 6 Key Concept: There is evidence which led to the theory that animals have evolved over time.

### **Adaptations:**

Grade 5 Key Concept: Technology impacts on the function of these systems.

Grade 6 Key Concept: The environment impacts specific characteristics that enable animals to live in particular habitats.

## Culminating Task Assessment

### Scenario

The class is introduced to the concept of an international science conference, "The New Life Convention," where students, in the role of scientific leaders in their respective fields, will present and discuss their new life discovery.

### **Grade 5**

You are a famous virologist (virology is the study of viruses) who has discovered a new virus. Your colleagues have called upon you to report your discovery at "The New Life Convention." You have been asked to identify and explain:

- why the virus targets the affected system,
- how the system is affected,
- how the damaged system impacts other body systems,
- which lifestyle choices would make people susceptible to this virus.

### **Grade 6**

You are a famous zoologist who has discovered a new form of life belonging to the animal kingdom. Your colleagues have called upon you to report your discovery at "The New Life Convention." You have been asked to identify and explain:

- the animal's physical appearance,
- the animal's structural characteristics,
- the animal's processes of life (growth, reproduction, movement, response/irritability, and adaptation),
- the animal's phylum (invertebrates) or class (vertebrates) within the animal kingdom.

## **Links to Prior Knowledge**

All students should have some familiarity with acting in role and cooperative learning experiences. Students in Grade 5 should be able to identify the basic parts and functions of the human body. Students in Grade 6 should be aware that all living things have identifiable characteristics and are classified into groups.

## **Considerations**

## **Notes to Teacher**

### **Bridging Concept**

This unit was based upon the premise that the components and functions of a system can expand our understanding of both the healthy functioning of the human body (Grade 5) and the organization of the study of species (Grade 6). The initial bridging concept of "Systems" is further subdivided into five themes: Foundations of Life, Components & Functions, Constructions, Change, and Adaptations. These five themes provide an opportunity to introduce grade specific content within a common framework.

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 essence of the specific expectations from *The Ontario Curriculum, Grades 1-8: Science and Technology*. With these concepts, students will be well prepared to complete the Culminating Performance Task, "The New Life Convention," an authentic assessment of what the students have learned throughout the unit.

### **Cross-curricular Links**

This unit provides the opportunity to address a number of expectations across the curriculum. However, tools for assessing and evaluating these expectations are not provided within this document.

### **Language**

- planning, researching & writing reports
- creating & presenting media works

**Math**

- creating charts, graphs & tables

**Physical Education & Health**

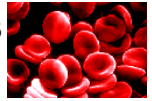
- making healthy eating & lifestyle choices

**The Arts**

- communicating understanding through drama

**Curriculum Background Information**

There is a variety of resources teachers can access for content specific background information. The **OECTA Teacher Resources, Life Systems** units include an extensive Glossary of Key Terms, Background Information, and Additional Information (print & Internet resources). These publicly available units can be downloaded free of charge from their website (see *Unit-Wide Resources*).



**The Genesis Project**  
**A New Life Convention An Integrated Unit for Grade 5/6**

**1 Action, Reaction**

**Key Concepts**

*Grade 5*

- Organ systems work together to perform various functions

*Grade 6*

- All living things can be observed and described based on specific characteristics.

Students will explore human movement and human response to a specific set of stimuli. This will provide a framework within which students will organize prior and new knowledge related to human organ systems (Grade 5) and characteristics of living things (Grade 6).

**2 A Vision - The New Life Convention**

**Key Concepts**

*Grade 5*

- The cell is the basic unit of life.
- There are five major organ systems, each with a specific structure and function.
- Organ systems work together to perform various functions.
- Many factors contribute to the good health and function of these systems.
- Technology impacts the function of these systems.

*Grade 6*

- All living things can be observed and described based on specific characteristics.
- Animals have a set of characteristics that can be observed and described in order to study the similarities and differences among species.
- Animals can be most accurately classified using a system that separates them into smaller, more precise categories using structural characteristics of the animal.
- There is evidence of the evolution of animals over time.
- The environment impacts specific characteristics that enable animals to live in particular habitats.

Students will be introduced to their culminating performance task, including the requirements and the format of the presentation.

**3 The Micro Macrocosm**

**Key Concepts**

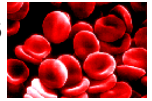
*Grade 5*

- The cell is the basic unit of life.

*Grade 6*

- All living things can be observed and described based on specific characteristics.

Students will become familiar with how a microscope works and use this knowledge to observe and describe cells, the basic unit of all life (Grade 5) or life at the microscopic level (Grade 6).



**The Genesis Project**  
**A New Life Convention An Integrated Unit for Grade 5/6**

**4 Collage Crazy**

**Key Concepts**

*Grade 5*

- There are five major organ systems, each with a specific structure and function.

*Grade 6*

- Animals have a set of characteristics that can be observed and described in order to study the similarities and differences among species.

By examining and grouping illustrations of components of organ systems (Grade 5) or a variety of species from the animal kingdom (Grade 6) students will recognize that every system is composed of interrelated components.

**5.5 Science's Systems - Human Body**

**Key Concepts**

*Grade 5*

- There are five major organ systems, each with a specific structure and function.

- Through centre-based activities students will become familiar with the human body organ systems.

**5.6 Science's Systems - Processes of Life**

**Key Concepts**

*Grade 6*

- Animals have a set of characteristics that can be observed and described in order to study the similarities and differences among species.

- Through research and experiment students will become familiar with some of the processes of life within the taxonomy of living things (Grade 6).

**6 Dramatic Depictions**

**Key Concepts**

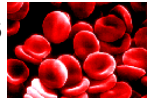
*Grade 5*

- There are five major organ systems, each with a specific structure and function.

*Grade 6*

- Animals have a set of characteristics that can be observed and described in order to study the similarities and differences among species.

Through dramatic presentations students, will explain how a specific organ system works and the function of its components (Grade 5) or the characteristics which identify the members of a specific invertebrate or vertebrate group (Grade 6).



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

#### 7 Model Mania

##### Key Concepts

*Grade 5*

- Organ systems work together to perform various functions.

*Grade 6*

- Animals can be most accurately classified using a system that separates them into smaller, more precise categories using structural characteristics of the animal.

Students will work toward designing and constructing models that reflect how components of the skeletal, muscular, and nervous systems work together to produce movement (Grade 5) or how physical and structural characteristics of animals determine its place in the taxonomy of living things (Grade 6).

#### 8.5 Before & After - Healthy Living

##### Key Concepts

*Grade 5*

- Many factors contribute to the good health and function of these systems.

- Students will become familiar with how nutrition, physical activity, and environmental factors impact the health of the human body's organ systems.

#### 8.6 Before & After - Prehistoric Links

##### Key Concepts

*Grade 6*

- There is evidence of the evolution of animals over time.

- Students will become familiar with the science of paleontology and explore similarities and differences between fossilized remains and animals that exist today.

#### 9 Scientists' Solutions

##### Key Concepts

*Grade 5*

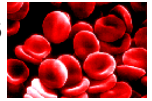
- Many factors contribute to the good health and function of these systems.

*Grade 6*

- There is evidence of the evolution of animals over time.

Using knowledge from the previous subtask, "Before & After", students will provide a plan to improve a fictitious subject's lifestyle (Grade 5) or examine the skeletal systems of prehistoric animals and identify their modern descendants (Grade 6).





## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

#### 10 Thumbs Up!

##### Key Concepts

###### Grade 5

- Technology impacts the function of these human body systems.

###### Grade 6

- The environment impacts specific characteristics that enable animals to live in particular habitats.

Students will participate in an activity which requires them to complete a set of tasks without the use of their thumbs. Following this experience students will research and report on a medical technology which improves the quality of life (Grade 5) or an animal's adaptations which allows them to thrive in their environment (Grade 6).

#### 11 The New Life Convention

##### Scenario

The class is introduced to the concept of an international science conference, "The New Life Convention," where students, in the role of scientific leaders in their respective fields, will present and discuss their new life discovery.

##### Grade 5

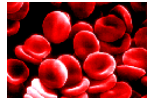
You are a famous virologist (virology is the study of viruses) who has discovered a new virus. Your colleagues have called upon you to report your discovery at "The New Life Convention." You have been asked to identify and explain:

- why the virus targets the affected system,
- how the system is affected,
- how the damaged system impacts other body systems,
- which lifestyle choices would make people susceptible to this virus.

##### Grade 6

You are a famous zoologist who has discovered a new form of life belonging to the animal kingdom. Your colleagues have called upon you to report your discovery at "The New Life Convention." You have been asked to identify and explain:

- the animal's physical appearance,
- the animal's structural characteristics,
- the animal's processes of life (growth, reproduction, movement, response/irritability, and adaptation),
- the animal's phylum (invertebrates) or class (vertebrates) within the animal kingdom.



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

40 mins

## Description

### Key Concepts

#### Grade 5

- Organ systems work together to perform various functions

#### Grade 6

- All living things can be observed and described based on specific characteristics.

Students will explore human movement and human response to a specific set of stimuli. This will provide a framework within which students will organize prior and new knowledge related to human organ systems (Grade 5) and characteristics of living things (Grade 6).

## Expectations

- 6s12 – formulate questions about and identify the needs of different types of animals, and explore possible answers to these questions and ways of meeting these needs (e.g., design an experiment to study whether certain insects will grow larger if given large quantities of food);
- 5s10 – formulate questions about and identify the needs of humans, and explore possible answers to these questions and ways of meeting these needs (e.g., in studying the nervous system, investigate response times by having someone catch a ruler between the thumb and index finger after it is dropped by another person; investigate ways in which orthopaedic devices, such as back rests, have improved the quality of life);

### Groupings

Students Working Individually

Students Working In Pairs

### Teaching / Learning Strategies

Writing To Learn

### Assessment

#### Introduction To The Learning Log:

Students will be introduced to the learning log and its corresponding rubric. The learning log may be a collection of the unit BLMs and other teacher assigned reflections in booklet form, such as a duotang, portfolio or pre-prepared booklet. This tool will provide the teacher with a record of student learning. The BLMs attached to each task will guide students when they are recording new concepts, skills, and questions related to their culminating task. The learning log may serve as a personal resource package for each student while they work toward completing the culminating task. The rubric will guide the teacher in assessing the students' ability to connect new learning to a related task.

### Assessment Strategies

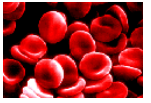
Learning Log

### Assessment Recording Devices

Rubric

## Teaching / Learning

1. Prior to this activity, students should be introduced to the learning log and the related checklist and rubric. Students must be made aware that the learning log will be assessed, using the checklist, throughout the unit and



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6







40 mins

evaluated, using the rubric, at the completion of the unit.

2. Students will explore examples of movement and reaction to stimuli in a human in a variety of activities. Working in pairs, each student will use the accompanying BLM 1.5.1 and BLM 1.6.1 to conduct the tests and record their findings.
3. Following the tests, students will complete a short reflection based on their findings. This reflection should be completed following a class debriefing to synthesize some of the conclusions.

## Adaptations

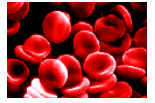
### Resources

	Action, Reaction Worksheet - Grade 5	1.5.1.cwk
	Action, Reaction Worksheet - Grade 6	1.6.1.cwk
	Learning Log Tracking Sheet	Learning Log Tracking Sheet.pdf
	Piece of wool	1
	3 x 5 index card	1
	Flashlight	1

### Notes to Teacher

This activity could provide the classroom teacher with some basic diagnostic information about what students know about the human body (Grade 5) and the characteristics of living things (Grade 6). It will also provide the students an opportunity to begin to formulate questions about what are the needs of animals and humans.

### Teacher Reflections



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

40 mins

## Description

### Key Concepts

#### Grade 5

- The cell is the basic unit of life.
- There are five major organ systems, each with a specific structure and function.
- Organ systems work together to perform various functions.
- Many factors contribute to the good health and function of these systems.
- Technology impacts the function of these systems.

#### Grade 6

- All living things can be observed and described based on specific characteristics.
- Animals have a set of characteristics that can be observed and described in order to study the similarities and differences among species.
- Animals can be most accurately classified using a system that separates them into smaller, more precise categories using structural characteristics of the animal.
- There is evidence of the evolution of animals over time.
- The environment impacts specific characteristics that enable animals to live in particular habitats.

Students will be introduced to their culminating performance task, including the requirements and the format of the presentation.

## Expectations

- 5s1 • demonstrate an understanding of the structure and function of the respiratory, circulatory, digestive, excretory, and nervous systems, and the interactions of organs within each system;
- 5s2 • investigate the structure and function of the major organs of the respiratory, circulatory, digestive, excretory, and nervous systems;
- 5s3 • demonstrate understanding of factors that contribute to good health.
- 6s3 • describe ways in which classification systems can be used in everyday life.
- 6s2 • investigate classification systems and some of the processes of life common to all animals (e.g., growth, reproduction, movement, response, and adaptation);
- 6s1 • demonstrate an understanding of ways in which classification systems are used to understand the diversity of living things and the interrelationships among living things;

### Groupings

Students Working As A Whole Class

### Teaching / Learning Strategies

Direct Teaching  
Discussion

### Assessment

The culminating task presentation components and the related rubric may be included in the learning log.

### Assessment Strategies

Learning Log

### Assessment Recording Devices

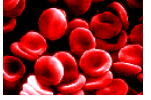
## Teaching / Learning

Students will be introduced to the culminating task presentation components and the related rubric:

### Grade 5

You are a famous virologist (virology is the study of viruses) who has discovered a new virus. Your colleagues have called upon you to report on your discovery at "The New Life Convention." You have been asked to identify and explain:

1. why the virus targets the affected system,
2. how the system is affected,
3. how the damaged system impacts other body systems,

**The Genesis Project****A New Life Convention An Integrated Unit for Grade 5/6**40 mins

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4. which lifestyle choices would make people susceptible to this virus.

Some Grade 5 students may require examples of #1 for clarification. You may suggest to students that they ask themselves if the virus and the affected system are a reasonable match (e.g., "Does it make sense to say that the virus attacks red blood cells, which means that the primary system affected is the digestive system?").

Students are not expected to study viruses. They need only understand that viruses attack and damage a part of a human organ system. As a result, the system with the damaged part is weakened.

**Grade 6**

You are a famous zoologist who has discovered a new form of life belonging to the animal kingdom. Your colleagues have called upon you to report your discovery at "The New Life Convention." You have been asked to identify and explain:

1. the animal's physical appearance,
2. the animal's structural characteristics,
3. the animal's processes of life (growth, reproduction, movement, response/irritability, and adaptation),
4. the animal's phylum (invertebrates) or class (vertebrates) within the animal kingdom.

**Adaptations****Resources****Grade 5 Checklist**

2\_Culminating5.cwk

**Grade 6 Checklist**

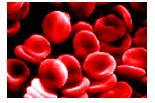
2\_Culminating6.cwk

**Notes to Teacher**

Although the presentation components clearly direct student learning to the body systems, Grade 5 students may require additional direction to ensure they are clear that the focus of the presentation is on the impact the virus has on the body system it attacks. The newly discovered virus is simply a vehicle through which the health of body systems can be discussed.

The checklist BLMs can be used to ensure that all students have completed all the required components of their culminating task. A simple checkmark or Y/N will allow the teacher to organize this information and conference with the needed students.

**Teacher Reflections**



## The Genesis Project

A New Life Convention An Integrated Unit for Grade 5/6

80 mins

### Description

#### Key Concepts

##### Grade 5

- The cell is the basic unit of life.

##### Grade 6

- All living things can be observed and described based on specific characteristics.

Students will become familiar with how a microscope works and use this knowledge to observe and describe cells, the basic unit of all life (Grade 5) or life at the microscopic level (Grade 6).

### Expectations

- 5s4 A – identify the cell as the basic unit of life;  
 6s10 – describe microscopic living things using appropriate tools to assist them with their observations (e.g., nets and microscopes for pond study);  
 6s11 A – describe ways in which micro-organisms meet their basic needs (e.g., for food, water, air, movement).  
 6s2 • investigate classification systems and some of the processes of life common to all animals (e.g., growth, reproduction, movement, response, and adaptation);

#### Groupings

- Students Working In Small Groups
- Students Working Individually

#### Teaching / Learning Strategies

- Demonstration
- Technology
- Writing To Learn

#### Assessment

This activity provides an opportunity to complete a learning log entry.

#### Assessment Strategies

- Learning Log
- Select Response

#### Assessment Recording Devices

- Rating Scale

### Teaching / Learning

As this may be the first time students have been exposed to a microscope, the introductory activities will be very important to ensure the class uses the equipment safely. Participation in the "newspaper" activity will also be critical to ensure students have a positive experience with their microscope tasks.

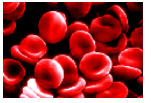
#### Introduction

Discuss the purpose of a microscope and some of its important components as well as the safe handling of it and other materials such as slides.

#### Orientation Activity

Use a teacher directed approach to the orientation activity to ensure that all groups are able to complete each task before moving on to the grade specific viewing activities. Divide the class into pairs or threes and provide each with the necessary materials.

1. Direct each group to cut out a small letter "f" from a newspaper. Place the clipping in the centre of a microscope slide and lower a cover slip, edge first, gently onto the slide.
2. Place the slide on the stage with the letter facing right-side up. Observe the letter under the low-power lens. Ask the class what they observe (size, texture, orientation).
3. Have the students move the slide slowly towards them and then slowly away from them while observing through



**The Genesis Project**

**A New Life Convention An Integrated Unit for Grade 5/6**

**80 mins**

the eyepiece. What direction does the letter appear to be moving. Repeat using sideways movement. Ensure all students understand that their movement causes an opposite movement in eyepiece.

3. Direct students to recentre the letter and then switch the magnification to medium-power. Elicit responses to the changes they now observe in the letter. Repeat for the high-power magnification, reminding students to only use the fine adjustment knob at this magnification.

4. Create a class list of the observations and findings of the class, focusing on tips for successful viewing. Draw a diagram on the blackboard or chart paper of what the students observed under each of the three magnifications. Students may also complete personal diagrams at the teacher's discretion.














**Observing Cells and Microscope Life**

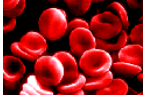
1. In grade specific groups, students should read an introductory text to cells/microscopic life to orient them to the basic parts of the cell and a simplified form of the Protist Kingdom classification tree.

2. Students use the worksheet to guide them through the various steps of the activity and record their observations.

**Adaptations**

**Resources**

	<b>The Microscopic World - Grade 6</b>	3.6.1.cwk
	<b>Microscope Performance Checklist</b>	performance checklist.cwk
	<b>A Simple Cell Worksheet - Grade 5</b>	3.5.1.cwk
	<b>Onion</b>	1
	<b>Cover Slip</b>	1
	<b>Iodine</b>	1 bottle
	<b>Toothpick</b>	1
	<b>Water</b>	1 small beaker
	<b>Pond Water</b>	1 small beaker
	<b>Eye Dropper</b>	1
	<b>Microscope</b>	1
	<b>Slide</b>	1
	<b>Tweezers</b>	1



**The Genesis Project**

A New Life Convention An Integrated Unit for Grade 5/6

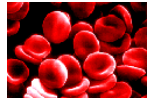
80 mins

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**Notes to Teacher**

**Teacher Reflections**





## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

80 mins

## Description

### Key Concepts

#### Grade 5

- There are five major organ systems, each with a specific structure and function.

#### Grade 6

- Animals have a set of characteristics that can be observed and described in order to study the similarities and differences among species.

By examining and grouping illustrations of components of organ systems (Grade 5) or a variety of species from the animal kingdom (Grade 6) students will recognize that every system is composed of interrelated components.

## Expectations

- 5s5 – describe the basic structure and function of the major organs in the respiratory, circulatory, digestive, excretory, and nervous systems;
- 5s12 – use appropriate vocabulary, including correct science and technology terminology, in describing their investigations, explorations, and observations (e.g., use terms such as teeth, esophagus, stomach, and gastric juices in describing the digestive system);
- 6s8 – compare the characteristics of vertebrates and invertebrates;
- 6s14 – use appropriate vocabulary, including correct science and technology terminology, in describing their investigations and observations (e.g., use terms such as organism, species, structure, and kingdom in describing classification of animals);
- 5s2 A • investigate the structure and function of the major organs of the respiratory, circulatory, digestive, excretory, and nervous systems;
- 6s1 A • demonstrate an understanding of ways in which classification systems are used to understand the diversity of living things and the interrelationships among living things;
- 6s3 • describe ways in which classification systems can be used in everyday life.
- 6s17 – identify various kinds of classification systems that are based on specific criteria and used to organize information (e.g., in a telephone system, numbers are classified according to country code, area code, telephone number, extension number);

### Groupings

- Students Working In Small Groups
- Students Working In Pairs

### Teaching / Learning Strategies

- Classifying
- Anticipation Guide
- Round Robin

### Assessment

This activity provides an opportunity to complete a learning log entry.

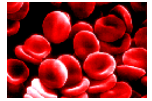
### Assessment Strategies

- Performance Task
- Observation
- Learning Log

### Assessment Recording Devices

## Teaching / Learning

1. In the role of lead scientist, introduce students to the scenario: *You, the scientific leaders in this field, have been brought together find a solution to a problem plaguing scientists around the world. We, the scientific community, do not have a universally accepted system to classify the organs (Grade 5) and animals (Grade 6) we study. This causes a great deal of confusion when we are trying to communicate with each other and the rest of the world, especially when we have a new discovery. We must have some*



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6





80 mins

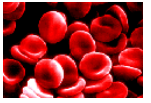
*system, we all understand and agree upon, that allows us to classify what something is or where it belongs in relation to other aspects of our field of study. You have been asked here to find a solution.*

2. Introduce students to the anticipation guide (BLM 4.5.1 and BLM 4.6.1 "Agree or Disagree Chart"). Reinforce that the purpose of the activity is to explore their ideas about a concept before and after an activity and discussion. Communicating and justifying why their opinions changed or stayed the same is more important than the accuracy of their final position. Remind students/famous scientists that clarity is an absolute necessity, as the information they record on their sheets will influence the final decision.
3. In pairs, have students read the statements on their anticipation guides and check off the appropriate column stating whether they agree or not.
4. In the same pairs, students sort a collection of images into categories of their own choosing. They must have a justification for why the images in each group belong together.
5. In small groups, students should explain and discuss their individual classifications. Ensure partners from Steps 3 and 4 are not in the same group to maximize the sharing of ideas. Students then regroup their image collections based on criteria identified by the small group.
6. Students return to work with their original partner to share what was discussed in their small groups and to complete their anticipation guides.
7. Students may be asked to record in their learning logs any questions they now have about the systems scientists currently use to classify organs or animals.

## Adaptations

### Resources

- |  |                                       |           |
|--|---------------------------------------|-----------|
|  | <b>Agree Disagree Chart - Grade 5</b> | 4.5.1.cwk |
|  | <b>Agree Disagree Chart - Grade 6</b> | 4.6.1.cwk |
|  | <b>Enchanted Learning</b>             |           |
|  | <b>Kid Info - Human Body</b>          |           |

**The Genesis Project****A New Life Convention An Integrated Unit for Grade 5/6****80 mins**

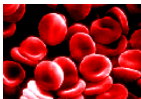
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**Notes to Teacher**

Website addresses which have pictures of animals and human organs have been included in the resources section. Calendars are another excellent source for pictures of animals.

This activity allows students to discover the need for universally accepted classification systems. Having students in role may reduce the students' concern regarding whether or not they were "right." At the completion of this task the teacher may or may not want to share scientists' classifications. Withholding that information may assist in creating a climate where student interest reaches beyond finding "the right answer."

**Teacher Reflections**



**The Genesis Project**

A New Life Convention An Integrated Unit for Grade 5/6

120 mins

**Description**

**Key Concepts**

Grade 5

- There are five major organ systems, each with a specific structure and function.
- Through centre-based activities students will become familiar with the human body organ systems.

**Expectations**

- 5s5 – describe the basic structure and function of the major organs in the respiratory, circulatory, digestive, excretory, and nervous systems;
- 5s8 – explain what happens to excess nutrients not immediately used by the body;
- 5s12 A – use appropriate vocabulary, including correct science and technology terminology, in describing their investigations, explorations, and observations (e.g., use terms such as teeth, esophagus, stomach, and gastric juices in describing the digestive system);
- 5s1 A • demonstrate an understanding of the structure and function of the respiratory, circulatory, digestive, excretory, and nervous systems, and the interactions of organs within each system;

**Groupings**

- Students Working In Small Groups
- Students Working Individually

**Teaching / Learning Strategies**

- Learning Centres

**Assessment**

This activity provides an opportunity to complete a learning log entry. The rating scale can be used to assess the students' performance while at the learning centres.

**Assessment Strategies**

- Observation
- Learning Log

**Assessment Recording Devices**

- Rating Scale

**Teaching / Learning**

1. Assemble the necessary materials at each station prior to the start of this activity. Be sure to include enough consumable supplies, such as straws, for each student. The lung capacity station may be set up near a water source, such as a classroom sink. If one is not available, be sure to provide buckets of water for refilling the jug.
2. While the Grade 6 students are reading their text and beginning their assignment, briefly introduce the task and purpose for each centre. Remind the students that the organs they studied in the previous subtask work together in systems and they will be exploring the function of five major systems in this activity.

**Centre 1: Lung Capacity**

Students will determine how much air their lungs can hold.

**Centre 2: Heart Rate**

Students will learn how to determine their pulse and explore changes in heart rate.

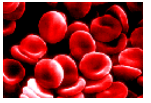
**Centre 3: Food Pathways**

Students will create a flow chart mapping the route a food item takes as it travels through the digestive system.

**Centre 4: Filtration**

Students will filter water using coffee filters to simulate the function of the kidneys.

**Centre 5: Reflexes and Memory**



**The Genesis Project**

**A New Life Convention An Integrated Unit for Grade 5/6**

















120 mins

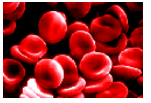
Students will explore their reaction time, reflexes, and ability to remember a group of items.

3. Divide the students into five equal ability groups, ensuring if possible that there are at least two people in each group. Each group should rotate through the five centres, spending about 15 to 20 minutes at each station, depending on the number of students in each group.
4. If time permits, bring the groups together after the first rotation to share their experiences briefly and address any changes they feel need to be made.
5. Confirm that students take the time after each station to ensure all parts of the activity page for that centre is complete.
6. Bring the group together following all five rotations to share their results and discoveries.

**Adaptations**

**Resources**






















	<b>Respiratory System Worksheet - Grade 5</b>	5.5.1.cwk
	<b>The Circulatory System - Grade 5</b>	5.5.2.cwk
	<b>The Digestive System - Grade 5</b>	5.5.3a.cwk
	<b>The Flow of Food (Digestive) -Grade 5</b>	5.5.3b.cwk
	<b>The Excretory System - Grade 5</b>	5.5.4.cwk
	<b>The Nervous System - Grade 5</b>	5.5.5a.cwk
	<b>Recording Sheet (Nervous) - Grade 5</b>	5.5.5b.cwk
	<b>Science Systems Assessment</b>	performance checklist2.cwk
	<b>Respiratory System Info</b>	respiratory backgrounder.cwk
	<b>Circulatory System Info</b>	circulatory backgrounder.cwk
	<b>Nervous System Info</b>	nervous backgrounder.cwk
	<b>Digestive System Info</b>	digestive backgrounder.cwk
	<b>Nervous System Diagram (blank)</b>	nervous diagram.pdf
	<b>Circulatory System Diagram (blank)</b>	circulatory diagram.pdf
	<b>Digestive System Diagram (blank)</b>	digestive diagram.pdf
	<b>Respiratory System Diagram (blank)</b>	respiratory diagram.cwk

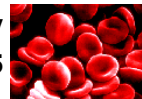


The Genesis Project

A New Life Convention An Integrated Unit for Grade 5/6

120 mins

	<b>Respiratory System Diagram (labelled)</b>	respiratory diagram 2.cwk
	<b>Circulatory System Diagram (labelled)</b>	circulatory diagram 2.pdf
	<b>Nervous System Diagram (labelled)</b>	nervous diagram 2.pdf
	<b>Digestive System Diagram (labelled)</b>	digestive diagram 2.pdf
	<b>Excretory System Info</b>	excretory backgrounder.cwk
	<b>Science &amp; Technology</b>	Addison Wesley
	<b>Inner Body Website</b>	
	<b>Science Graphics Website</b>	
	<b>Straw</b>	1
	<b>Masking Tape</b>	2 rolls
	<b>Coffee filters</b>	3
	<b>Muddy Water</b>	~750 mL
	<b>4 L Plastic Jug</b>	1
	<b>Plastic Tubing</b>	75 cm
	<b>Plastic Tub</b>	1
	<b>Flexible Tubing</b>	1 m
	<b>Small funnel</b>	1
	<b>Watch or Clock</b>	1
	<b>Medium Funnel</b>	1
	<b>Beaker</b>	3
	<b>30 cm ruler</b>	1



## The Genesis Project

A New Life Convention An Integrated Unit for Grade 5/6

120 mins

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### Notes to Teacher

#### A Note on Background Information

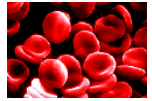
Background information about each of the body systems may be helpful to give students a better understanding of the organs and systems they are exploring in these activities. Any texts, developed for Ontario Science and Technology courses, would be acceptable. For those teachers without access to these texts, brief backgrounders for each of the five sections have been provided under Resources. Two diagrams of each system (one labeled, one not) have also been included.

Teachers may wish to have the students read the text prior to each activity or complete the readings during other class times, such as Language Arts. This could also be an activity to complete at home. As well, the diagrams may be used for assessment purposes or during follow-up discussions.

#### A Note on the Centres

The teacher will want to gather all supplies before beginning the centres, clearly identifying which tools are for which centres (a suggestion would be a plastic or cardboard box for each set of supplies). When preparing for the Respiratory Centre, the teacher will have to label the 4 L plastic jug. Add 500 mL of water to the jug and then clearly label the level on the side using tape or a permanent marker. Repeat for 500 mL increments up to the 4 L mark (a total of eight markings).

### Teacher Reflections



The Genesis Project

A New Life Convention An Integrated Unit for Grade 5/6

mins

**Description**

**Key Concepts**

Grade 6

- Animals have a set of characteristics that can be observed and described in order to study the similarities and differences among species.
- Through research and experiment students will become familiar with some of the processes of life within the taxonomy of living things (Grade 6).

**Expectations**

- 6s2 A • investigate classification systems and some of the processes of life common to all animals (e.g., growth, reproduction, movement, response, and adaptation);
- 6s6 – identify and describe the characteristics of vertebrates, and use these characteristics to classify vertebrates as mammals, birds, amphibians, reptiles, and fish (the five main classes);
- 6s7 – identify and describe the characteristics of invertebrates, and classify invertebrates into phyla (e.g., sponges, worms, molluscs, arthropods);
- 6s9 – compare the characteristics of different kinds of arthropods (e.g., crustaceans such as crayfish, shrimp; insects such as grasshoppers, butterflies, mealworms);
- 6s14 A – use appropriate vocabulary, including correct science and technology terminology, in describing their investigations and observations (e.g., use terms such as organism, species, structure, and kingdom in describing classification of animals);

**Groupings**

- Students Working In Small Groups
- Students Working Individually

**Teaching / Learning Strategies**

- Research
- Experimenting
- Discussion

**Assessment**

This activity provides an opportunity to complete a learning log entry. The rating scale can be used to specifically assess the earthworm investigation.

**Assessment Strategies**

- Questions And Answers (oral)
- Learning Log

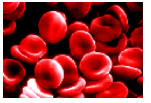
**Assessment Recording Devices**

- Rating Scale

**Teaching / Learning**

1. Distribute BLMs 5.6.1 and 5.6.2 to the students. Ask them to read the text individually and then follow the instructions on the activity page. The teacher can choose to photocopy and distribute the activity page or simply show it to the students as an example and allow them to organize their information in their own format.
2. Once the Grade 5 students have begun their centres rotation, meet with the Grade 6 students and review the characteristics of living things. Ask students to defend why examples of creatures are or are not alive based on these characteristics (for example, a "dust bunny" will "grow" over a period of time and appears to be capable of movement but is not composed of cells and does not metabolize).
3. Have students return to their assignment and complete their series of diagrams and statements.
4. Once all students have completed their task, reassemble the group and share some examples to reinforce the characteristics of living things.
5. Distribute the three pages of BLM 6.5.3 and review the assignment. Explain to students they will explore some of the characteristics they encountered in the previous activity. Remind the class that they will be working with a living organism and therefore it must be treated with kindness and respect.





**The Genesis Project**















**A New Life Convention An Integrated Unit for Grade 5/6**

mins

6. Divide the class into pairs or threes and have students gather their materials and begin the investigation.
7. Monitor their progress, particularly when they first begin working with the worm.
8. Meet following the investigation to share results. Remind students that all living things will exhibit these characteristics, including plants.

**Adaptations**

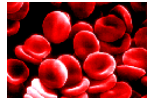
**Resources**

	<b>Text (Char. of Living Things) - Grade 6</b>	5.6.1.cwk
	<b>Organism Diagrams - Grade 6</b>	5.6.2.cwk
	<b>Earthworm Investigation - Grade 6</b>	5.6.3.cwk
	<b>Earthworm Investigation Assessment</b>	performance checklist3.cwk
	<b>Earthworm</b>	1/grp
	<b>Water</b>	
	<b>Vinegar</b>	~250 mL
	<b>Paper Towel</b>	1 roll
	<b>Plastic wrap</b>	1 roll
	<b>Cotton balls</b>	1
	<b>Cardboard</b>	1 sm. piece
	<b>Small towel</b>	1
	<b>Small container</b>	1
	<b>Flashlight</b>	1

**Notes to Teacher**

Students may require a definition of the word "metabolize", one of the characteristics of living things. A living thing's metabolism is the process of adding food and then breaking it down into components that (a) can be used to produce energy or (b) is expelled as a waste product. Therefore, the digestive system is an important part of a living thing's ability to metabolize.

**Teacher Reflections**



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

80 mins

## Description

### Key Concepts

#### Grade 5

- There are five major organ systems, each with a specific structure and function.

#### Grade 6

- Animals have a set of characteristics that can be observed and described in order to study the similarities and differences among species.

Through dramatic presentations students, will explain how a specific organ system works and the function of its components (Grade 5) or the characteristics which identify the members of a specific invertebrate or vertebrate group (Grade 6).

## Expectations

- 5s12 A – use appropriate vocabulary, including correct science and technology terminology, in describing their investigations, explorations, and observations (e.g., use terms such as teeth, esophagus, stomach, and gastric juices in describing the digestive system);
- 6s6 – identify and describe the characteristics of vertebrates, and use these characteristics to classify vertebrates as mammals, birds, amphibians, reptiles, and fish (the five main classes);
- 6s7 – identify and describe the characteristics of invertebrates, and classify invertebrates into phyla (e.g., sponges, worms, molluscs, arthropods);
- 6s9 – compare the characteristics of different kinds of arthropods (e.g., crustaceans such as crayfish, shrimp; insects such as grasshoppers, butterflies, mealworms);
- 6s14 A – use appropriate vocabulary, including correct science and technology terminology, in describing their investigations and observations (e.g., use terms such as organism, species, structure, and kingdom in describing classification of animals);
- 5s2 A • investigate the structure and function of the major organs of the respiratory, circulatory, digestive, excretory, and nervous systems;
- 6s2 A • investigate classification systems and some of the processes of life common to all animals (e.g., growth, reproduction, movement, response, and adaptation);

### Groupings

- Students Working In Small Groups
- Students Working Individually

### Teaching / Learning Strategies

- Forum Theatre
- Simulation
- Writing To Learn

### Assessment

#### Assessment Strategies

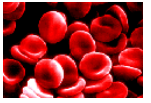
- Performance Task
- Classroom Presentation
- Learning Log

#### Assessment Recording Devices

- Rubric

## Teaching / Learning

1. Explain that through dramatic presentations not exceeding three minutes, small groups of students will each describe the components and function of an assigned organ system (Grade 5) or the characteristics of an assigned phylum or class (Grade 6).
2. Introduce and discuss the Dramatic Depiction Checklist which identifies the assignment criteria.



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

80 mins

3. Students will individually read a grade appropriate selection on their specific organ system (Grade 5) or phylum or class (Grade 6) to expand on knowledge gained in Subtasks 5.5 and 5.6. The backgrounders from Subtask 5.5 may be helpful here.
4. In their presentation groups, students will discuss their reading selection and plan and rehearse their dramatic depictions.
5. Each small group will present their dramatic depiction.

## Adaptations

### Resources



**Assessing Dramatic Depictions - Grade 5**



**Assessing Dramatic Depictions - Grade 6**



**Dramatic Depiction Checklist - Grade 5**

6\_dramatic checklist5.pdf



**Dramatic Depiction Checklist - Grade 6**

6\_dramatic checklist6.pdf



**Kid Info - Human Body**

### Notes to Teacher

Some possible examples include:

Anthem of the Arthropods - a rap explaining the arthropod phylum

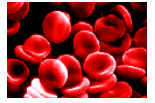
A Hamburger's Demise - the story of the digestive system

A Day In the Life of a Red Blood Cell - the circulatory system

Identify the Impostor - Students role play being an organ of the body or an animal. Based on the descriptions students provide of themselves, the audience must determine which of the organs/animals doesn't belong in the system/class or phylum and why.

Students may or may not include a problem for their audience to solve (see Teaching/Learning Strategies - Forum Theatre). This may provide teachers with a means of differentiating between a Level 3 and a Level 4 performance. If the "problem" aspect of the presentation is going to be included as an element of the assessment, teachers are reminded to adjust the assessment tool accordingly.

### Teacher Reflections



# The Genesis Project

A New Life Convention An Integrated Unit for Grade 5/6

160 mins

## Description

### Key Concepts

#### Grade 5

- Organ systems work together to perform various functions.

#### Grade 6

- Animals can be most accurately classified using a system that separates them into smaller, more precise categories using structural characteristics of the animal.

Students will work toward designing and constructing models that reflect how components of the skeletal, muscular, and nervous systems work together to produce movement (Grade 5) or how physical and structural characteristics of animals determine its place in the taxonomy of living things (Grade 6).

## Expectations

- 5s6 A – describe, using models and simulations, ways in which the skeletal, muscular, and nervous systems work together to produce movement (e.g., make a model of the structure of the bones and muscles in an arm, using cardboard rolls and elastic bands);
- 5s13 – compile data gathered through investigation in order to record and present results, using tally charts, tables, and labelled graphs produced by hand or with a computer (e.g., record both qualitative and quantitative data from observations of the nutritional value of foods; produce a graph of the heartbeat rate of someone climbing a specific number of stairs in a given length of time);
- 6s4 – explain why formal classification systems are usually based on structural characteristics (e.g., type of skeleton, circulatory system, reproductive system) rather than on physical appearance or behavioural characteristics;
- 6s19 – explain why characteristics related to physical appearance (e.g., size, shape, colour, texture) or behaviour are not suitable attributes for classifying living things;
- 6s15 – compile data gathered through investigation in order to record and present results, using charts, tables, labelled graphs, and scatter plots produced by hand or with a computer (e.g., make an inventory of animals found in a specific location);
- 6s1 A • demonstrate an understanding of ways in which classification systems are used to understand the diversity of living things and the interrelationships among living things;

### Groupings

Students Working In Pairs

### Teaching / Learning Strategies

Model Making

Problem-solving Strategies

### Assessment

#### Assessment Strategies

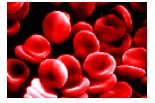
Performance Task

#### Assessment Recording Devices

Rubric

## Teaching / Learning

1. Ask the students why scientists and engineers would find the use of models so helpful in their work (models give a visual representation of the object under study and can display characteristics of movement). Introduce the process of model building, including the planning stage, rough copy, and building stage. Students in both grades



**The Genesis Project**

**A New Life Convention An Integrated Unit for Grade 5/6**

**160 mins**

will be designing and building models: the bones and muscles in a human arm (Grade 5) and a representative species from a vertebrate or invertebrate group. The Grade 5 model will be a working model while the Grade 6 model will simply create a replica.

**2. Grade 5**

Provide the students with an appropriate text on muscles, bones, and movement. Have students observe the arm movements of a partner to prepare them for their model construction.

**3. Grade 6**

While the other group is reviewing the text, divide the Grade 6 students into 9 groups so that each invertebrate phylum (mollusks, sponges, worms, and arthropods) and vertebrate class (mammals, fish, reptiles, amphibians, and birds) is represented. The students will create a model of one representative organism from the assigned group. The model will illustrate the characteristics specific to that group. The model must be accompanied by an index card that clearly identifies the name, phylum/class (e.g., Invertebrates, Sponges, Mammals etc.), and characteristics of the model.











4. With the whole group, review model building expectations and especially the planning sheet (BLM 7.1). The Grade 6 students can begin work while the Grade 5 students are organized into partners or small groups. This group should also be given access to available materials before planning so they know what resources are available.

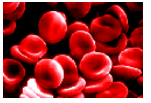
5. Before the groups can begin the model building stage, their plans need to be approved by the teacher. Once approved, students are given the materials necessary to build the model and are given necessary time to design and build.

6. Students will present their models.

**Adaptations**

**Resources**

-  **Assessing Model Mania - Grade 5**
-  **Assessing Model Mania - Grade 6**
-  **Design Planning Worksheet** 7.1.cwk
-  **Muscle Diagram** muscles diagram.pdf
-  **Science & Technology, Human Body** Addison Wesley
-  **Corrugated cardboard**
-  **Rubber bands**
-  **Paper towel tubes**
-  **Paper fasteners**
-  **Tape**










## The Genesis Project

A New Life Convention An Integrated Unit for Grade 5/6

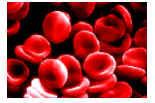
160 mins

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-  **Balloons**
-  **Scissors**
-  **Pipe cleaners**
-  **Modelling clay**
-  **Wool**
-  **Feathers**
-  **Felt**
-  **Wooden craft sticks**

**Notes to Teacher**

**Teacher Reflections**



## The Genesis Project

A New Life Convention An Integrated Unit for Grade 5/6

40 mins

### Description

#### Key Concepts

Grade 5

- Many factors contribute to the good health and function of these systems.
- Students will become familiar with how nutrition, physical activity, and environmental factors impact the health of the human body's organ systems.

### Expectations

- 5s16 – identify a balanced diet as one containing carbohydrates, proteins, fats, minerals, vitamins, fibre, and water, and design a diet that contains all of these;
- 5s18 – interpret nutritional information to make healthy food choices (e.g., sort commercial cereals into different categories, such as high fat, low fat, high salt, low sugar, and decide which are best);
- 5s21 – describe the relationship between eating habits, weight, height, and metabolism;
- 5s23 – explain the importance of daily physical activity;
- 5s13 – compile data gathered through investigation in order to record and present results, using tally charts, tables, and labelled graphs produced by hand or with a computer (e.g., record both qualitative and quantitative data from observations of the nutritional value of foods; produce a graph of the heartbeat rate of someone climbing a specific number of stairs in a given length of time);
- 5s3 • demonstrate understanding of factors that contribute to good health.

#### Groupings

- Students Working Individually
- Students Working In Small Groups

#### Teaching / Learning Strategies

- Direct Teaching

#### Assessment

This activity provides an opportunity to complete a learning log entry.

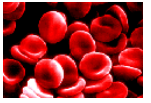
#### Assessment Strategies

- Questions And Answers (oral)

#### Assessment Recording Devices

### Teaching / Learning

1. Direct the students to read a grade appropriate text about nutrients and a balanced diet. Suggestions are included in the subtask notes.
2. Review with the students the components of a well-balanced diet, focusing on what the task of nutrients are for the body (growth and repair of body cells and tissues, production of energy, and regulation of body processes such as breathing), the seven important nutrients (proteins, sugars, starches, fats, vitamins, minerals, and water), and the importance of a balanced diet. (No one food or type of nutrient can provide all the materials that the body needs to function; balanced diet is needed to provide all of the ingredients for growth and repair, energy, and regulation of systems and processes.)
3. Divide the students into small groups and distribute the activity sheet (BLM 8.5.1). Point out the location of the nutritional information on a few cereal boxes and review how to read the information. A suggestion would be to photocopy one example onto an overhead for easier sharing.
4. Have the students follow the instructions to complete the activity. Meanwhile, meet with the Grade 6 students to monitor their progress with the paleontology task.



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

40 mins

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5. Debrief with the Grade 5 students following their activity, using questioning to determine a general level of understanding. Assign the reflection questions.

## Adaptations

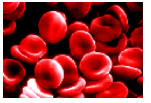
### Resources

 Healthy Living Activity - Grade 5	8.5.1.cwk
 Empty cereal boxes	5

### Notes to Teacher

### Teacher Reflections





**The Genesis Project**

A New Life Convention An Integrated Unit for Grade 5/6

mins

**Description**

**Key Concepts**

Grade 6

- There is evidence of the evolution of animals over time.
- Students will become familiar with the science of paleontology and explore similarities and differences between fossilized remains and animals that exist today.

**Expectations**

- 6s22 – explain how fossils provide evidence of changes in animals over geological time;
- 6s23 – compare similarities and differences between fossils and animals of the present.
- 6s16 – communicate the procedures and results of investigations for specific purposes and to specific audiences, using media works, oral presentations, written notes and descriptions, charts, graphs, and drawings (e.g., create a clearly labelled chart of organisms observed and identified during a pond study).
- 6s1 • demonstrate an understanding of ways in which classification systems are used to understand the diversity of living things and the interrelationships among living things;

**Groupings**

- Students Working Individually
- Students Working As A Whole Class

**Teaching / Learning Strategies**

- Direct Teaching

**Assessment**

This activity provides an opportunity to complete a learning log entry.

**Assessment Strategies**

- Questions And Answers (oral)



**Assessment Recording Devices**

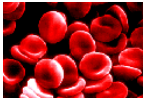
**Teaching / Learning**

1. Introduce the study of paleontology to the students while the Grade 5 students read their texts. Direct the students to read a grade appropriate text about paleontology and fossils.
2. Provide the students with their assignment (BLM 8.6.1) as well as a copy of the skeletal diagrams (BLM 8.6.2) or any other illustrations of a prehistoric skeleton, such as archeopteryx or velociraptor. Have the students complete the questions and then share their results with their classmates.
3. Collect the material for evaluation. Note the ability of the students to illustrate similarities between past and current skeletons in both words and diagrams.

**Adaptations**

**Resources**

-  **Fossils Worksheet - Grade 6** 8.6.1.cwk
-  **Skeletal Diagrams** 8.6.2.cwk



**The Genesis Project**

**A New Life Convention** An Integrated Unit for Grade 5/6

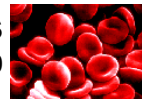
mins

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**Notes to Teacher**

Teachers must be sensitive to the diverse points of view regarding theories of evolution.

**Teacher Reflections**



# The Genesis Project

## A New Life Convention An Integrated Unit for Grade 5/6

80 mins

### Description

#### Key Concepts

##### Grade 5

- Many factors contribute to the good health and function of these systems.

##### Grade 6

- There is evidence of the evolution of animals over time.

Using knowledge from the previous subtask, "Before & After", students will provide a plan to improve a fictitious subject's lifestyle (Grade 5) or examine the skeletal systems of prehistoric animals and identify their modern descendants (Grade 6).

### Expectations

- 5s16 – identify a balanced diet as one containing carbohydrates, proteins, fats, minerals, vitamins, fibre, and water, and design a diet that contains all of these;
- 5s18 – interpret nutritional information to make healthy food choices (e.g., sort commercial cereals into different categories, such as high fat, low fat, high salt, low sugar, and decide which are best);
- 5s19 – demonstrate awareness that some disorders can be affected by diet (e.g., diabetes, heart disease);
- 5s21 – describe the relationship between eating habits, weight, height, and metabolism;
- 5s23 – explain the importance of daily physical activity;
- 6s22 – explain how fossils provide evidence of changes in animals over geological time;
- 6s23 A – compare similarities and differences between fossils and animals of the present.
- 5s14 A – communicate the procedures and results of investigations for specific purposes and to specific audiences, using media works, oral presentations, written notes and descriptions, drawings, and charts (e.g., create a comparison chart, grouping foods by major nutrients and by their categories in Canada's Food Guide to Healthy Eating).
- 6s16 A – communicate the procedures and results of investigations for specific purposes and to specific audiences, using media works, oral presentations, written notes and descriptions, charts, graphs, and drawings (e.g., create a clearly labelled chart of organisms observed and identified during a pond study).
- 5s3 A • demonstrate understanding of factors that contribute to good health.
- 6s1 • demonstrate an understanding of ways in which classification systems are used to understand the diversity of living things and the interrelationships among living things;

#### Groupings

- Students Working In Pairs
- Students Working Individually

#### Teaching / Learning Strategies

- Case Study
- Problem-solving Strategies
- Writing To Learn

#### Assessment

This activity provides an opportunity to complete a learning log entry.

#### Assessment Strategies

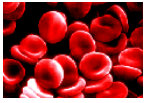
- Learning Log

#### Assessment Recording Devices

- Rating Scale

### Teaching / Learning

1. Introduce students to the rating scale that will be used to assess their "solutions."



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

80 mins

#### Grade 5

2. Provide each pair of students with a copy of the case study text about "Steve" to read.
3. Students continue working in pairs to list the strengths and weaknesses of Steve's lifestyle, focusing on diet and exercise.
4. Students individually complete BLM 9.5.1.
5. As an additional activity, students could be asked to analyse their own lifestyle using the format above.

#### Grade 6

2. In pairs, students research the skeletal system of a prehistoric animal and its modern descendent.
3. Students focus on the same part of each animal's skeletal system (skull, foot, wing, etc.) and identify similarities which provide evidence of change over time supporting the conclusion that the modern animal is a descendent of its prehistoric relative.
4. Student Pairs create a model, using material appropriate for their task (modeling clay, toothpick, etc.) and information card which shows the relationship between prehistoric and modern animals' skeletal systems.

## Adaptations

### Resources

**Case Study - Grade 5**

9.5.1.cwk

**Case Study Text - Steve**

case study text.cwk

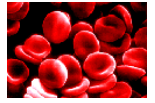
**Modeling clay****Toothpicks****Cardboard****Glue**

### Notes to Teacher

#### Grade 6 Modeling

Teachers can direct the students to create a model that meets the abilities of the class. A class that has more extensive experience with sculpturing may wish to create complete three dimensional models of the selected body part. Those students that less comfortable may wish to instead use modeling clay or salt dough and form the part on a flat board.

### Teacher Reflections



## Description

### Key Concepts

#### Grade 5

- Technology impacts the function of these human body systems.

#### Grade 6

- The environment impacts specific characteristics that enable animals to live in particular habitats.

Students will participate in an activity which requires them to complete a set of tasks without the use of their thumbs. Following this experience students will research and report on a medical technology which improves the quality of life (Grade 5) or an animal's adaptations which allows them to thrive in their environment (Grade 6).

## Expectations

- 5s25 – explain the benefits and disadvantages of using some technological innovations (e.g., headsets designed to protect ears from excessive noise are helpful, but headphones used to listen to music can cause hearing impairment);
- 5s26 A – describe some types of medical technology (e.g., exercise machines, hearing aids, prosthetics).
- 6s21 A – describe specific characteristics or adaptations that enable each group of vertebrates to live in its particular habitat (e.g., fish in water), and explain the importance of maintaining that habitat for the survival of the species;
- 5s13 – compile data gathered through investigation in order to record and present results, using tally charts, tables, and labelled graphs produced by hand or with a computer (e.g., record both qualitative and quantitative data from observations of the nutritional value of foods; produce a graph of the heartbeat rate of someone climbing a specific number of stairs in a given length of time);
- 6s15 – compile data gathered through investigation in order to record and present results, using charts, tables, labelled graphs, and scatter plots produced by hand or with a computer (e.g., make an inventory of animals found in a specific location);
- 5s3 • demonstrate understanding of factors that contribute to good health.
- 6s2 • investigate classification systems and some of the processes of life common to all animals (e.g., growth, reproduction, movement, response, and adaptation);

### Groupings

- Students Working Individually
- Students Working In Pairs

### Teaching / Learning Strategies

- Learning Centres
- Research
- Writing To Learn

### Assessment

This activity provides an opportunity to complete a learning log entry.

### Assessment Strategies

- Essay

### Assessment Recording Devices

- Checklist

## Teaching / Learning

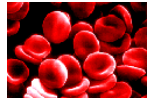
1. Humans, like all other organisms, have special adaptations that help us to fit into and shape our environment. Begin by asking students why they think their thumbs could be considered an adaptation. How do they help you to live? For what activities are the thumbs necessary to complete a task?
2. Distribute the BLM 11.5.1 or 11.6.1 and ask the students, alone or in pairs, to record some of their ideas.

# The Genesis Project

## A New Life Convention An Integrated Unit for Grade 5/6

Thumbs Up!

Subtask 10



120 mins

3. Divide the students into pairs and have one student partner tape or otherwise secure their thumbs. Provide a series of challenges. Students could complete the challenges by moving centre to centre or the entire class can complete one challenge at a time together. Have both partners attempt to complete the challenge and discuss the different degrees of success based on the use or non-use of thumbs. Ask partners to switch halfway through the activity so both have an opportunity to work "thumbless."

Suggested Challenges:

- writing with a pencil
- picking up tiny objects
- tying shoelaces
- buttoning or zipping jackets
- "eating" with utensils
- reading a book (turning pages)









End with a general discussion that leads to the conclusion that thumbs are an important human adaptation that allow us to live in and manipulate our environment. A lack of thumbs would impact on our quality of life.

4. Explain to the students that they will be asked to complete a short report dealing with adaptations - medical adaptations for Grade 5 students, and animal adaptations for the Grade 6 students. Distribute the BLM and the rating scale and review the expectations with the students.

5. Provide the students sufficient time to complete the activity. Meet as a class following the completion of the reports so students can informally share their findings.

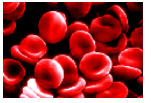
## Adaptations

### Resources

	<b>Thumbs Up Worksheet - Grade 5</b>	10.5.1.cwk
	<b>Thumbs Up Worksheet - Grade 6</b>	10.6.1.cwk
	<b>Medical Adaptations Assessment - Grade 5</b>	10_checklist5.cwk
	<b>Animal Adaptations Assessment - Grade 6</b>	10_checklist6.cwk
	<b>Food samples</b>	
	<b>Pencil</b>	1
	<b>Shoes</b>	1
	<b>Jacket</b>	1

## Notes to Teacher

## Teacher Reflections



## The Genesis Project

A New Life Convention An Integrated Unit for Grade 5/6

120 mins

### Description

#### Scenario

The class is introduced to the concept of an international science conference, "The New Life Convention," where students, in the role of scientific leaders in their respective fields, will present and discuss their new life discovery.

#### Grade 5

You are a famous virologist (virology is the study of viruses) who has discovered a new virus. Your colleagues have called upon you to report your discovery at "The New Life Convention." You have been asked to identify and explain:

- why the virus targets the affected system,
- how the system is affected,
- how the damaged system impacts other body systems,
- which lifestyle choices would make people susceptible to this virus.

#### Grade 6

You are a famous zoologist who has discovered a new form of life belonging to the animal kingdom. Your colleagues have called upon you to report your discovery at "The New Life Convention." You have been asked to identify and explain:

- the animal's physical appearance,
- the animal's structural characteristics,
- the animal's processes of life (growth, reproduction, movement, response/irritability, and adaptation),
- the animal's phylum (invertebrates) or class (vertebrates) within the animal kingdom.

### Expectations

- 5s1 A • demonstrate an understanding of the structure and function of the respiratory, circulatory, digestive, excretory, and nervous systems, and the interactions of organs within each system;
- 5s2 A • investigate the structure and function of the major organs of the respiratory, circulatory, digestive, excretory, and nervous systems;
- 5s3 A • demonstrate understanding of factors that contribute to good health.
- 6s1 A • demonstrate an understanding of ways in which classification systems are used to understand the diversity of living things and the interrelationships among living things;
- 6s2 A • investigate classification systems and some of the processes of life common to all animals (e.g., growth, reproduction, movement, response, and adaptation);
- 6s3 A • describe ways in which classification systems can be used in everyday life.

#### Groupings

Students Working Individually

#### Teaching / Learning Strategies

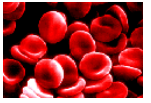
Writing To Learn  
Case Study  
Independent Study  
Oral Explanation

#### Assessment

Although this task is designed to assess and evaluate only Science & Technology - Life Systems expectations, the planning and presentation of this culminating task provides opportunities to assess a number of Language Expectations, primarily in Writing and Oral & Visual Communication. If time becomes an issue, integrating the appropriate Language Strands can provide more access to class time for work and presentation periods.

#### Assessment Strategies

Learning Log  
Performance Task

**The Genesis Project**

A New Life Convention An Integrated Unit for Grade 5/6

120 mins

**Assessment Recording Devices**

Rubric

**Teaching / Learning**

120 minutes have been allocated to this subtask. Teachers can divide this into work periods and presentation periods as their own situation dictates. Some possible presentation models are as follows.

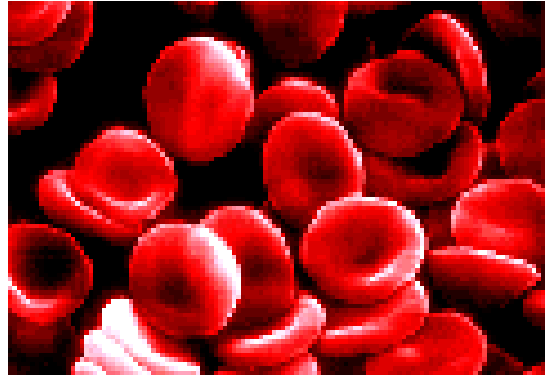
- Each student makes their presentation to the class (could serve as a rehearsal for presentations in the "convention" model).
- Students may videotape their presentations to show to a small group of students (allows for multiple presentations at one time and teacher evaluation of all students).
- Combination of video taped and live presentations to small groups (reduces the number of taped presentations the teacher must evaluate later).
- Students could set up "booths" in the gym or library.
  - half the class could be presenters while small groups rotate through attended booths,
  - entire class could present to small groups of students from other classes,
  - entire class could present while parents, organized into groups, rotate through booths.

**Adaptations****Resources****New Life Convention Presentation - Grade 6****New Life Convention Presentation - Grade 5****Assessing Convention Presentation - Grade 5****Assessing Convention Presentation - Grade 6****Virus Backgrounder**

virus backgrounder.cwk

**Notes to Teacher****Teacher Reflections**



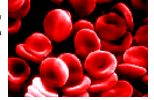


# **Appendices**

## **The Genesis Project**

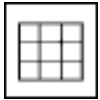
### **A New Life Convention**

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



# The Genesis Project

## A New Life Convention An Integrated Unit for Grade 5/6



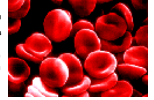
### Rubric

<input type="checkbox"/> <b>Assessing Convention Presentation - Grade 5</b> 3 Basic Concepts & Oral Presentation Rubric	ST 11
<input type="checkbox"/> <b>Assessing Convention Presentation - Grade 6</b> 3 Basic Concepts & Oral Presentation Rubric	ST 11
<input type="checkbox"/> <b>Assessing Dramatic Depictions - Grade 5</b> 3 Basic Concepts & Oral Presentation Rubric	ST 6
<input type="checkbox"/> <b>Assessing Dramatic Depictions - Grade 6</b> 3 Basic Concepts & Oral Presentation Rubric	ST 6
<input type="checkbox"/> <b>Assessing Model Mania - Grade 5</b> 3 Basic Concepts & Oral Presentation Rubric	ST 7
<input type="checkbox"/> <b>Assessing Model Mania - Grade 6</b> 3 Basic Concepts & Oral Presentation Rubric	ST 7
<input type="checkbox"/> <b>New Life Convention Presentation - Grade 5</b> 3	ST 11
<input type="checkbox"/> <b>New Life Convention Presentation - Grade 6</b> 3	ST 11




### Blackline Master / File

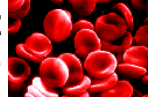
<input type="checkbox"/> <b>A Simple Cell Worksheet - Grade 5</b> 3.5.1.cwk	ST 3
<input type="checkbox"/> <b>Action, Reaction Worksheet - Grade 5</b> 1.5.1.cwk	ST 1
<input type="checkbox"/> <b>Action, Reaction Worksheet - Grade 6</b> 1.6.1.cwk	ST 1
<input type="checkbox"/> <b>Agree Disagree Chart - Grade 5</b> 4.5.1.cwk	ST 4
<input type="checkbox"/> <b>Agree Disagree Chart - Grade 6</b> 4.6.1.cwk	ST 4
<input type="checkbox"/> <b>Animal Adaptations Assessment - Grade 6</b> 10_checklist6.cwk	ST 10
<input type="checkbox"/> <b>Case Study - Grade 5</b> 9.5.1.cwk	ST 9
<input type="checkbox"/> <b>Case Study Text - Steve</b> case study text.cwk	ST 9
<input type="checkbox"/> <b>Circulatory System Diagram (blank)</b> circulatory diagram.pdf	ST 5.5
<input type="checkbox"/> <b>Circulatory System Diagram (labelled)</b> circulatory diagram 2.pdf	ST 5.5
<input type="checkbox"/> <b>Circulatory System Info</b> circulatory backgrounder.cwk	ST 5.5
<input type="checkbox"/> <b>Design Planning Worksheet</b> 7.1.cwk	ST 7
<input type="checkbox"/> <b>Digestive System Diagram (blank)</b> digestive diagram.pdf	ST 5.5
<input type="checkbox"/> <b>Digestive System Diagram (labelled)</b> digestive diagram 2.pdf	ST 5.5
<input type="checkbox"/> <b>Digestive System Info</b> digestive backgrounder.cwk	ST 5.5
<input type="checkbox"/> <b>Dramatic Depiction Checklist - Grade 5</b> 6_dramatic checklist5.pdf	ST 6
<input type="checkbox"/> <b>Dramatic Depiction Checklist - Grade 6</b> 6_dramatic checklist6.pdf	ST 6
<input type="checkbox"/> <b>Earthworm Investigation Assessment</b> performance checklist3.cwk	ST 5.6
<input type="checkbox"/> <b>Earthworm Investigation - Grade 6</b> 5.6.3.cwk	ST 5.6
<input type="checkbox"/> <b>Excretory System Info</b> excretory backgrounder.cwk	ST 5.5
<input type="checkbox"/> <b>Fossils Worksheet - Grade 6</b> 8.6.1.cwk	ST 8.6
<input type="checkbox"/> <b>Grade 5 Checklist</b> 2_Culminating5.cwk	ST 2
<input type="checkbox"/> <b>Grade 6 Checklist</b> 2_Culminating6.cwk	ST 2
<input type="checkbox"/> <b>Healthy Living Activity - Grade 5</b> 8.5.1.cwk	ST 8.5



# The Genesis Project

## A New Life Convention An Integrated Unit for Grade 5/6

<input type="checkbox"/> <b>Learning Log Tracking Sheet</b> Learning Log Tracking Sheet.pdf	ST 1		<b>Print</b>	
<input type="checkbox"/> <b>Medical Adaptations Assessment - Grade 5</b> 10_checklist5.cwk	ST 10			
<input type="checkbox"/> <b>Microscope Performance Checklist</b> performance checklist.cwk	ST 3	<input type="checkbox"/> <b>Science Everywhere</b>	Harcourt Brace 0-7747-0558-2 Grade 5 student book.	Unit
<input type="checkbox"/> <b>Muscle Diagram</b> muscles diagram.pdf	ST 7	<input type="checkbox"/> <b>Science Everywhere</b>	Harcourt Brace 0-7747-0565-5 Grade 5 Teacher Guide	Unit
<input type="checkbox"/> <b>Nervous System Diagram (blank)</b> nervous diagram.pdf	ST 5.5	<input type="checkbox"/> <b>Science Everywhere</b>	Harcourt Brace 0-7747-0559-0 Grade 6 student book.	Unit
<input type="checkbox"/> <b>Nervous System Diagram (labelled)</b> nervous diagram 2.pdf	ST 5.5	<input type="checkbox"/> <b>Science Everywhere</b>	Harcourt Brace 0-7747-0566-3 Grade 6 Teacher Guide	Unit
<input type="checkbox"/> <b>Nervous System Info</b> nervous backgrounder.cwk	ST 5.5	<input type="checkbox"/> <b>Science &amp; Technology</b>	Addison Wesley 0-201-64985-3 or another suitable print resource about the digestive system	ST 5.5
<input type="checkbox"/> <b>Organism Diagrams - Grade 6</b> 5.6.2.cwk	ST 5.6	<input type="checkbox"/> <b>Science &amp; Technology - Diversity of Living Things</b>	Addison Wesley 0-201-64991-8 Student text.	Unit
<input type="checkbox"/> <b>Recording Sheet (Nervous) - Grade 5</b> 5.5.5b.cwk	ST 5.5	<input type="checkbox"/> <b>Science &amp; Technology - Diversity of Living Things</b>	Addison Wesley 0-201-65439-3 Teacher Guide	Unit
<input type="checkbox"/> <b>Respiratory System Diagram (blank)</b> respiratory diagram.cwk	ST 5.5	<input type="checkbox"/> <b>Science &amp; Technology, Human Body</b>	Addison Wesley 0-201-64985-3 or another suitable resource outlining the structure of the human arm	ST 7
<input type="checkbox"/> <b>Respiratory System Diagram (labelled)</b> respiratory diagram 2.cwk	ST 5.5	<input type="checkbox"/> <b>Science &amp; Technology - The Human Body</b>	Addison Wesley 0-201-64985-3 Student text.	Unit
<input type="checkbox"/> <b>Respiratory System Info</b> respiratory backgrounder.cwk	ST 5.5	<input type="checkbox"/> <b>Science &amp; Technology- The Human Body</b>	Addison Wesley 0-201-65433-4 Teacher Guide	Unit
<input type="checkbox"/> <b>Respiratory System Worksheet - Grade 5</b> 5.5.1.cwk	ST 5.5			
<input type="checkbox"/> <b>Science Systems Assessment</b> performance checklist2.cwk	ST 5.5			
<input type="checkbox"/> <b>Skeletal Diagrams</b> 8.6.2.cwk	ST 8.6			
<input type="checkbox"/> <b>Text (Char. of Living Things) - Grade 6</b> 5.6.1.cwk	ST 5.6			
<input type="checkbox"/> <b>The Circulatory System - Grade 5</b> 5.5.2.cwk	ST 5.5			
<input type="checkbox"/> <b>The Digestive System - Grade 5</b> 5.5.3a.cwk	ST 5.5			
<input type="checkbox"/> <b>The Excretory System - Grade 5</b> 5.5.4.cwk	ST 5.5			
<input type="checkbox"/> <b>The Flow of Food (Digestive) -Grade 5</b> 5.5.3b.cwk	ST 5.5			
<input type="checkbox"/> <b>The Microscopic World - Grade 6</b> 3.6.1.cwk	ST 3			
<input type="checkbox"/> <b>The Nervous System - Grade 5</b> 5.5.5a.cwk	ST 5.5			
<input type="checkbox"/> <b>Thumbs Up Worksheet - Grade 5</b> 10.5.1.cwk	ST 10			
<input type="checkbox"/> <b>Thumbs Up Worksheet - Grade 6</b> 10.6.1.cwk	ST 10			
<input type="checkbox"/> <b>Virus Backgrounder</b> virus backgrounder.cwk	ST 11			



# The Genesis Project

## A New Life Convention An Integrated Unit for Grade 5/6



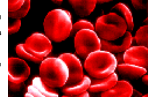
### Website

- Enchanted Learning** ST 4  
<http://www.EnchantedLearning.com/coloring>  
 Animal images (colouring pages) to print out
- Inner Body Website** ST 5.5  
<http://www.innerbody.com/htm/body.html>  
 Provides illustrations of organs and organ systems.
- Kid Info - Human Body** Unit  
[http://www.kidinfo.com/Health/Human\\_Body.html](http://www.kidinfo.com/Health/Human_Body.html)  
 Excellent resource!!!! Provides links to resources addressing many aspects of the human organ systems.
- Kid Info - Human Body** ST 4  
[http://www.kidinfo.com/Health/Human\\_Body.html](http://www.kidinfo.com/Health/Human_Body.html)  
 Excellent resource!!!! Provides links to resources addressing many aspects of the human organ systems.
- Kid Info - Human Body** ST 6  
[http://www.kidinfo.com/Health/Human\\_Body.html](http://www.kidinfo.com/Health/Human_Body.html)  
 Excellent resource!!!! Provides links to resources addressing many aspects of the human organ systems.
- Science Graphics Website** ST 5.5  
[http://www.coe.uh.edu/archive/science/science\\_graphics/sciencegraphics.html](http://www.coe.uh.edu/archive/science/science_graphics/sciencegraphics.html)  
 Animated (moving) illustrations of human body systems
- Science & Technology Curriculum** Unit  
<http://www.oecta.on.ca/curriculum/curriculumintro.htm>  
 Site dedicated to assisting teachers to implement Ontario's Grade 1 -8 Science Curriculum. Units available to download and photo copy as needed in class.




### Material

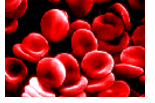
- 3 x 5 index card** ST 1  
 1  
 per pair
- Balloons** ST 7
- Cardboard** ST 5.6  
 1 sm. piece  
 per pair
- Cardboard** ST 9
- Coffee filters** ST 5.5  
 3  
 per group
- Corrugated cardboard** ST 7
- Cotton balls** ST 5.6  
 1  
 per pair
- Cover Slip** ST 3  
 1  
 per group
- Earthworm** ST 5.6  
 1/grp  
 per pair  
 or another arthropod such as a spider, sowbug, millepede, centipede, etc.
- Empty cereal boxes** ST 8.5  
 5  
 per group  
 aim to have a variety of cereals, such as granolas, rice, oat, high-sugar, high-fiber, etc.
- Feathers** ST 7
- Felt** ST 7
- Food samples** ST 10  
 small food samples to be used with the utensils
- Glue** ST 9
- Iodine** ST 3  
 1 bottle  
 per class  
 Use 2-3 drops for each group
- Masking Tape** ST 5.5  
 2 rolls  
 per class
- Modeling clay** ST 9  
 per pair
- Modelling clay** ST 7
- Muddy Water** ST 5.5  
 ~750 mL  
 per group



# The Genesis Project

## A New Life Convention An Integrated Unit for Grade 5/6

<input type="checkbox"/> <b>Onion</b> 1 per class Cut the onion into wedges before the activity and then gently peel off single layers for the students to use	ST 3		<b>Equipment / Manipulative</b>	
<input type="checkbox"/> <b>Paper fasteners</b>	ST 7	<input type="checkbox"/> <b>30 cm ruler</b>		ST 5.5
<input type="checkbox"/> <b>Paper Towel</b> 1 roll per class	ST 5.6	1 per pair		
<input type="checkbox"/> <b>Paper towel tubes</b>	ST 7	<input type="checkbox"/> <b>4 L Plastic Jug</b>		ST 5.5
<input type="checkbox"/> <b>Piece of wool</b> 1 per person	ST 1	1 per class this jug must be graduated beforehand in 500 mL increments		
<input type="checkbox"/> <b>Pipe cleaners</b>	ST 7	<input type="checkbox"/> <b>Beaker</b>		ST 5.5
<input type="checkbox"/> <b>Plastic wrap</b> 1 roll per class	ST 5.6	3 per group or similar sized jars		
<input type="checkbox"/> <b>Pond Water</b> 1 small beaker per class fish tank water can be easily substituted	ST 3	<input type="checkbox"/> <b>Eye Dropper</b>		ST 3
<input type="checkbox"/> <b>Rubber bands</b>	ST 7	1 per group		
<input type="checkbox"/> <b>Scissors</b>	ST 7	<input type="checkbox"/> <b>Flashlight</b>		ST 1
<input type="checkbox"/> <b>Straw</b> 1 per person	ST 5.5	1 per pair Any light source that could help produce a dilation of the pupils.		
<input type="checkbox"/> <b>Tape</b>	ST 7	<input type="checkbox"/> <b>Flashlight</b>		ST 5.6
<input type="checkbox"/> <b>Toothpick</b> 1 per group	ST 3	1 per pair		
<input type="checkbox"/> <b>Toothpicks</b>	ST 9	<input type="checkbox"/> <b>Flexible Tubing</b>		ST 5.5
<input type="checkbox"/> <b>Vinegar</b> ~250 mL per class	ST 5.6	1 m per group		
<input type="checkbox"/> <b>Water</b> 1 small beaker per class	ST 3	<input type="checkbox"/> <b>Jacket</b>		ST 10
<input type="checkbox"/> <b>Water</b>	ST 5.6	1 per pair		
<input type="checkbox"/> <b>Wooden craft sticks</b>	ST 7	<input type="checkbox"/> <b>Medium Funnel</b>		ST 5.5
<input type="checkbox"/> <b>Wool</b>	ST 7	1 per group Large enough to rest on a 500 mL beaker or jar		
		<input type="checkbox"/> <b>Microscope</b>		ST 3
		1 per group		
		<input type="checkbox"/> <b>Pencil</b>		ST 10
		1 per pair		
		<input type="checkbox"/> <b>Plastic Tub</b>		ST 5.5
		1 per class		
		<input type="checkbox"/> <b>Plastic Tubing</b>		ST 5.5
		75 cm per class		
		<input type="checkbox"/> <b>Shoes</b>		ST 10
		1 per pair		
		<input type="checkbox"/> <b>Slide</b>		ST 3
		1 per group		



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

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- Small container** **ST 5.6**
  - 1
  - per pair
  - a 500 mL plastic container would be suitable, for example
- Small funnel** **ST 5.5**
  - 1
  - per group
- Small towel** **ST 5.6**
  - 1
  - per pair
- Tweezers** **ST 3**
  - 1
  - per group
- Watch or Clock** **ST 5.5**
  - 1
  - per group
  - must have a second hand

## Action, Reaction

**Task:** To explore examples of movement and reaction to stimuli in a human being.

**Materials:**

- wool piece
- 3 x 5 index card
- flashlight or light source

### **Activities**

#### Activity 1

Looking at the pupils, or centre, of your partner's eyes, gently pinch a small fold of skin on the nape (centre back) of his or her neck. Record your findings.

#### Activity 2

Tickle the inside of your nose with a piece of wool. Try to stop yourself sneezing by pressing on your upper lip just beneath your nose. Dispose of the wool in the garbage. Record your findings.

#### Activity 3

Have your partner close both eyes for 90 seconds. Hold a card over his or her right eye. Shine a light into the left eye as he or she opens it and notice the response of the pupil. Record your findings.

#### Activity 4

Have your partner read a paragraph from your text or a sheet of paper. Instruct him or her to look outside the window and note what happens to the pupils. Record your findings.

#### Activity 5

Roll up your sleeve (if you do not have a short sleeve shirt on). Extend your arm out in front of you and bend your elbow, bringing your hand to your forehead. Re-extend your arm and repeat. Observe what is happening to your bicep muscle as you contract and relax it.

## Observations

Complete the following chart while participating in the activities.

Stimulus	Observed Response (what happened)
Pinching the nape	
Tickling the inside of the nose	
Pressing your upper lip beneath your nose	
Shining the light into the left eye	
Looking out the window after reading	
Extending and contracting your arm	

What body parts did you use for the various activities? How did the different parts of your body interact? Be as specific as you can, using terms or phrases you may already know to describe what you mean.

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## Action, Reaction

**Task:** To explore examples of movement and reaction to stimuli in a human being.

**Materials:**

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- flashlight or light source

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#### Activity 4

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#### Activity 5

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Complete the following chart while participating in the activities.

Stimulus	Observed Response (what happened)
Pinching the nape	
Tickling the inside of the nose	
Pressing your upper lip beneath your nose	
Shining the light into the left eye	
Looking out the window after reading	
Extending and contracting your arm	

Activities 1 to 4 involved a response to stimuli, or irritability, while Activity 5 dealt with movement. Using your findings, what do you think the difference is between the two? Do other things also display these characteristics like humans do? Can you think of any examples?

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# **The Micro Macrocosm**

## **Grade 5 - A Simple Cell**

In this activity you will observe some of the parts of a simple cell.

### **Materials**

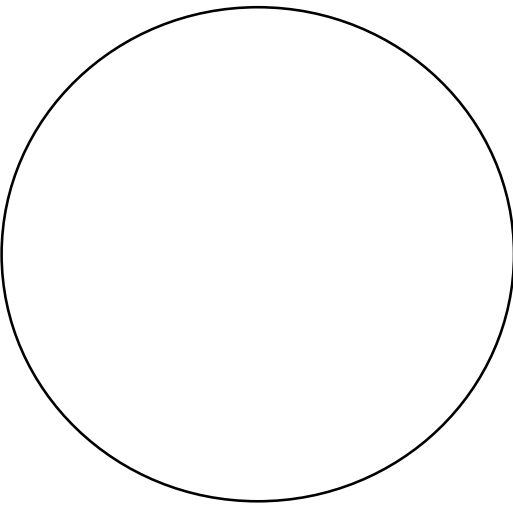
- onion skin
- eye dropper
- microscope
- cover slip
- toothpick
- iodine
- cover slip
- water
- slide
- tweezers

### **Procedure**

1. Put one drop of water on your glass slide and then obtain a single onion layer from your teacher. Carefully place the layer on the slide and spread it flat by gently smoothing it with the rounded edge of a toothpick.
2. Have your teacher place one drop of iodine and then add another drop of water onto the onion layer. Place the cover slip over the onion.
3. Use the low-power lens and the coarse adjustment knob to focus on the onion cells. Draw what you see in the circle of the observation section. Label the following parts of the cell: cell membrane, nucleus, cytoplasm.
4. Complete the worksheet and clean up your area.

**Observation**

Onion Cells



**Communication**

1. Why do scientists call the cell the “basic unit of all living things”?

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2. What is the purpose of the nucleus?

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3. Why are microscopes such an important tool for scientists?

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# **The Micro Macrocosm**

## **Grade 6 - The Microscopic World**

In this activity you will observe some microorganisms using a microscope.

### **Materials**

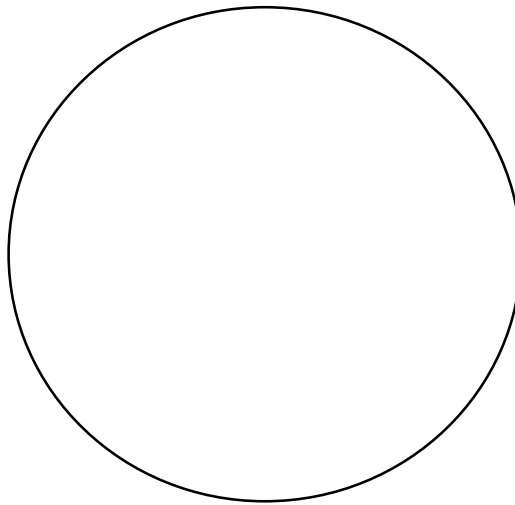
- pond water
- eyedropper
- slide
- coverslip
- microscope

### **Procedure**

1. Get a sample of pond water from your teacher using your eyedropper. Place a drop or two onto your slide and cover the water with a coverslip.
2. Place the slide on your microscope stage and observe it under the low-power magnification. Increase the magnification and adjust your focus (be careful to use the fine adjustment knob so as not to damage the microscope!).
3. Draw your observations in the space provided on the next page.
4. Complete the worksheet and clean your work area.

**Observation**

Microscopic Life



**Communication**

1. How would you describe in words one of the living objects you observed?

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2. Compare your findings with other groups in the class. Did you notice any similarities or differences?

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3. Microorganisms have basic needs just like humans. What is a basic need? What do you think are your basic needs?

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## Agree or Disagree Chart - Grade 5

Below are a series of statements.

1. Check in the appropriate column indicating whether or not you agree with each statement.
2. Following the activity and group discussion, you may find that your opinion has changed or your original thought may be confirmed. After the discussion, record your new or confirmed opinion along with reasons that support your position.

Remember that being “right” with your first thought is not the focus of this activity. Understanding and supporting why your opinion has remained the same or changed is the goal.

<i>Statement</i>	<i>Agree?</i>		<i>Agree?</i>		<i>Evidence Explaining/ Supporting Final Opinion/ Position</i>
	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	
1. The heart works with the bronchiole tubes.					
2. Bones would be put in the same category as red blood cells.					
3. The mouth works with the small intestine.					
4. The job of the lungs is linked to the job of the esophagus.					
5. The spinal cord would be put in the same category as nerves.					
6. The job of the kidneys is linked to the job of the bladder.					

## Agree or Disagree Chart - Grade 6

Below are a series of statements.

1. Check in the appropriate column indicating whether or not you agree with each statement.
2. Following the activity and group discussion, you may find that your opinion has changed or your original thought may be confirmed. After the discussion, record your new or confirmed opinion along with reasons that support your position.

Remember that being “right” with your first thought is not the focus of this activity. Understanding and supporting why your opinion has remained the same or changed is the goal.

<i>Statement</i>	<i>Agree?</i>		<i>Agree?</i>		<i>Evidence Explaining/ Supporting Final Opinion/ Position</i>
	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	
1. All animals that nurse their young belong in the same group.					
2. Most reptiles have four legs.					
3. A fish would be put in the same category as a frog.					
4. All living things with jointed body parts belong together.					
5. A whale would be put in the same category as a shark.					
6. A snake would be put in the same category as a worm.					

## Science's Systems

### **The Respiratory System**

The respiratory system provides a way for oxygen to enter your body and for carbon dioxide, a waste product, to leave. How much air can your lungs hold? Determine your **lung capacity** in this activity.

#### Materials

- |                            |         |                |
|----------------------------|---------|----------------|
| - 4 L labelled plastic jug | - water | - plastic tub  |
| - 75 cm flexible tubing    | - straw | - masking tape |

#### Procedure

1. Fill the plastic jug with water and ensure that the plastic tub is about three-quarters full of water.
2. Attach your straw to one end of the flexible tubing. Tape the place where the tubing and straw meet.
3. Put your hand on the top of the jug and flip the jug over into the tub of water. Remove your hand only when the mouth of the jug is completely under water.
4. Tilt the jug slightly (but be sure to keep the mouth under water) and insert the flexible tubing (the end without the straw attached).
5. Take as big of a breath as you can and exhale into the straw. As you force air into the jug, water will empty out of the jug. Once you are finished exhaling, read on the jug the amount of air you were able to empty from your lungs into the jug. Record this number.
6. Take your straw off the tubing and dispose of it in the garbage.

#### Observation and Reflection

1. How much air did you have in your lungs? \_\_\_\_\_ litres
2. Compare your results with others in your group. Do everyone's lungs hold the same amount of air? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Which sports do you think require a large lung capacity? Why? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Science's Systems

### **The Circulatory System**

The circulatory system is made up of the heart, blood vessels, and blood. The circulatory system is like the transportation system of the body, moving many products like oxygen and nutrients through the body.

#### Materials

- 1 m of flexible tubing
- funnel
- tape
- watch or clock with a second hand

#### Procedure

1. Attach the rubber tubing to the end of the funnel. Tape the funnel if it does not fit tightly.
2. Place the funnel on your chest and the other end of the tubing at your ear and listen to your heart beating.
3. Determine your resting heart rate: have a partner measure 15 seconds while you count heart beats. Multiply your result by four to determine the number of times your heart beats in 1 min.
4. Run in place for 2 minutes. Repeat step three immediately after you finish running. This is your active heart rate.

#### Observation and Reflection

1. (a) What was your resting heart rate? \_\_\_\_\_ beats/ min  
(b) What was your active heart rate? \_\_\_\_\_ beats/ min
  
2. What occurred when you exercised? Why do you think this happened? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
3. How did your results compare to others in your group? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Science's Systems

### **The Digestive System**

Your body is fueled by the food you eat. However, the nutrients from your food are only useful after they have travelled through the digestive system. Create a **flow chart** to map the route your food takes through the body.

#### Materials

- flow chart
- information about digestive system

#### Procedure

1. Read your text about the digestive system.
2. Choose a food that you will use to complete your flow chart.
3. Fill in your flow chart with the following information:
  - (a) Section: what part of the body you are talking about?
  - (b) Function: what does this part of the body do to the food?
  - (c) Description: how does this part of the body accomplish its task?
4. Complete the questions below.

#### Reflection

1. Why is food important for the human body? \_\_\_\_\_

\_\_\_\_\_

2. What is an enzyme? What role do enzymes play in the digestive system? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# The Flow of Food

Section: \_\_\_\_\_  
Function: \_\_\_\_\_  
Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Section: \_\_\_\_\_  
Function: \_\_\_\_\_  
Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Section: \_\_\_\_\_  
Function: \_\_\_\_\_  
Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Section: \_\_\_\_\_  
Function: \_\_\_\_\_  
Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Section: \_\_\_\_\_  
Function: \_\_\_\_\_  
Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Science's Systems**  
**The Excretory System**

The excretory system helps to expel waste from the human body. The kidneys act as filters, cleaning the blood and removing the waste. In fact, approximately 100 L of liquid pass through the kidneys every day! See how filters work to clean fluid in this activity.

**Materials**

- a funnel
- 3 coffee filters
- 3 beakers or jars
- muddy water

**Procedure**

1. Place a filter in the funnel and rest the funnel on a beaker. Pour some muddy water onto the filter.
2. Observe the difference in the two beakers after the water has been filtered.
3. Repeat the process with a second beaker and filter, only this time use the water you just filtered, not the original muddy water.
4. Repeat a third time, using the most recently filtered water.

**Observation and Reflection**

1. What did you observe with the water in the three different fluids? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. What did the filters look like after you had poured water on them? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. What is the purpose of filtration? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Why is it helpful for the kidneys to constantly filter blood in the body? \_\_\_\_\_  
\_\_\_\_\_

## Science's Systems

### **The Nervous System**

The nervous system includes the brain, spinal cord, and nerves that exist practically everywhere on your body. You can think of the brain as your body's main control centre, controlling the function of your different organ systems as well as helping you think and learn!

#### Materials

- 30 cm ruler

- recording sheet

#### Procedure

1. Have a partner hold a ruler vertically, making sure that the 1 cm end is closest to the ground.
2. Face your partner, holding your thumb and index finger 3 cm apart on either side of the very bottom of the ruler. Be sure not to touch the ruler.
3. Your partner will drop the ruler at any time. Try to catch the ruler between your thumb and index finger as quickly as possible.
4. Record the number on the ruler where you caught it. If your finger is resting on the 10 cm mark, record 10 cm.
5. Repeat steps 1 to 4 four more times. Find the average reaction time by adding the five reaction times and then dividing by five.
6. Switch roles with your partner and repeat steps 1 to 5.

#### Observation and Reflection

1. Compare your average reaction times with your partner. Are they similar? Why do you think some people have a faster reaction time? \_\_\_\_\_

\_\_\_\_\_

2. Is it possible to improve reaction time with practice? Why? \_\_\_\_\_

\_\_\_\_\_

3. What role do you think the nervous system plays in letting the ruler be caught? \_\_\_\_\_

\_\_\_\_\_



# Nervous System

## Recording Sheet

Distance (cm)	Time (s)
5	0.101
10	0.143
15	0.175
20	0.202
25	0.266
30	0.247

Determine which distance your fingers were closest to and use the above chart to find your reaction time for each trial. For example, if your fingers were closest to 10 cm, your time would be 0.143 s.

Trial Number	Distance (cm)	Time (s)
1		
2		
3		
4		
5		

Average Reaction Time

\_\_\_\_\_ seconds

Remember, to find your average reaction time, add your five trial times together and divide by 5.

# Characteristics of Living Things

**Growth:** An ability to increase in size by either increasing cell size or adding on other cells.

**Reproduction:** The process of producing life like oneself. There are two forms each passing genetic material from one generation to the next to pass on traits: asexual requiring only one parent that splits to form offspring, thus the offspring are the same as the parent and sexual requiring two parents and the union of two cells (sex cells - eggs, sperm, or pollen) to form a new offspring with traits derived from both the parents.

**Irritability:** A response to stimuli such as blinking in response to a bug flying in your face, running from a scary situation, or plants moving toward the sun.

**Movement:** The act of moving including locomotion, movement from place to place and movement in a static position such as movement of body parts or movement of plants toward water or the sun.

**Metabolism:** All processes in an organism that help it gain and use energy; e.g., eating, excreting, breathing, respiring.

**Adaptation:** The ability of certain organisms to live in certain environmental conditions. Adaptations are structural or functional (behavioural).

**Cellularity:** Being made up of cells (the building blocks of living things).

**Evolution:** A series of changes that occur in a group of organisms over a long period of time, based on changes in genetic material and the suitability of those changes to successfully survive in a set of environmental conditions.

*Adapted from OECTA Teacher Resources, Life Systems, Grade Six*

# Characteristics of Living Things

After reading the information about the characteristics of living things, choose one living organism and use it as an example to illustrate each of the characteristics. Please also provide a sentence to explain the meaning of your illustration.

Organism Chosen: \_\_\_\_\_

## **GROWTH**

## **REPRODUCTION**

## **IRRITABILITY**

## **MOVEMENT**

## **METABOLISM**

## **ADAPTATION**

## **CELLULARITY**

## **EVOLUTION**

## Characteristics in Living Things

### Investigating Earthworms

#### Student Investigation Sheet

**Purpose:** To examine two characteristics of living things (irritability and movement) in an earthworm or other small organism.

**Materials:**

- an earthworm
- plastic wrap
- small towel or cloth
- small container
- water
- flashlight or light source
- damp paper towel
- cardboard

**Procedure:**

1. Place a damp paper towel in the small container. Gently put the worm on the towel and cover the container with plastic wrap. Be sure to poke a few small holes in the wrap.
2. Cover the container with a cloth to block out the light for 1 minute.
3. Remove the cover and carefully observe the worm for two minutes. Record your observations.
4. Gently place the worm on a piece of cardboard and hold the cardboard up so it is level with your eyes. Look carefully at the worm and especially where the worm's body touches the cardboard.
5. Rub the lower side of the worm carefully with warm, wet hands and record the response.
6. Leave the worm covered with a cloth for approximately 30 seconds then, holding the cardboard near your ear, nudge the worm at one end and listen to any noise it makes on the cardboard.
7. Touch the front, side, and back of the worm gently. Return the worm to the container and cover with a cloth while you record your observations.
8. Remove the towel and shine the flashlight at the front end of the worm. Cover the worm again and record your observations.
9. Repeat step 8 twice, shining the light on the side and back end of the worm.
10. Return the worm and clean up your area.

**Characteristics in Living Things**  
**Investigating Earthworms**  
**Student Recording Sheets**

**PART I - MOVEMENT**

1. Use both sentences and diagrams, with labels, to illustrate how an earthworm moves.

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2. What parts of the worm's body help it move? \_\_\_\_\_

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**PART II - IRRITABILITY**

PART II - IRRITABILITY

**STIMULUS**

**RESPONSE**

**Touch**

Touching the front end -----

Touching the sides -----

Touching the back end -----

**Light**

Shining light on the front -----

Shining light on the sides -----

Shining light on the back -----

**Conclusions**

1. What parts of the body does the earthworm use to move from place to place?

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2. Are all parts of the worm equally sensitive to touch? Which parts respond?

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3. Which part of the worm appears more sensitive to light?

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# Building a Model Planning Sheet

Name \_\_\_\_\_

1. This is my task:

-----  
-----

2. Here is the plan for my design with a labelled diagram and a list of materials:

3. After my design is approved I will begin to build my model.

4. I need to test my design and see if I need to make any changes. Here is my revised model:

5. My final model is to be completed on . . .

-----

# Feelin' Fine!

## Healthy Living Activity Sheet

### Introduction

As you have learned, a balanced diet with a variety of nutrients is important to maintaining a healthy body. Can you compare the nutritional information on a variety of cereal boxes to help you make good food choices?

### Activity

1. Examine the ingredients list from five different cereal boxes. Remember, the list of ingredients is given in the order from the highest content to the lowest content. For example, if wheat flour is the first ingredient, then there is more wheat flour in the cereal than anything else.

2. Order your boxes from the cereal with the highest sugar content to the lowest. Record your findings. Repeat for salt content and another ingredient of your choice.

3. Now examine the nutritional information. Sort your cereals again by at least three different nutrients, including fat, protein, and one other. Record your findings.

4. Answer the reflection questions individually.

### Observations

My cereals: \_\_\_\_\_

#### Ranking by Ingredients

# 1 Sugar: \_\_\_\_\_

# 2 Salt: \_\_\_\_\_

# 3 \_\_\_\_\_: \_\_\_\_\_

#### Ranking by Nutrients

# 1 Fat: \_\_\_\_\_

# 2 Protein: \_\_\_\_\_

# 3 \_\_\_\_\_: \_\_\_\_\_

## Reflection Questions

1. Explain what you think a “balanced diet” is. Why do you think it is necessary?

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2. What are the seven different kinds of nutrients that are important for healthy living? \_\_\_\_\_

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3. Which cereal do you think was the healthiest? What are your reasons for thinking this? \_\_\_\_\_

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4. What other foods could you add to a breakfast that includes a breakfast cereal that does not have many nutrients? Draw and label your ideas.

Why did you choose these foods? \_\_\_\_\_

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**Prehistoric Links**  
**Fossils and Paleontology**

*Fossils help us to better understand how animals may have evolved over time. Paleontologists search out and reconstruct entire skeletons which can be compared to the skeletal diagrams of living animals to investigate links. Use the skeletal diagrams provided by your teacher to answer the following questions.*

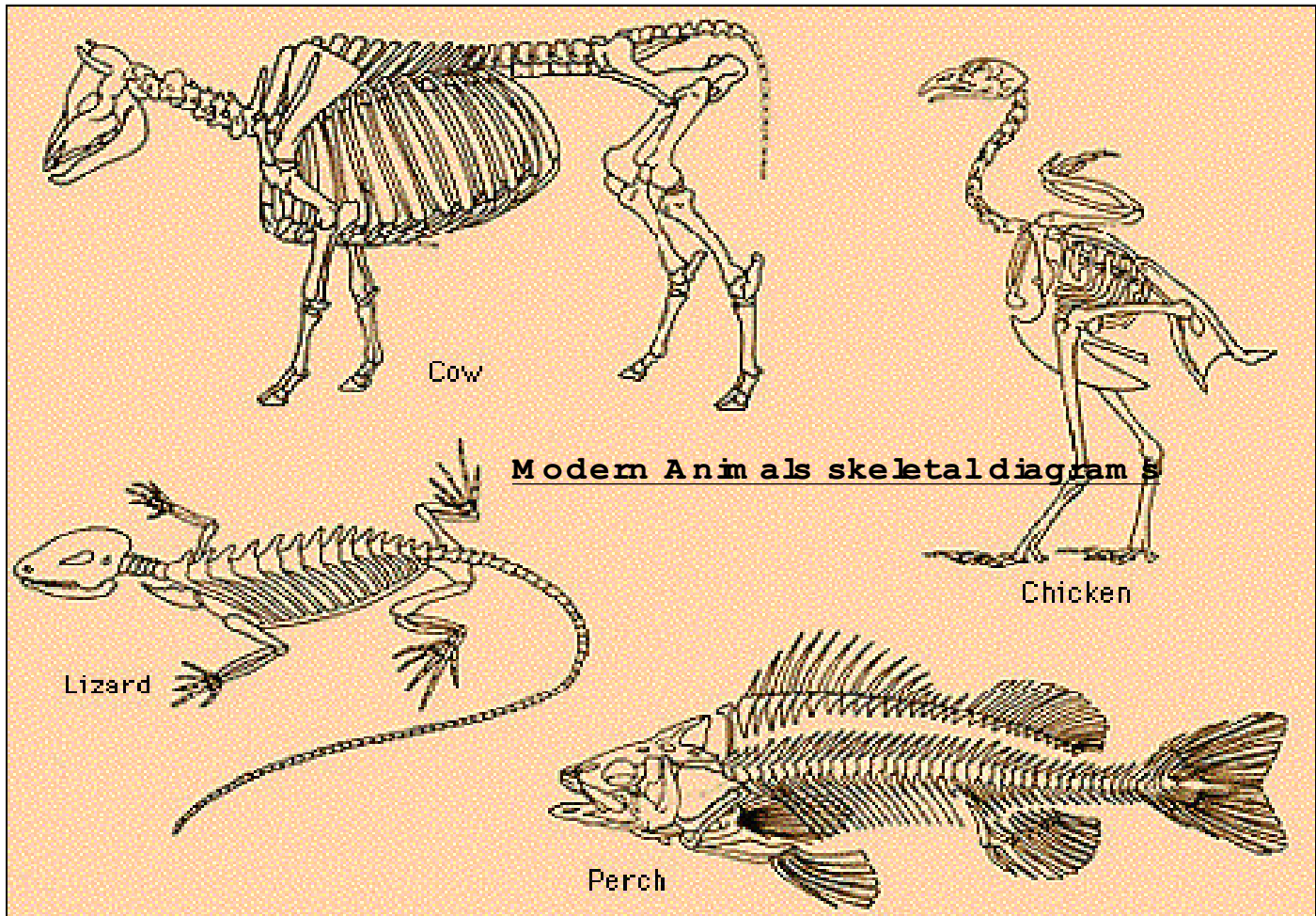
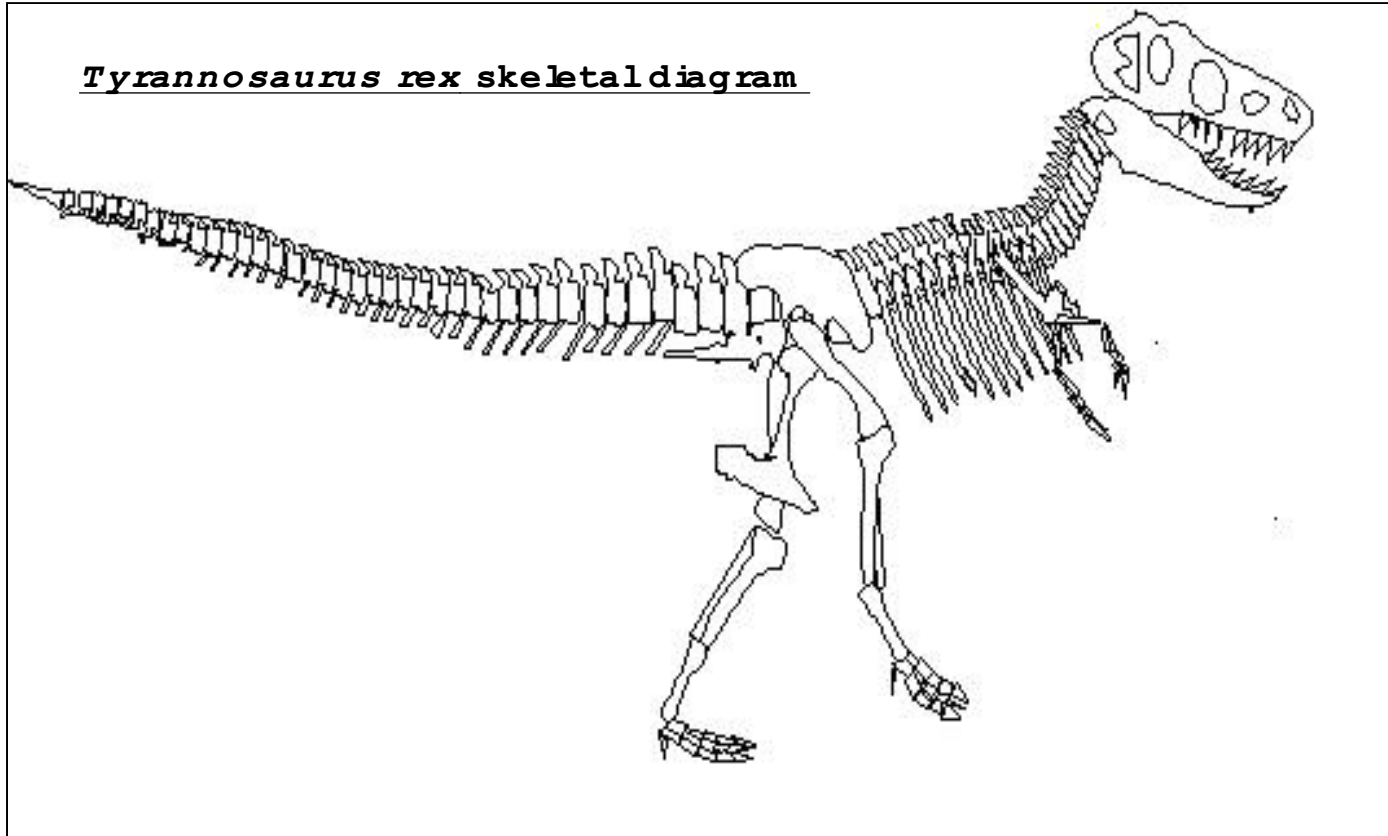
1. Take a close look at your prehistoric skeleton and the four modern ones. What similarities do you see? Once you record your observations, repeat the process for any differences you notice between the prehistoric and four modern skeletons.

	<b>Prehistoric Skeleton</b>	<b>Modern Skeletons</b>
<b>Similarities</b>	1.	1.
	2.	2.
	3.	3.
<b>Differences</b>	1.	1.
	2.	2.
	3.	3.

2. Which of the four modern animals would you think to be related to your prehistoric fossil. Why do you think this? Defend your answer with examples. On the back of this sheet or on another blank piece of paper, sketch both the prehistoric skeleton and the modern one you chose. Use labels to highlight the similarities.

3. Share your results with your classmates. Did they come to similar conclusions? Explain.

Tyrannosaurus rex skeletal diagram



Modern Animals skeletal diagram s

## Case Study Improvement Plan for Healthy Living

1. The problem that needs to be solved is:

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2. The problem can be solved by:

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3. Your suggestions to change the case study's diet are:

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4. Your suggestions to change the case study's exercise program are:

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---

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5. Your suggestions to change the case study's life style choices are:

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---

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## Scientists' Solutions

### Case Study

Steve is a Grade 5 student. He enjoys reading, playing with his friends, and video games. Steve does not like to eat breakfast but always has a snack, usually some nacho chips, at morning recess when he starts to get hungry. For lunch, Steve usually has a cheese sandwich (his favourite), some fruit, and a pop. On the way home from school, Steve usually stops at the corner store with his friends for some candy. At supper, Steve eats everything his mom and dad serves him, but he always asks for seconds if it's spaghetti! If he has any candy left over, he'll eat that while he's doing his homework.

Steve likes gym class and is a pretty good basketball player. He used to always play at recess but now he is busy playing GameBoy with his friends. He also does not ride his bike much any more as he likes to play video games or watch TV as soon as he gets home from school. He does take swimming lessons on Tuesday evening. He also used to be on a hockey team but gave that up last year because he did not like getting up early on the weekend for practice.

Can you help Steve make some improvements to his lifestyle using the information you have learned about food and exercise? Use the worksheet your teacher gives you.

## The Circulatory System

Your body moves oxygen and other important elements through your body via the *circulatory system*. The circulatory system is made up of the *heart*, *blood vessels*, and *blood*.

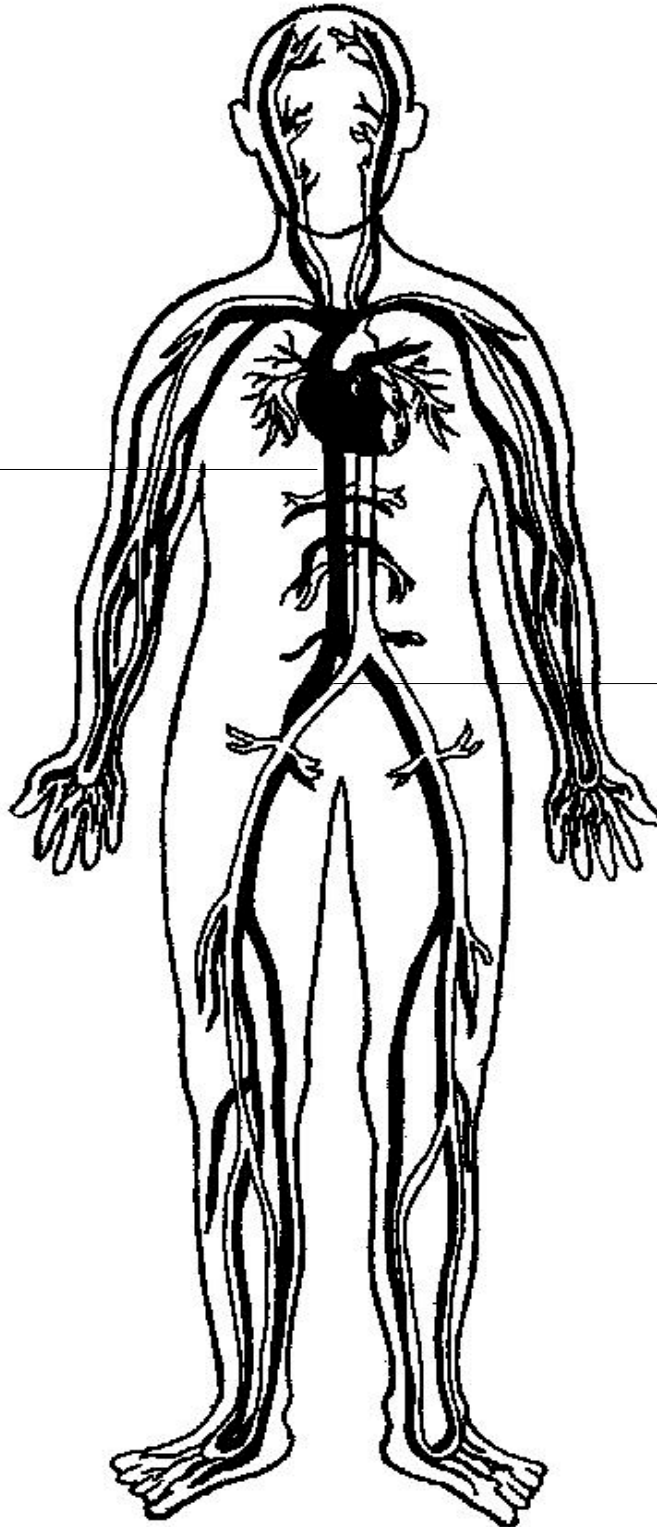
The heart is your body's pump, moving blood through all parts of the body. The heart is made up of four parts, or *chambers*. Blood in the top two chambers, the left and right *atria*s, is pushed down into the lower two chambers. This is the first part of your *heart beat*. Next the lower chambers, the *ventricles*, contract and force the blood out into the bloodstream. This is the second part of the heart beat. This two-part cycle is repeated about 60 to 80 times every minute.

Your blood vessels cover almost every part of your body, bringing oxygen to your body's cells and taking away carbon dioxide. Special cells in your blood called *red blood cells* do this important task. Other specialized cells include *white blood cells* which help to fight infections, and *platelet cells* that help to clot the blood when you get a cut.

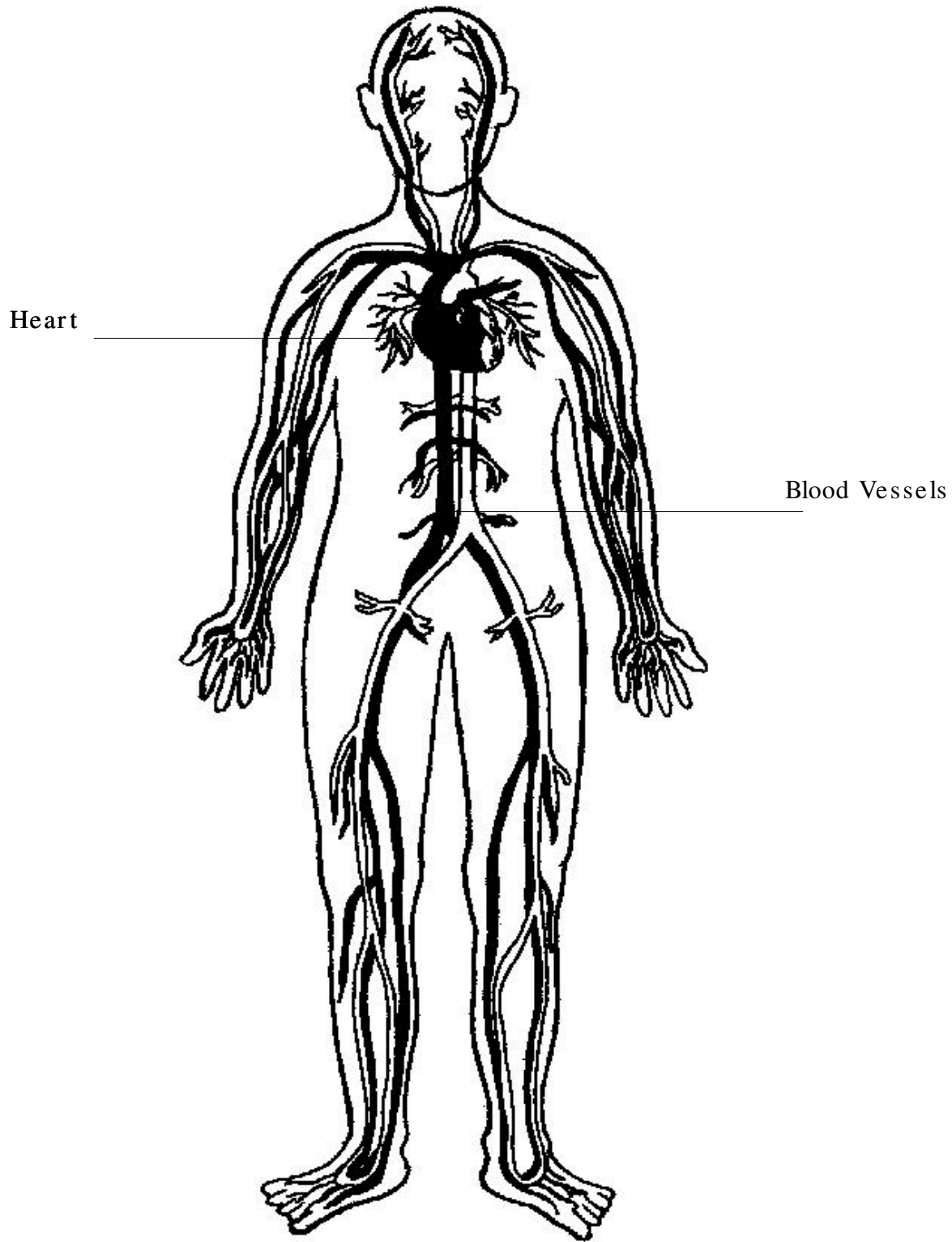
Imagine the circulatory system is like a road system. Which part would be the roads? What role would be played by the trucks?



# A Diagram of the Circulatory System



# A Labelled Diagram of the Circulatory System



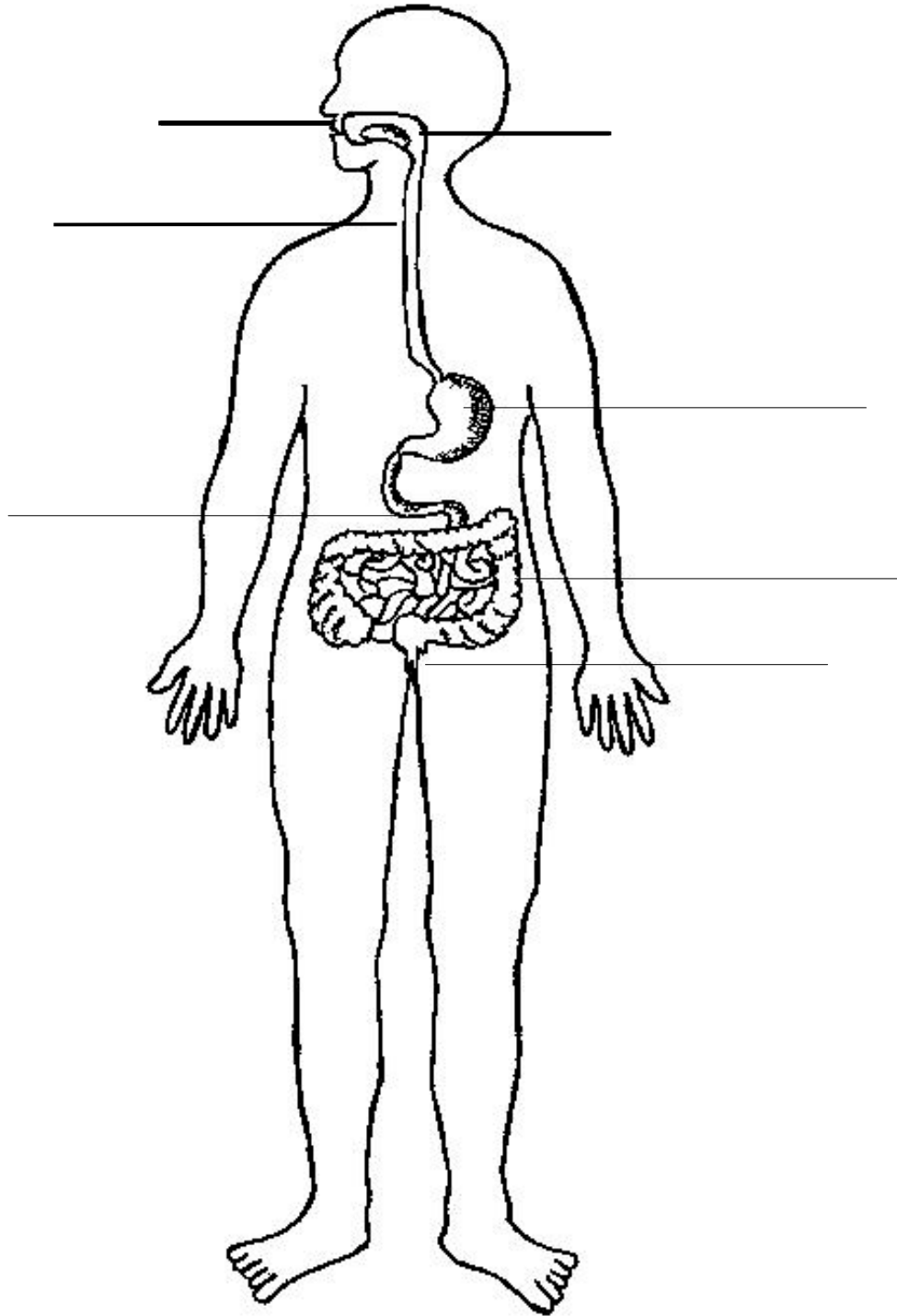
## The Digestive System

Food is the fuel that helps keep our bodies moving. Food has to be brought into the body and broken down into small pieces before it can be used. This process is carried out by the *digestive system*.

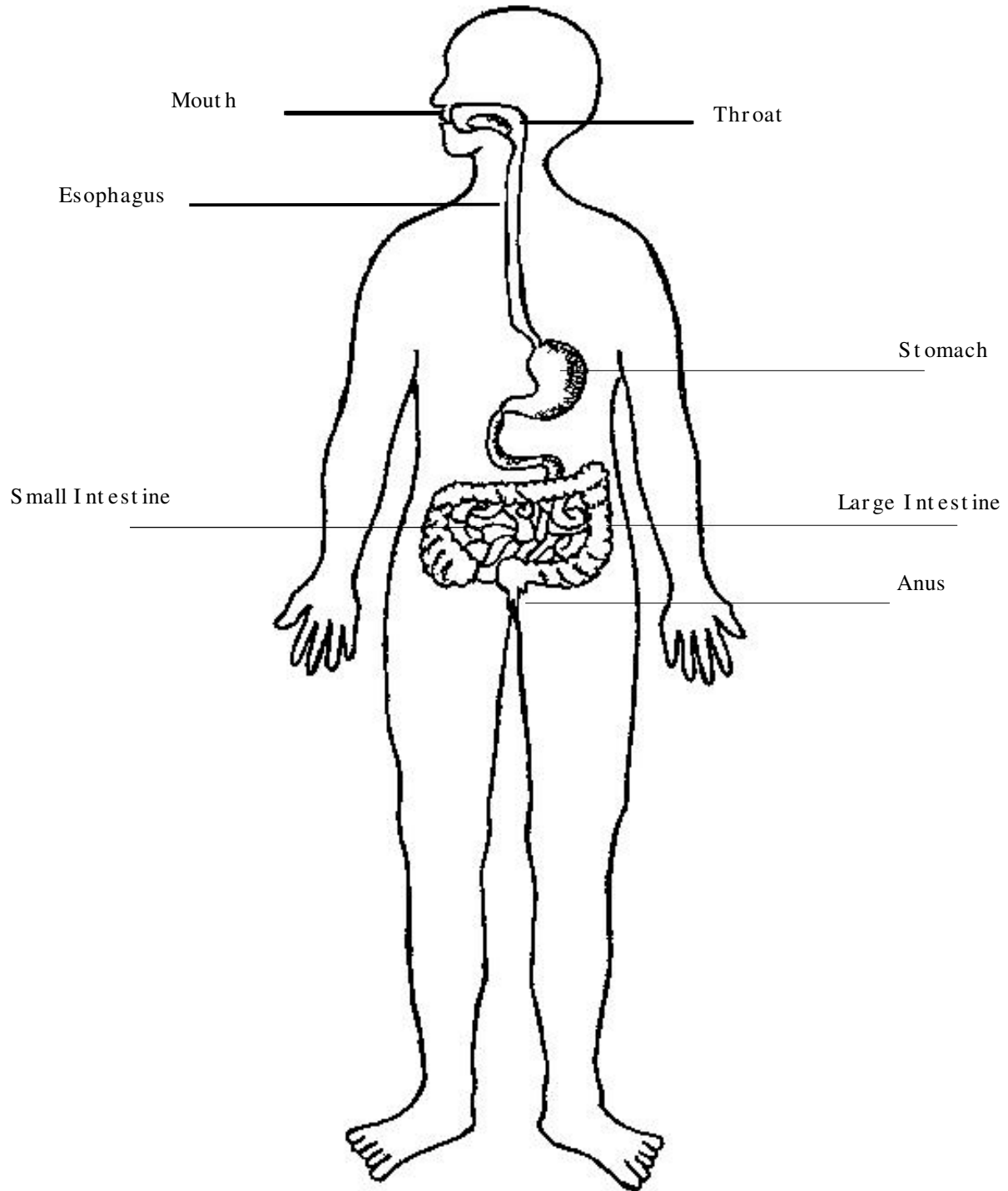
Food enters the digestive system through the *mouth*, where your teeth and tongue help to break down the food. *Saliva* also helps to moisten the chewed food before it travels down to the *stomach*. To get to the stomach, food passes through the *esophagus*, which pushes the food using wave-like contractions.

In the stomach, fluids such as *acid* and *mucus* are added which further break down the food into tiny particles and help it to move along. Next, the particles enter the *small intestine* where more fluids are added to help make the food useful for the body. By the time the food reaches the end of the small intestine, the necessary nutrients have been absorbed by the body. The *large intestine* stores the waste products before they are expelled from the body through the *anus*.

# A Diagram of the Digestive System



# A Labelled Diagram of the Digestive System



## The Excretory System

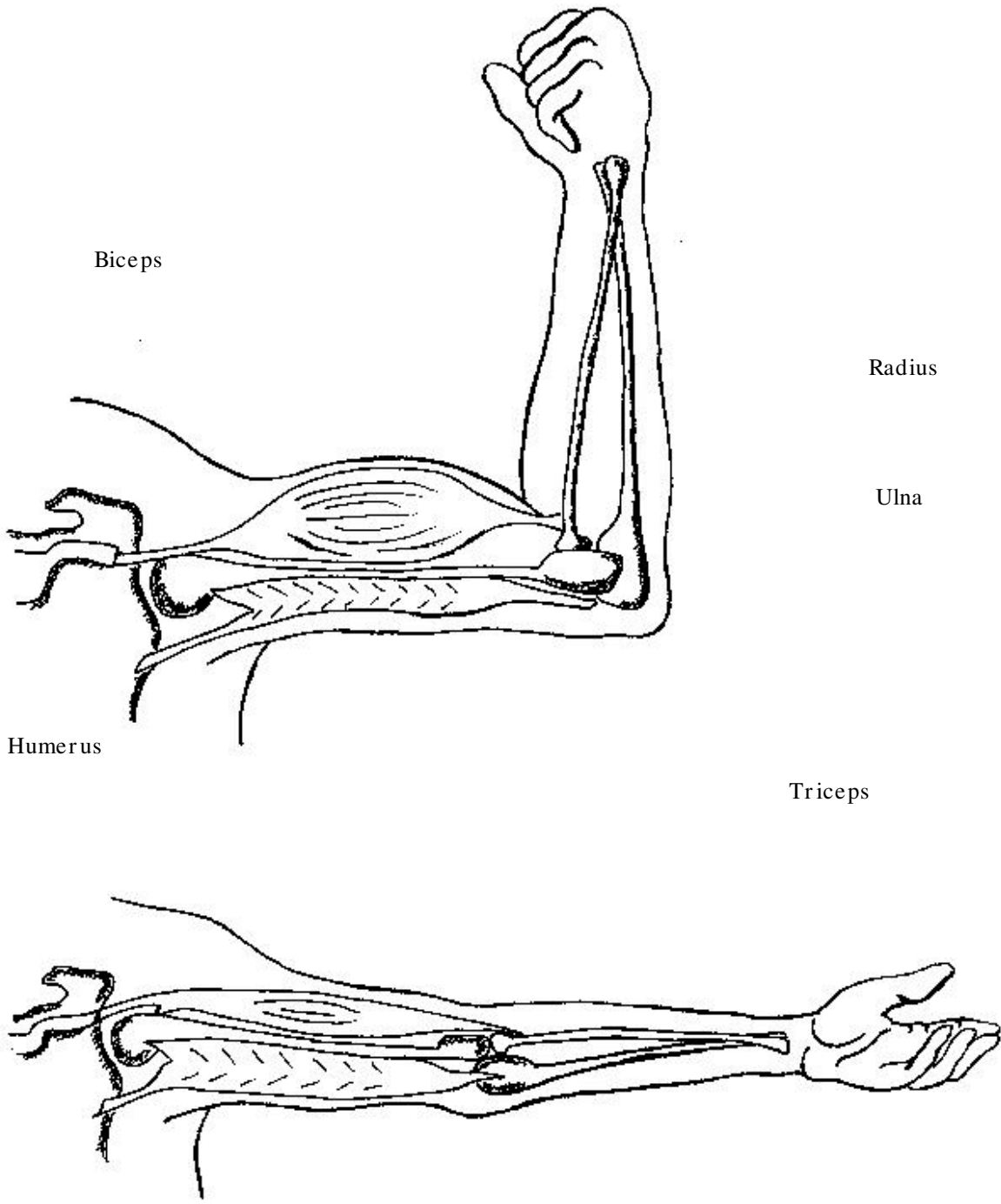
Your body removes liquid waste using the *excretory system*.

One of the nutrients your body needs to live is protein, which is found in foods such as meat and eggs. When the body uses protein, a waste product that contains a lot of nitrogen is produced. The *kidneys*, a component of the excretory system, filters the bloods for the waste and removes it. The kidneys also help to control the amount of water and salt in the body.

This filtered liquid waste, which is called *urine*, travels out of the kidneys by the *ureters* to the *bladder*. The urine is stored in the bladder until it passes out of the body by the *urethra*.



# The Muscles in Your Arms





# The Nervous System

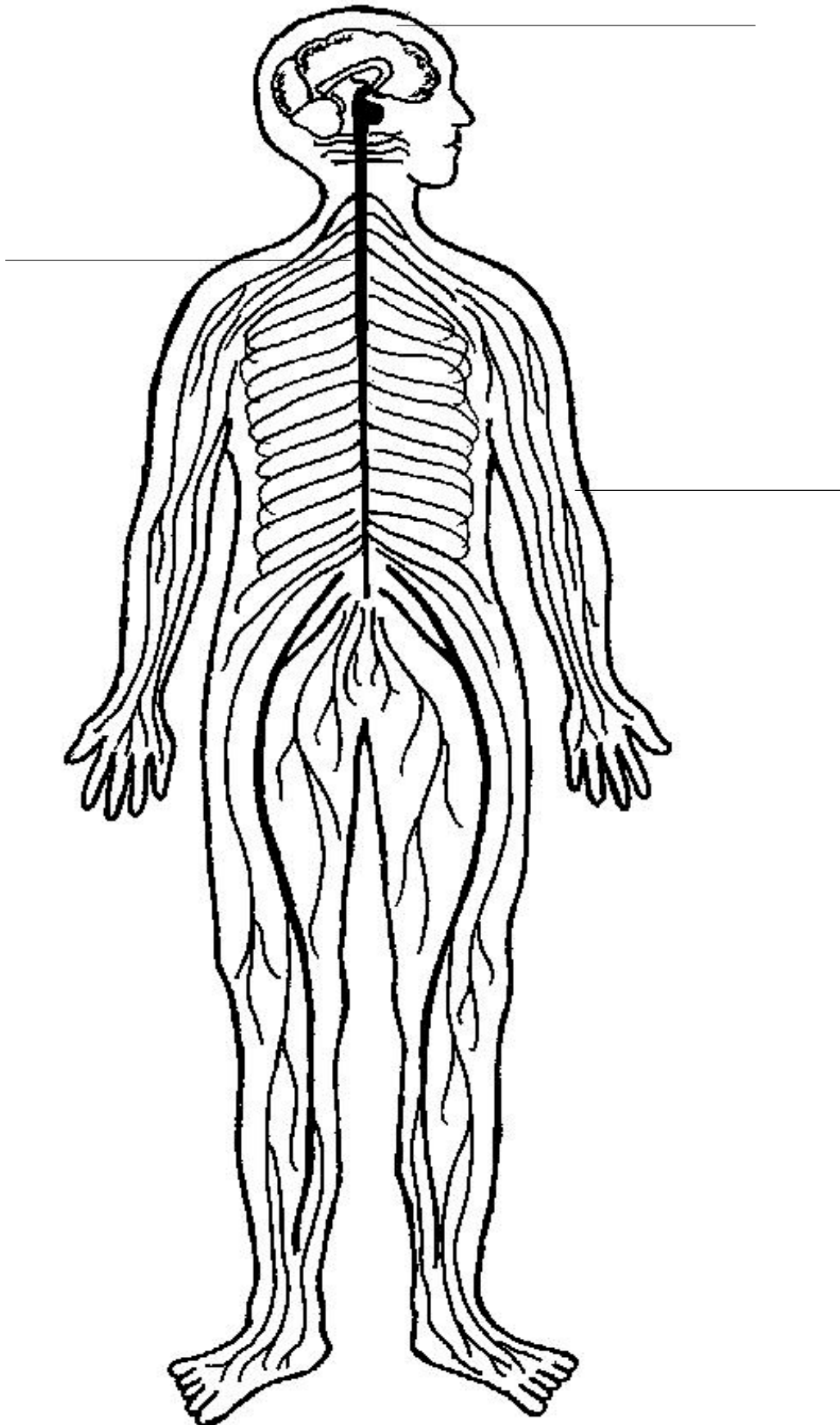
Your *nervous system* directs all of the actions happening in your body. This system collects information and sends messages using the *brain*, *spinal cord*, and *neurons*, also known as nerve cells.

There are over 100 billion neurons in the brain alone. Millions more are found throughout your body. The neurons main functions are to take in sensory information, process information, or to cause a part of your body to move.

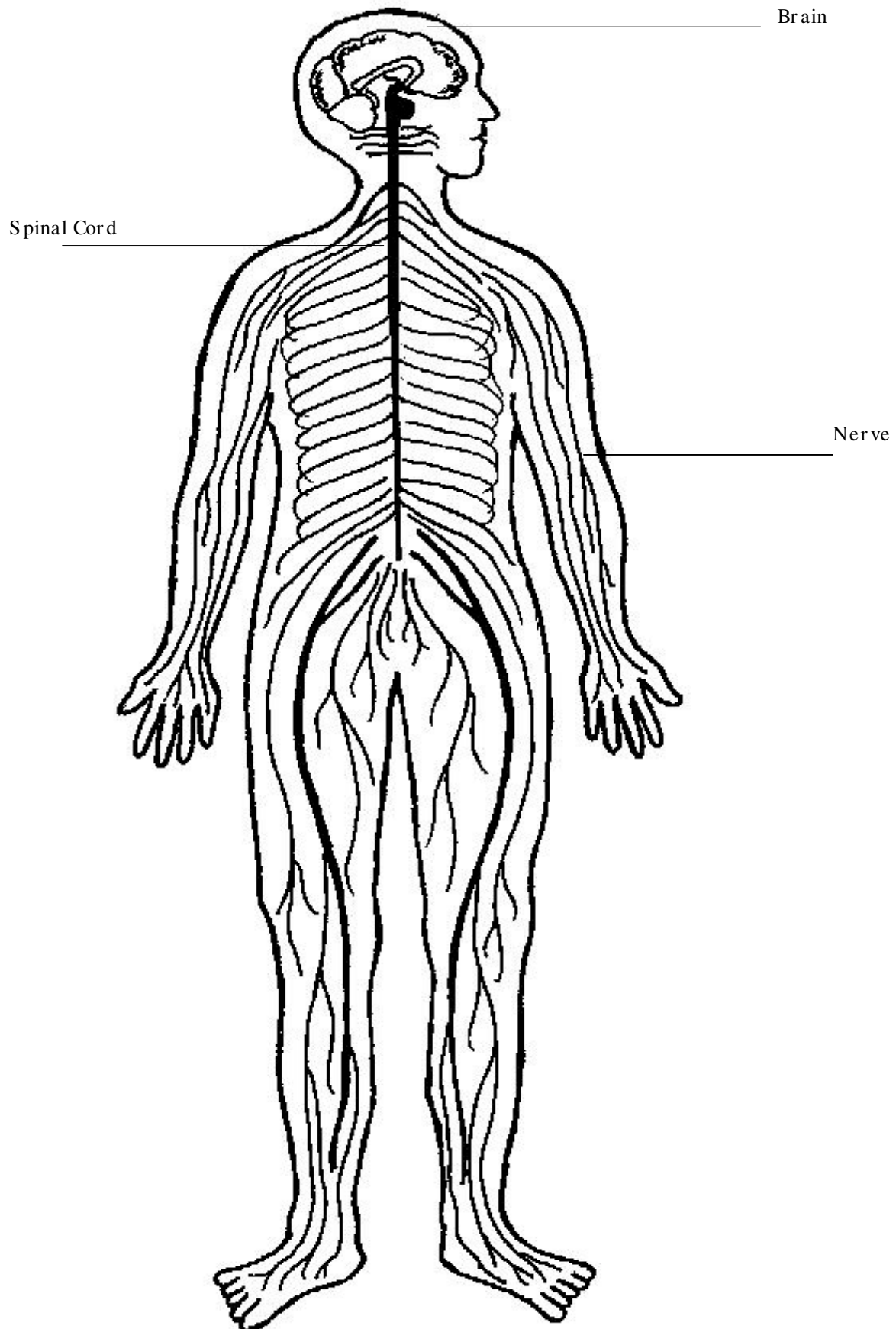
All of these decisions are directed by your brain, an organ with three main parts. The *hindbrain* helps to control basic movement such as how you sit or walk. In the *mid-brain*, your vital life functions, such as your breathing and heart beat, are controlled. Finally, the *forebrain*, which is the largest part, contains your thoughts and memories.

Your brain is linked to the rest of your body by the spinal cord. This long tube is found inside your backbone and passes messages between the brain and other parts of your body, helping you to do everything from walking to talking.

# A Diagram of the Nervous System



# A Labelled Diagram of the Nervous System



## Microscope Investigation Performance Checklist

Name(s): \_\_\_\_\_ Date: \_\_\_\_\_

<b>Criteria</b>	<b>"Not Yet"</b>	<b>"Getting There"</b>	<b>"Got It"</b>
<i>How well does the student understand the task?</i>	not well	somewhat	well
<i>How well has the student followed procedures?</i>	not well	somewhat	well
<i>How independently is the task performed?</i>	needs assistance	somewhat independently	independently
<i>How well does the student make use of materials and tools?</i>	not well	somewhat	well
<i>Are observations properly recorded?</i>	no	somewhat	yes
<i>How well do conclusions or results match the data gathered?</i>	not well	somewhat	well
<i>How well can the student explain the results?</i>	not well	somewhat	well

Comments:

## Performance Checklist Science's Systems Centres

Name(s): \_\_\_\_\_ Date: \_\_\_\_\_

<b>Criteria</b>	<b>"Not Yet"</b>	<b>"Getting There"</b>	<b>"Got It"</b>
<i>How well does the student understand the task?</i>	not well	somewhat	well
<i>How well has the student followed procedures?</i>	not well	somewhat	well
<i>How independently is the task performed?</i>	needs assistance	somewhat independentl	independently
<i>How well does the student make use of materials and tools?</i>	not well	somewhat	well
<i>Are observations properly recorded?</i>	no	somewhat	yes
<i>How well do conclusions or results match the data</i>	not well	somewhat	well
<i>How well can the student explain the results?</i>	not well	somewhat	well

Comments:

# Performance Checklist

## Earthworm Investigation

Name(s): \_\_\_\_\_ Date: \_\_\_\_\_

<b>Criteria</b>	<b>"Not Yet"</b>	<b>"Getting There"</b>	<b>"Got It"</b>
<i>How well does the student understand the task?</i>	not well	somewhat	well
<i>How well has the student followed procedures?</i>	not well	somewhat	well
<i>How independently is the task performed?</i>	needs assistance	somewhat independentl	independently
<i>How well does the student make use of materials and tools?</i>	not well	somewhat	well
<i>Are observations properly recorded?</i>	no	somewhat	yes
<i>How well do conclusions or results match the data</i>	not well	somewhat	well
<i>How well can the student explain the results?</i>	not well	somewhat	well

Comments:

## The Respiratory System

One of the most important elements your body needs is *oxygen* and the system that brings oxygen into your body is the *respiratory system*.

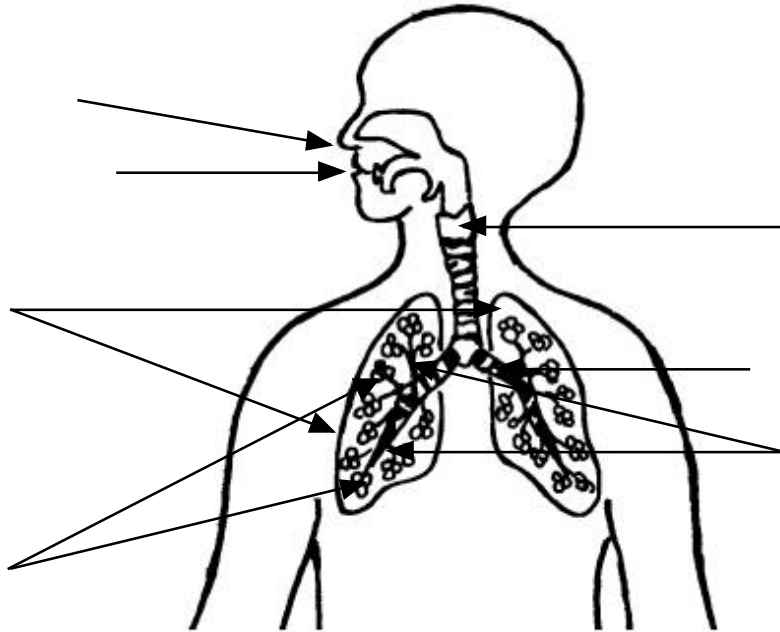
Air, which contains oxygen, enters the body through the *mouth* or *nose*. It then travels down a tube in your throat called the *trachea*. You can feel your trachea by touching your neck just above your chest.

Your trachea branches into two parts just before the lungs called the *bronchial tubes*. Once the air enters the lungs, these tubes continue to branch into smaller *bronchiole tubes*, ending at small sacs known as *alveoli*. At this point, the oxygen in the air enters the bloodstream and the *carbon dioxide*, a waste product from your body, leaves the blood and takes the reverse route out of the body.

How often you breathe is determined by your *breathing rate*. Your brain sends a signal to take a breath every time the amount of carbon dioxide in your body increases. This happens many times every minute. The signal travels to the *diaphragm*, a long muscle located under your lungs. The diaphragm pulls down, making the lungs expand which causes air to enter your mouth or nose.

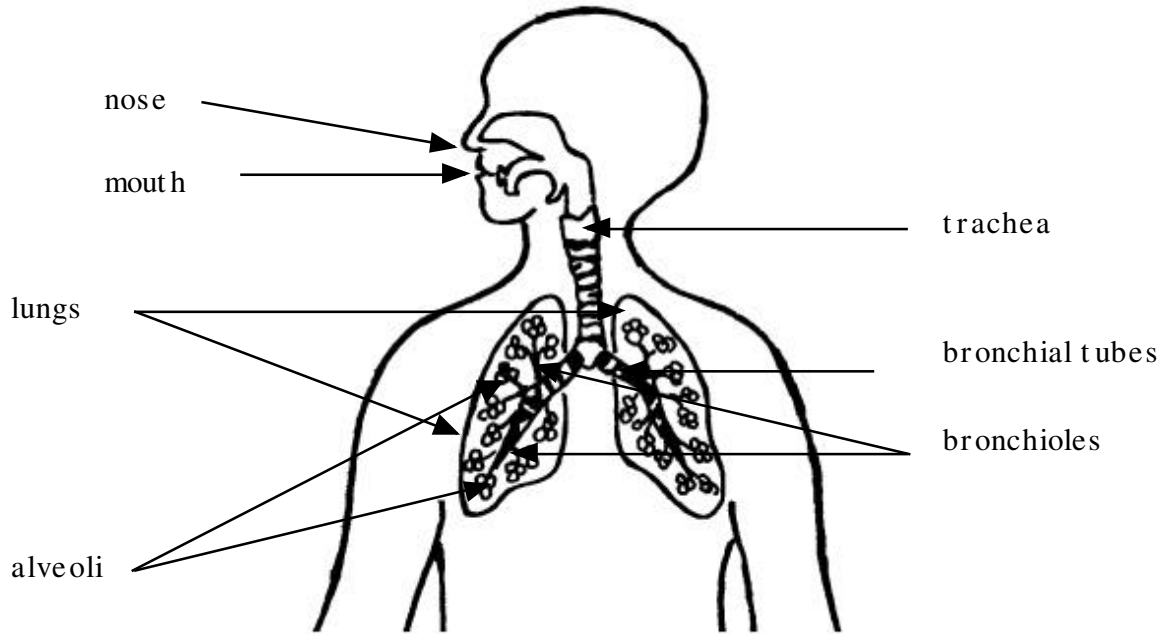
Can you trace the path using your finger that air takes on the diagram below?

# A Diagram of The Respiratory System





# A Labelled Diagram of The Respiratory System



## So What's A Virus Anyway?

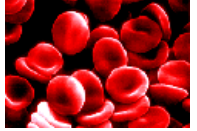
A virus is a very, very, very small thing that causes diseases. A virus is sometimes known as a germ or even a bug (like when someone says, "I've got a flu bug."). But they're not really insects.

In fact, a virus isn't really alive. A virus will end up in a living thing, such as a dog, a cow, or a person, and attach itself to a cell. The virus then takes over the cell and uses it to create copies of the virus! Those viruses then go to other cells and take them over, making even more copies, which then go out and...well, you get the picture.

A virus will often damage an organ or even an entire system. A virus that starts taking over cells in the eye will make it hard for the eye to function properly. The same thing can happen to systems you have studied, such as the circulatory or digestive systems.

Viruses can be spread by touching something that has a virus on it. That is one reason why it is important to wash your hands before you eat! And how do you get rid of a virus. Many people think that by taking special medicines, such as antibiotics, they will be able to clear their bodies of a virus. This is not true. Usually it is up to the body's immune system to fight off the infection by itself.

**Assessing Dramatic Depictions - Grade 5**  
**for use with Subtask 6 : Dramatic Depictions**  
 from the Grade 5/6 Unit: **The Genesis Project**



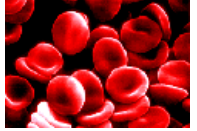
Student Name: \_\_\_\_\_  
 Date: \_\_\_\_\_

**Expectations for this Subtask to Assess with this Rubric:**

- 5s2** • investigate the structure and function of the major organs of the respiratory, circulatory, digestive, excretory, and nervous systems;
- 5s12** – use appropriate vocabulary, including correct science and technology terminology, in describing their investigations, explorations, and observations (e.g., use terms such as teeth, esophagus, stomach, and gastric juices in describing the digestive system);

<b>Category/Criteria</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>
<b>Basic Concepts Completion and Understanding</b>	<ul style="list-style-type: none"> <li>• provides simple descriptions of the structure and function of the identified system</li> <li>• offers simple explanations of the interactions of organs within the identified system</li> </ul>	<ul style="list-style-type: none"> <li>• provides partially detailed descriptions of the structure and function of the identified system</li> <li>• offers partially detailed explanations of the interactions of organs within the identified system</li> </ul>	<ul style="list-style-type: none"> <li>• provides detailed descriptions of the structure and function of the identified system</li> <li>• offers detailed explanations of the interactions of organs within the identified system</li> </ul>	<ul style="list-style-type: none"> <li>• provides complex descriptions of the structure and function of the identified system</li> <li>• offers complex explanations of the interactions of organs within the identified system</li> </ul>
<b>Communication of Required Knowledge - Science &amp; Technology Clarity and Accuracy</b>	<ul style="list-style-type: none"> <li>• makes limited use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with little accuracy</li> <li>• responses to questions are insufficient</li> </ul>	<ul style="list-style-type: none"> <li>• makes some use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with some accuracy</li> <li>• responses to questions are brief and/or insufficient</li> </ul>	<ul style="list-style-type: none"> <li>• makes use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with accuracy</li> <li>• responses to questions are clear and complete</li> </ul>	<ul style="list-style-type: none"> <li>• makes extended use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with complete accuracy</li> <li>• responses to questions are thorough and insightful</li> </ul>
<b>Communication - Language Oral &amp; Visual</b>	<ul style="list-style-type: none"> <li>• ideas are few, simple and lack clarity</li> <li>• audience is indifferent</li> <li>• speaker attends to the content rather than style of presentation</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear and simple</li> <li>• audience is occasionally engaged</li> <li>• speaker attempts to vary voice (e.g., expression, tone, volume) but with little effect</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear, original, and reflect some complexity</li> <li>• audience is engaged</li> <li>• speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear, original, and sophisticated</li> <li>• audience is highly engaged</li> <li>• speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>

**Assessing Dramatic Depictions - Grade 6**  
**for use with Subtask 6 : Dramatic Depictions**  
 from the Grade 5/6 Unit: **The Genesis Project**



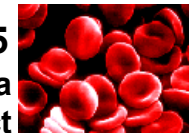
Student Name: \_\_\_\_\_  
 Date: \_\_\_\_\_

**Expectations for this Subtask to Assess with this Rubric:**

- 6s2** • investigate classification systems and some of the processes of life common to all animals (e.g., growth, reproduction, movement, response, and adaptation);
- 6s14** – use appropriate vocabulary, including correct science and technology terminology, in describing their investigations and observations (e.g., use terms such as organism, species, structure, and kingdom in describing classification of animals);

<b>Category/Criteria</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>
<b>Basic Concepts Completion and Understanding</b>	<ul style="list-style-type: none"> <li>• provides simple explanations of how classification systems are used to organize species of living things</li> </ul>	<ul style="list-style-type: none"> <li>• provides partially detailed explanations of how classification systems are used to organize species of living things into meaningful categories</li> </ul>	<ul style="list-style-type: none"> <li>• provides detailed explanations of the ways in which classification systems are used to show the diversity and interrelationships among living things</li> </ul>	<ul style="list-style-type: none"> <li>• provides elaborate explanations of the ways in which classification systems are used to show the diversity and interrelationships among living things</li> </ul>
<b>Communication of Required Knowledge - Science &amp; Technology Clarity and Accuracy</b>	<ul style="list-style-type: none"> <li>• makes limited use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with little accuracy</li> <li>• responses to questions are insufficient</li> </ul>	<ul style="list-style-type: none"> <li>• makes some use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with some accuracy</li> <li>• responses to questions are brief and/or insufficient</li> </ul>	<ul style="list-style-type: none"> <li>• makes use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with accuracy</li> <li>• responses to questions are clear and complete</li> </ul>	<ul style="list-style-type: none"> <li>• makes extended use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with complete accuracy</li> <li>• responses to questions are thorough and insightful</li> </ul>
<b>Communication - Language Oral &amp; Visual</b>	<ul style="list-style-type: none"> <li>• ideas are few, simple and lack clarity</li> <li>• audience is indifferent</li> <li>• speaker attends to the content rather than style of presentation</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear and simple</li> <li>• audience is occasionally engaged</li> <li>• speaker attempts to vary voice (e.g., expression, tone, volume) but with little effect</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear, original, and reflect some complexity</li> <li>• audience is engaged</li> <li>• speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear, original, and sophisticated</li> <li>• audience is highly engaged</li> <li>• speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>

**Assessing Model Mania - Grade 5**  
**for use with Subtask 7 : Model Mania**  
 from the Grade 5/6 Unit: **The Genesis Project**



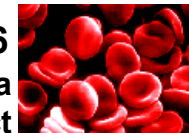
Student Name: \_\_\_\_\_  
 Date: \_\_\_\_\_

**Expectations for this Subtask to Assess with this Rubric:**

**5s6** – describe, using models and simulations, ways in which the skeletal, muscular, and nervous systems work together to produce movement (e.g., make a model of the structure of the bones and muscles in an arm, using cardboard rolls and elastic bands);

Category/Criteria	Level 1	Level 2	Level 3	Level 4
<b>Basic Concepts</b> <i>Completion and Understanding</i>	<ul style="list-style-type: none"> <li>provides simple descriptions of the structure and function of the identified system</li> <li>offers simple explanations of the interactions of components within the skeletal &amp; muscular systems</li> </ul>	<ul style="list-style-type: none"> <li>provides partially detailed descriptions of the structure and function of the identified system</li> <li>offers partially detailed explanations of the interactions of components within the skeletal &amp; muscular systems</li> </ul>	<ul style="list-style-type: none"> <li>provides detailed descriptions of the structure and function of the identified system</li> <li>offers detailed explanations of the interactions of components within the skeletal &amp; muscular systems</li> </ul>	<ul style="list-style-type: none"> <li>provides complex descriptions of the structure and function of the identified system</li> <li>offers complex explanations of the interactions of components within the skeletal &amp; muscular systems</li> </ul>
<b>Communication of Required Knowledge - Science &amp; Technology</b> <i>Clarity and Accuracy</i>	<ul style="list-style-type: none"> <li>makes limited use of scientific and technological terminology and symbols</li> <li>uses scientific and technological words with little accuracy</li> <li>responses to questions are insufficient</li> </ul>	<ul style="list-style-type: none"> <li>makes some use of scientific and technological terminology and symbols</li> <li>uses scientific and technological words with some accuracy</li> <li>responses to questions are brief and/or insufficient</li> </ul>	<ul style="list-style-type: none"> <li>makes use of scientific and technological terminology and symbols</li> <li>uses scientific and technological words with accuracy</li> <li>responses to questions are clear and complete</li> </ul>	<ul style="list-style-type: none"> <li>makes extended use of scientific and technological terminology and symbols</li> <li>uses scientific and technological words with complete accuracy</li> <li>responses to questions are thorough and insightful</li> </ul>
<b>Communication - Language</b> <i>Oral &amp; Visual</i>	<ul style="list-style-type: none"> <li>ideas are few, simple and lack clarity</li> <li>audience is indifferent</li> <li>speaker attends to the content rather than style of presentation</li> </ul>	<ul style="list-style-type: none"> <li>ideas are clear and simple</li> <li>audience is occasionally engaged</li> <li>speaker attempts to vary voice (e.g., expression, tone, volume) but with little effect</li> </ul>	<ul style="list-style-type: none"> <li>ideas are clear, original, and reflect some complexity</li> <li>audience is engaged</li> <li>speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>	<ul style="list-style-type: none"> <li>ideas are clear, original, and sophisticated</li> <li>audience is highly engaged</li> <li>speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>

**Assessing Model Mania - Grade 6**  
**for use with Subtask 7 : Model Mania**  
 from the Grade 5/6 Unit: **The Genesis Project**



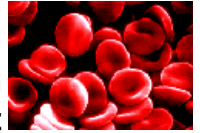
Student Name: \_\_\_\_\_  
 Date: \_\_\_\_\_

**Expectations for this Subtask to Assess with this Rubric:**

- 6s1** • demonstrate an understanding of ways in which classification systems are used to understand the diversity of living things and the interrelationships among living things;

Category/Criteria	Level 1	Level 2	Level 3	Level 4
<b>Basic Concepts</b> <i>Completion and Understanding</i>	<ul style="list-style-type: none"> <li>provides simple explanations of how classification systems are used to organize species of living things</li> </ul>	<ul style="list-style-type: none"> <li>provides partially detailed explanations of how classification systems are used to organize species of living things into meaningful categories</li> </ul>	<ul style="list-style-type: none"> <li>provides detailed explanations of the ways in which classification systems are used to show the diversity and interrelationships among living things</li> </ul>	<ul style="list-style-type: none"> <li>provides elaborate explanations of the ways in which classification systems are used to show the diversity and interrelationships among living things</li> </ul>
<b>Communication of Required Knowledge - Science &amp; Technology</b> <i>Clarity and Accuracy</i>	<ul style="list-style-type: none"> <li>makes limited use of scientific and technological terminology and symbols</li> <li>uses scientific and technological words with little accuracy</li> <li>responses to questions are insufficient</li> </ul>	<ul style="list-style-type: none"> <li>makes some use of scientific and technological terminology and symbols</li> <li>uses scientific and technological words with some accuracy</li> <li>responses to questions are brief and/or insufficient</li> </ul>	<ul style="list-style-type: none"> <li>makes use of scientific and technological terminology and symbols</li> <li>uses scientific and technological words with accuracy</li> <li>responses to questions are clear and complete</li> </ul>	<ul style="list-style-type: none"> <li>makes extended use of scientific and technological terminology and symbols</li> <li>uses scientific and technological words with complete accuracy</li> <li>responses to questions are thorough and insightful</li> </ul>
<b>Communication - Language</b> <i>Oral &amp; Visual</i>	<ul style="list-style-type: none"> <li>ideas are few, simple and lack clarity</li> <li>audience is indifferent</li> <li>speaker attends to the content rather than style of presentation</li> </ul>	<ul style="list-style-type: none"> <li>ideas are clear and simple</li> <li>audience is occasionally engage</li> <li>speaker attempts to vary voice (e.g. expression, tone, volume) but with little effect</li> </ul>	<ul style="list-style-type: none"> <li>ideas are clear, original, and reflect some complexity</li> <li>audience is engaged</li> <li>speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>	<ul style="list-style-type: none"> <li>ideas are clear, original, and sophisticated</li> <li>audience is highly engaged</li> <li>speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>

**New Life Convention Presentation - Grade 6**  
**for use with Subtask 11 : The New Life Convention**  
 from the Grade 5/6 Unit: **The Genesis Project**



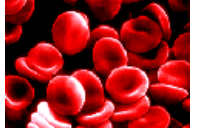
Student Name: \_\_\_\_\_  
 Date: \_\_\_\_\_

**Expectations for this Subtask to Assess with this Rubric:**

- 6s1** • demonstrate an understanding of ways in which classification systems are used to understand the diversity of living things and the interrelationships among living things;
- 6s2** • investigate classification systems and some of the processes of life common to all animals (e.g., growth, reproduction, movement, response, and adaptation);
- 6s3** • describe ways in which classification systems can be used in everyday life.

<b>Category/Criteria</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>
<b>Basic Concepts</b> <i>Completion and Understanding</i>	<ul style="list-style-type: none"> <li>• descriptions for two of the four presentation components show basic understanding of the topic</li> <li>• addresses two of the four components of the presentation expectations</li> </ul>	<ul style="list-style-type: none"> <li>• descriptions for three of the four presentation components show some understanding of the topic</li> <li>• addresses three of the four components of the presentation expectations</li> </ul>	<ul style="list-style-type: none"> <li>• descriptions for all four presentation components show understanding of the topic</li> <li>• addresses all four components of the presentation expectations</li> </ul>	<ul style="list-style-type: none"> <li>• descriptions for all four presentation components show insightful understanding of the topic</li> <li>• addresses, in detail, all four components of the presentation expectations</li> </ul>
<b>Communication of Required Knowledge</b> <i>Clarity and Accuracy</i>	<ul style="list-style-type: none"> <li>• presentation materials have an unclear clear purpose</li> <li>• provides little evidence to support placement in key</li> <li>• uses scientific terminology with little accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• presentation materials have a partially clear purpose</li> <li>• provides some evidence to support placement in key</li> <li>• uses scientific terminology with some accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• presentation materials (e.g., diagrams, charts, tables) have a clear purpose</li> <li>• provides evidence to support placement in key</li> <li>• uses scientific terminology with accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• presentation materials enhance understanding of the topic</li> <li>• provides clear evidence to support placement in key</li> <li>• uses scientific terminology in context &amp; with accuracy</li> </ul>
<b>Relating of Science and Technology</b> <i>Application of Classification Key</i>	<ul style="list-style-type: none"> <li>• with some accuracy, uses presentation component 1 to justify placement in the heirarchy of living things</li> <li>• with limited accuracy, compares one other animal within the same phylum/class</li> </ul>	<ul style="list-style-type: none"> <li>• with some accuracy, uses the presentation components 1 &amp; 2 to justify placement in the heirarchy of living things</li> <li>• with some accuracy, compares one other animal within the same phylum/class</li> </ul>	<ul style="list-style-type: none"> <li>• accurately uses the presentation components 1, 2 &amp; someof 3 to justify placement in the heirarchy of living things</li> <li>• accurately compares two to three other animals within the same phylum/class</li> </ul>	<ul style="list-style-type: none"> <li>• accurately uses the presentation components 1, 2 &amp; most of 3 to justify placement in the heirarchy of living things</li> <li>• accurately compares two to three other animals within the same &amp; different phyla/classes</li> </ul>

**New Life Convention Presentation - Grade 5**  
**for use with Subtask 11 : The New Life Convention**  
 from the Grade 5/6 Unit: **The Genesis Project**



Student Name: \_\_\_\_\_  
 Date: \_\_\_\_\_

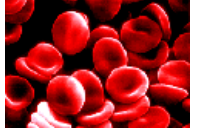
**Expectations for this Subtask to Assess with this Rubric:**

- 5s1** • demonstrate an understanding of the structure and function of the respiratory, circulatory, digestive, excretory, and nervous systems, and the interactions of organs within each system;
- 5s2** • investigate the structure and function of the major organs of the respiratory, circulatory, digestive, excretory, and nervous systems;
- 5s3** • demonstrate understanding of factors that contribute to good health.

<b>Category/Criteria</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>
<b>Basic Concepts</b> <i>Completion and Understanding</i>	<ul style="list-style-type: none"> <li>• descriptions for two of the four presentation components show basic understanding of the topic</li> <li>• addresses two of the four components of the presentation expectations</li> </ul>	<ul style="list-style-type: none"> <li>• descriptions for three of the four presentation components show some understanding of the topic</li> <li>• addresses three of the four components of the presentation expectations</li> </ul>	<ul style="list-style-type: none"> <li>• descriptions for all four presentation components show understanding of the topic</li> <li>• addresses all four components of the presentation expectations</li> </ul>	<ul style="list-style-type: none"> <li>• descriptions for all four presentation components show insightful understanding of the topic</li> <li>• addresses, in detail, all four components of the presentation expectations</li> </ul>
<b>Communication of Required Knowledge</b> <i>Clarity and Accuracy</i>	<ul style="list-style-type: none"> <li>• presentation materials have an unclear clear purpose</li> <li>• provides little evidence to support conclusions drawn</li> <li>• uses scientific terminology with little accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• presentation materials have a partially clear purpose</li> <li>• provides some evidence to support conclusions drawn</li> <li>• uses scientific terminology with some accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• presentation materials (e.g., diagrams, charts, tables) have a clear purpose</li> <li>• provides evidence to support conclusions drawn</li> <li>• uses scientific terminology with accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• presentation materials enhance understanding of the topic</li> <li>• provides clear evidence to support conclusions drawn</li> <li>• uses scientific terminology in context &amp; with accuracy</li> </ul>
<b>Relating of Science and Technology</b> <i>Impact of Lifestyle Choices on the Health of Body Systems</i>	<ul style="list-style-type: none"> <li>• with some accuracy, uses presentation component 1 &amp; some of 2 to justify component 4</li> </ul>	<ul style="list-style-type: none"> <li>• with some accuracy, uses the presentation components 1 &amp; 2 to justify component 4</li> </ul>	<ul style="list-style-type: none"> <li>• accurately uses the presentation components 1, 2 to justify component 4</li> </ul>	<ul style="list-style-type: none"> <li>• accurately uses the presentation components 1, 2 &amp; 3 to justify component 4</li> </ul>



**Assessing Convention Presentation - Grade 5**  
**for use with Subtask 11 : The New Life Convention**  
 from the Grade 5/6 Unit: **The Genesis Project**



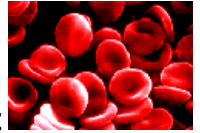
Student Name: \_\_\_\_\_  
 Date: \_\_\_\_\_

**Expectations for this Subtask to Assess with this Rubric:**

- 5s1** • demonstrate an understanding of the structure and function of the respiratory, circulatory, digestive, excretory, and nervous systems, and the interactions of organs within each system;
- 5s2** • investigate the structure and function of the major organs of the respiratory, circulatory, digestive, excretory, and nervous systems;
- 5s3** • demonstrate understanding of factors that contribute to good health.

<b>Category/Criteria</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>
<b>Basic Concepts Completion and Understanding</b>	<ul style="list-style-type: none"> <li>• provides simple descriptions of the structure and function of the identified system</li> <li>• offers simple explanations of the interactions of organs within the identified system</li> </ul>	<ul style="list-style-type: none"> <li>• provides partially detailed descriptions of the structure and function of the identified system</li> <li>• offers partially detailed explanations of the interactions of organs within the identified system</li> </ul>	<ul style="list-style-type: none"> <li>• provides detailed descriptions of the structure and function of the identified system</li> <li>• offers detailed explanations of the interactions of organs within the identified system</li> </ul>	<ul style="list-style-type: none"> <li>• provides complex descriptions of the structure and function of the identified system</li> <li>• offers complex explanations of the interactions of organs within the identified system</li> </ul>
<b>Communication of Required Knowledge - Science &amp; Technology Clarity and Accuracy</b>	<ul style="list-style-type: none"> <li>• makes limited use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with little accuracy</li> <li>• responses to questions are insufficient</li> </ul>	<ul style="list-style-type: none"> <li>• makes some use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with some accuracy</li> <li>• responses to questions are brief and/or insufficient</li> </ul>	<ul style="list-style-type: none"> <li>• makes use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with accuracy</li> <li>• responses to questions are clear and complete</li> </ul>	<ul style="list-style-type: none"> <li>• makes extended use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with complete accuracy</li> <li>• responses to questions are thorough and insightful</li> </ul>
<b>Communication - Language Oral &amp; Visual</b>	<ul style="list-style-type: none"> <li>• ideas are few, simple and lack clarity</li> <li>• audience is indifferent</li> <li>• speaker attends to the content rather than style of presentation</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear and simple</li> <li>• audience is occasionally engaged</li> <li>• speaker attempts to vary voice (e.g., expression, tone, volume) but with little effect</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear, original, and reflect some complexity</li> <li>• audience is engaged</li> <li>• speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear, original, and sophisticated</li> <li>• audience is highly engaged</li> <li>• speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>

**Assessing Convention Presentation - Grade 6**  
**for use with Subtask 11 : The New Life Convention**  
 from the Grade 5/6 Unit: **The Genesis Project**

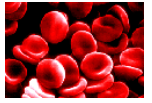


Student Name: \_\_\_\_\_  
 Date: \_\_\_\_\_

**Expectations for this Subtask to Assess with this Rubric:**

- 6s1** • demonstrate an understanding of ways in which classification systems are used to understand the diversity of living things and the interrelationships among living things;
- 6s2** • investigate classification systems and some of the processes of life common to all animals (e.g., growth, reproduction, movement, response, and adaptation);
- 6s3** • describe ways in which classification systems can be used in everyday life.

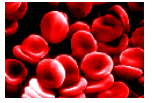
<b>Category/Criteria</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>
<b>Basic Concepts Completion and Understanding</b>	<ul style="list-style-type: none"> <li>• provides simple explanations of how classification systems are used to organize species of living things</li> </ul>	<ul style="list-style-type: none"> <li>• provides partially detailed explanations of how classification systems are used to organize species of living things into meaningful categories</li> </ul>	<ul style="list-style-type: none"> <li>• provides detailed explanations of the ways in which classification systems are used to show the diversity and interrelationships among living things</li> </ul>	<ul style="list-style-type: none"> <li>• provides elaborate explanations of the ways in which classification systems are used to show the diversity and interrelationships among living things</li> </ul>
<b>Communication of Required Knowledge - Science &amp; Technology Clarity and Accuracy</b>	<ul style="list-style-type: none"> <li>• makes limited use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with little accuracy</li> <li>• responses to questions are insufficient</li> </ul>	<ul style="list-style-type: none"> <li>• makes some use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with some accuracy</li> <li>• responses to questions are brief and/or insufficient</li> </ul>	<ul style="list-style-type: none"> <li>• makes use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with accuracy</li> <li>• responses to questions are clear and complete</li> </ul>	<ul style="list-style-type: none"> <li>• makes extended use of scientific and technological terminology and symbols</li> <li>• uses scientific and technological words with complete accuracy</li> <li>• responses to questions are thorough and insightful</li> </ul>
<b>Communication - Language Oral &amp; Visual</b>	<ul style="list-style-type: none"> <li>• ideas are few, simple and lack clarity</li> <li>• audience is indifferent</li> <li>• speaker attends to the content rather than style of presentation</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear and simple</li> <li>• audience is occasionally engaged</li> <li>• speaker attempts to vary voice (e.g., expression, tone, volume) but with little effect</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear, original, and reflect some complexity</li> <li>• audience is engaged</li> <li>• speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>	<ul style="list-style-type: none"> <li>• ideas are clear, original, and sophisticated</li> <li>• audience is highly engaged</li> <li>• speaker varies voice (e.g., expression, tone, volume) with some effect</li> </ul>



# The Genesis Project

## A New Life Convention An Integrated Unit for Grade 5/6

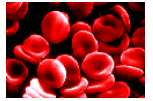
		Selected	Assessed
<b>Science and Technology---Life Systems</b>			
<input type="checkbox"/> 5s1	• demonstrate an understanding of the structure and function of the respiratory, circulatory, digestive, excretory, and nervous systems, and the interactions of organs within each system;	1	2
<input type="checkbox"/> 5s2	• investigate the structure and function of the major organs of the respiratory, circulatory, digestive, excretory, and nervous systems;	1	3
<input type="checkbox"/> 5s3	• demonstrate understanding of factors that contribute to good health.	3	2
<input type="checkbox"/> 5s4	– identify the cell as the basic unit of life;		1
<input type="checkbox"/> 5s5	– describe the basic structure and function of the major organs in the respiratory, circulatory, digestive, excretory, and nervous systems;	2	
<input type="checkbox"/> 5s6	– describe, using models and simulations, ways in which the skeletal, muscular, and nervous systems work together to produce movement (e.g., make a model of the structure of the bones and muscles in an arm, using cardboard rolls and elastic bands);		1
<input type="checkbox"/> 5s8	– explain what happens to excess nutrients not immediately used by the body;	1	
<input type="checkbox"/> 5s10	– formulate questions about and identify the needs of humans, and explore possible answers to these questions and ways of meeting these needs (e.g., in studying the nervous system, investigate response times by having someone catch a ruler between the thumb and index finger after it is dropped by another person; investigate ways in which orthopaedic devices, such as back rests, have improved the quality of life);	1	
<input type="checkbox"/> 5s12	– use appropriate vocabulary, including correct science and technology terminology, in describing their investigations, explorations, and observations (e.g., use terms such as teeth, esophagus, stomach, and gastric juices in describing the digestive system);	1	2
<input type="checkbox"/> 5s13	– compile data gathered through investigation in order to record and present results, using tally charts, tables, and labelled graphs produced by hand or with a computer (e.g., record both qualitative and quantitative data from observations of the nutritional value of foods; produce a graph of the heartbeat rate of someone climbing a specific number of stairs in a given length of time);	3	
<input type="checkbox"/> 5s14	– communicate the procedures and results of investigations for specific purposes and to specific audiences, using media works, oral presentations, written notes and descriptions, drawings, and charts (e.g., create a comparison chart, grouping foods by major nutrients and by their categories in Canada's Food Guide to Healthy Eating).		1
<input type="checkbox"/> 5s16	– identify a balanced diet as one containing carbohydrates, proteins, fats, minerals, vitamins, fibre, and water, and design a diet that contains all of these;	2	
<input type="checkbox"/> 5s18	– interpret nutritional information to make healthy food choices (e.g., sort commercial cereals into different categories, such as high fat, low fat, high salt, low sugar, and decide which are best);	2	
<input type="checkbox"/> 5s19	– demonstrate awareness that some disorders can be affected by diet (e.g., diabetes, heart disease);	1	
<input type="checkbox"/> 5s21	– describe the relationship between eating habits, weight, height, and metabolism;	2	
<input type="checkbox"/> 5s23	– explain the importance of daily physical activity;	2	
<input type="checkbox"/> 5s25	– explain the benefits and disadvantages of using some technological innovations (e.g., headsets designed to protect ears from excessive noise are helpful, but headphones used to listen to music can cause hearing impairment);	1	
<input type="checkbox"/> 5s26	– describe some types of medical technology (e.g., exercise machines, hearing aids, prosthetics).		1
<b>Science and Technology---Life Systems</b>			
<input type="checkbox"/> 6s1	• demonstrate an understanding of ways in which classification systems are used to understand the diversity of living things and the interrelationships among living things;	3	3
<input type="checkbox"/> 6s2	• investigate classification systems and some of the processes of life common to all animals (e.g., growth, reproduction, movement, response, and adaptation);	3	3
<input type="checkbox"/> 6s3	• describe ways in which classification systems can be used in everyday life.	2	1
<input type="checkbox"/> 6s4	– explain why formal classification systems are usually based on structural characteristics (e.g., type of skeleton, circulatory system, reproductive system) rather than on physical appearance or behavioural characteristics;	1	
<input type="checkbox"/> 6s6	– identify and describe the characteristics of vertebrates, and use these characteristics to classify vertebrates as mammals, birds, amphibians, reptiles, and fish (the five main classes);	2	
<input type="checkbox"/> 6s7	– identify and describe the characteristics of invertebrates, and classify invertebrates into phyla (e.g., sponges, worms, molluscs, arthropods);	2	
<input type="checkbox"/> 6s8	– compare the characteristics of vertebrates and invertebrates;	1	
<input type="checkbox"/> 6s9	– compare the characteristics of different kinds of arthropods (e.g., crustaceans such as crayfish, shrimp; insects such as grasshoppers, butterflies, mealworms);	2	
<input type="checkbox"/> 6s10	– describe microscopic living things using appropriate tools to assist them with their observations (e.g., nets and microscopes for pond study);	1	
<input type="checkbox"/> 6s11	– describe ways in which micro-organisms meet their basic needs (e.g., for food, water, air, movement).		1
<input type="checkbox"/> 6s12	– formulate questions about and identify the needs of different types of animals, and explore possible answers to these questions and ways of meeting these needs (e.g., design an experiment to study whether certain insects will grow larger if given large quantities of food);	1	



# The Genesis Project

## A New Life Convention An Integrated Unit for Grade 5/6

		Selected	Assessed
<input type="checkbox"/> 6s14	– use appropriate vocabulary, including correct science and technology terminology, in describing their investigations and observations (e.g., use terms such as organism, species, structure, and kingdom in describing classification of animals);	1	2
<input type="checkbox"/> 6s15	– compile data gathered through investigation in order to record and present results, using charts, tables, labelled graphs, and scatter plots produced by hand or with a computer (e.g., make an inventory of animals found in a specific location);	2	
<input type="checkbox"/> 6s16	– communicate the procedures and results of investigations for specific purposes and to specific audiences, using media works, oral presentations, written notes and descriptions, charts, graphs, and drawings (e.g., create a clearly labelled chart of organisms observed and identified during a pond study).	1	1
<input type="checkbox"/> 6s17	– identify various kinds of classification systems that are based on specific criteria and used to organize information (e.g., in a telephone system, numbers are classified according to country code, area code, telephone number, extension number);	1	
<input type="checkbox"/> 6s19	– explain why characteristics related to physical appearance (e.g., size, shape, colour, texture) or behaviour are not suitable attributes for classifying living things;	1	
<input type="checkbox"/> 6s21	– describe specific characteristics or adaptations that enable each group of vertebrates to live in its particular habitat (e.g., fish in water), and explain the importance of maintaining that habitat for the survival of the species;		1
<input type="checkbox"/> 6s22	– explain how fossils provide evidence of changes in animals over geological time;	2	
<input type="checkbox"/> 6s23	– compare similarities and differences between fossils and animals of the present.	1	1



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

#### English Language

5e1	5e2	5e3	5e4	5e5	5e6	5e7	5e8	5e9	5e10
5e11	5e12	5e13	5e14	5e15	5e16	5e17	5e18	5e19	5e20
5e21	5e22	5e23	5e24	5e25	5e26	5e27	5e28	5e29	5e30
5e31	5e32	5e33	5e34	5e35	5e36	5e37	5e38	5e39	5e40
5e41	5e42	5e43	5e44	5e45	5e46	5e47	5e48	5e49	5e50
5e51	5e52	5e53	5e54	5e55	5e56	5e57	5e58	5e59	5e60
5e61	5e62	5e63	5e64	5e65	5e66				

#### French as a Second Language

5f1	5f2	5f3	5f4	5f5	5f6	5f7	5f8	5f9	5f10
5f11	5f12	5f13	5f14	5f15	5f16	5f17	5f18		

#### Mathematics

5m1	5m2	5m3	5m4	5m5	5m6	5m7	5m8	5m9	5m10
5m11	5m12	5m13	5m14	5m15	5m16	5m17	5m18	5m19	5m20
5m21	5m22	5m23	5m24	5m25	5m26	5m27	5m28	5m29	5m30
5m31	5m32	5m33	5m34	5m35	5m36	5m37	5m38	5m39	5m40
5m41	5m42	5m43	5m44	5m45	5m46	5m47	5m48	5m49	5m50
5m51	5m52	5m53	5m54	5m55	5m56	5m57	5m58	5m59	5m60
5m61	5m62	5m63	5m64	5m65	5m66	5m67	5m68	5m69	5m70
5m71	5m72	5m73	5m74	5m75	5m76	5m77	5m78	5m79	5m80
5m81	5m82	5m83	5m84	5m85	5m86	5m87	5m88	5m89	5m90
5m91	5m92	5m93	5m94	5m95	5m96	5m97	5m98	5m99	5m100
5m101	5m102	5m103	5m104	5m105	5m106	5m107	5m108	5m109	5m110
5m111	5m112	5m113	5m114	5m115	5m116	5m117	5m118	5m119	5m120
5m121	5m122	5m123	5m124						

#### Science and Technology

5s1	1	2	5s2	1	3	5s3	3	2	5s4	1	5s5	2	5s6	1	5s7	5s8	1	5s9	5s10	1
5s11			5s12	1	2	5s13	3		5s14	1	5s15		5s16	2	5s17	5s18	2	5s19	1	5s20
5s21	2		5s22			5s23	2		5s24		5s25	1	5s26	1	5s27	5s28		5s29		5s30
5s31			5s32			5s33			5s34		5s35		5s36		5s37	5s38		5s39		5s40
5s41			5s42			5s43			5s44		5s45		5s46		5s47	5s48		5s49		5s50
5s51			5s52			5s53			5s54		5s55		5s56		5s57	5s58		5s59		5s60
5s61			5s62			5s63			5s64		5s65		5s66		5s67	5s68		5s69		5s70
5s71			5s72			5s73			5s74		5s75		5s76		5s77	5s78		5s79		5s80
5s81			5s82			5s83			5s84		5s85		5s86		5s87	5s88		5s89		5s90
5s91			5s92			5s93			5s94		5s95		5s96		5s97	5s98		5s99		5s100
5s101			5s102			5s103			5s104		5s105		5s106		5s107	5s108		5s109		5s110
5s111			5s112			5s113			5s114		5s115		5s116		5s117	5s118		5s119		5s120
5s121			5s122			5s123			5s124		5s125		5s126		5s127	5s128				

#### Social Studies

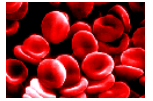
5z1	5z2	5z3	5z4	5z5	5z6	5z7	5z8	5z9	5z10
5z11	5z12	5z13	5z14	5z15	5z16	5z17	5z18	5z19	5z20
5z21	5z22	5z23	5z24	5z25	5z26	5z27	5z28	5z29	5z30
5z31	5z32	5z33	5z34	5z35	5z36	5z37	5z38	5z39	5z40
5z41	5z42	5z43	5z44	5z45	5z46	5z47	5z48		

#### Health & Physical Education

5p1	5p2	5p3	5p4	5p5	5p6	5p7	5p8	5p9	5p10
5p11	5p12	5p13	5p14	5p15	5p16	5p17	5p18	5p19	5p20
5p21	5p22	5p23	5p24	5p25	5p26	5p27	5p28	5p29	5p30
5p31	5p32	5p33	5p34	5p35	5p36	5p37	5p38	5p39	5p40

#### The Arts

5a1	5a2	5a3	5a4	5a5	5a6	5a7	5a8	5a9	5a10
5a11	5a12	5a13	5a14	5a15	5a16	5a17	5a18	5a19	5a20
5a21	5a22	5a23	5a24	5a25	5a26	5a27	5a28	5a29	5a30
5a31	5a32	5a33	5a34	5a35	5a36	5a37	5a38	5a39	5a40
5a41	5a42	5a43	5a44	5a45	5a46	5a47	5a48	5a49	5a50
5a51	5a52	5a53	5a54	5a55	5a56	5a57	5a58	5a59	5a60
5a61	5a62	5a63	5a64	5a65	5a66	5a67	5a68	5a69	



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

#### English Language

6e1	6e2	6e3	6e4	6e5	6e6	6e7	6e8	6e9	6e10
6e11	6e12	6e13	6e14	6e15	6e16	6e17	6e18	6e19	6e20
6e21	6e22	6e23	6e24	6e25	6e26	6e27	6e28	6e29	6e30
6e31	6e32	6e33	6e34	6e35	6e36	6e37	6e38	6e39	6e40
6e41	6e42	6e43	6e44	6e45	6e46	6e47	6e48	6e49	6e50
6e51	6e52	6e53	6e54	6e55	6e56	6e57	6e58	6e59	6e60
6e61	6e62	6e63	6e64	6e65	6e66				

#### French as a Second Language

6f1	6f2	6f3	6f4	6f5	6f6	6f7	6f8	6f9	6f10
6f11	6f12	6f13	6f14	6f15	6f16	6f17	6f18		

#### Mathematics

6m1	6m2	6m3	6m4	6m5	6m6	6m7	6m8	6m9	6m10
6m11	6m12	6m13	6m14	6m15	6m16	6m17	6m18	6m19	6m20
6m21	6m22	6m23	6m24	6m25	6m26	6m27	6m28	6m29	6m30
6m31	6m32	6m33	6m34	6m35	6m36	6m37	6m38	6m39	6m40
6m41	6m42	6m43	6m44	6m45	6m46	6m47	6m48	6m49	6m50
6m51	6m52	6m53	6m54	6m55	6m56	6m57	6m58	6m59	6m60
6m61	6m62	6m63	6m64	6m65	6m66	6m67	6m68	6m69	6m70
6m71	6m72	6m73	6m74	6m75	6m76	6m77	6m78	6m79	6m80
6m81	6m82	6m83	6m84	6m85	6m86	6m87	6m88	6m89	6m90
6m91	6m92	6m93	6m94	6m95	6m96	6m97	6m98	6m99	6m100
6m101	6m102	6m103	6m104	6m105	6m106	6m107	6m108	6m109	6m110
6m111	6m112	6m113	6m114	6m115	6m116	6m117	6m118	6m119	6m120
6m121	6m122	6m123	6m124	6m125					

#### Science and Technology

6s1	3	3	6s2	3	3	6s3	2	1	6s4	1	6s5	2	6s6	2	6s7	2	6s8	1	6s9	2	6s10	1	
6s11		1	6s12	1	6s13		6s14	1	2	6s15	2	6s16	1	1	6s17	1	6s18		6s19	1	6s20		
6s21		1	6s22	2	6s23	1	1	6s24		6s25		6s26		6s27		6s28		6s29		6s30		6s31	
6s31			6s32		6s33		6s34		6s35		6s36		6s37		6s38		6s39		6s40		6s41		
6s41			6s42		6s43		6s44		6s45		6s46		6s47		6s48		6s49		6s50		6s51		
6s51			6s52		6s53		6s54		6s55		6s56		6s57		6s58		6s59		6s60		6s61		
6s61			6s62		6s63		6s64		6s65		6s66		6s67		6s68		6s69		6s70		6s71		
6s71			6s72		6s73		6s74		6s75		6s76		6s77		6s78		6s79		6s80		6s81		
6s81			6s82		6s83		6s84		6s85		6s86		6s87		6s88		6s89		6s90		6s91		
6s91			6s92		6s93		6s94		6s95		6s96		6s97		6s98		6s99		6s100		6s101		
6s101			6s102		6s103		6s104		6s105		6s106		6s107		6s108		6s109		6s110		6s111		
6s111			6s112		6s113		6s114		6s115		6s116		6s117		6s118		6s119		6s120		6s121		
6s121			6s122		6s123		6s124														6s122		

#### Social Studies

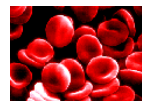
6z1	6z2	6z3	6z4	6z5	6z6	6z7	6z8	6z9	6z10
6z11	6z12	6z13	6z14	6z15	6z16	6z17	6z18	6z19	6z20
6z21	6z22	6z23	6z24	6z25	6z26	6z27	6z28	6z29	6z30
6z31	6z32	6z33	6z34	6z35	6z36	6z37	6z38	6z39	6z40
6z41	6z42	6z43	6z44	6z45	6z46	6z47	6z48		

#### Health & Physical Education

6p1	6p2	6p3	6p4	6p5	6p6	6p7	6p8	6p9	6p10
6p11	6p12	6p13	6p14	6p15	6p16	6p17	6p18	6p19	6p20
6p21	6p22	6p23	6p24	6p25	6p26	6p27	6p28	6p29	6p30
6p31	6p32	6p33	6p34						

#### The Arts

6a1	6a2	6a3	6a4	6a5	6a6	6a7	6a8	6a9	6a10
6a11	6a12	6a13	6a14	6a15	6a16	6a17	6a18	6a19	6a20
6a21	6a22	6a23	6a24	6a25	6a26	6a27	6a28	6a29	6a30
6a31	6a32	6a33	6a34	6a35	6a36	6a37	6a38	6a39	6a40
6a41	6a42	6a43	6a44	6a45	6a46	6a47	6a48	6a49	6a50
6a51	6a52	6a53	6a54	6a55	6a56	6a57	6a58	6a59	6a60
6a61	6a62	6a63	6a64	6a65	6a66	6a67	6a68	6a69	6a70
6a71									



## The Genesis Project

### A New Life Convention An Integrated Unit for Grade 5/6

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#### Analysis Of Unit Components

- 13 Subtasks
- 76 Expectations
- 132 Resources
- 83 Strategies & Groupings
- Unique Expectations --
- 37 Science And Tech Expectations

#### Resource Types

- 8 Rubrics
  - 49 Blackline Masters
  - 0 Licensed Software
  - 10 Print Resources
  - 0 Media Resources
  - 7 Websites
  - 38 Material Resources
  - 20 Equipment / Manipulatives
  - 0 Sample Graphics
  - 0 Other Resources
  - 0 Parent / Community
  - 0 Companion Bookmarks
- 

#### Groupings

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

#### Assessment Recording Devices

- 1 Checklist
- 4 Rating Scale
- 4 Rubric

#### Teaching / Learning Strategies

- 1 Anticipation Guide
- 2 Case Study
- 1 Classifying
- 1 Demonstration
- 3 Direct Teaching
- 2 Discussion
- 1 Experimenting
- 1 Forum Theatre
- 1 Independent Study
- 2 Learning Centres
- 1 Model Making
- 1 Oral Explanation
- 2 Problem-solving Strategies
- 2 Research
- 1 Round Robin
- 1 Simulation
- 1 Technology
- 6 Writing To Learn

#### Assessment Strategies

- 1 Classroom Presentation
- 1 Essay
- 9 Learning Log
- 2 Observation
- 4 Performance Task
- 3 Questions And Answers (oral)
- 1 Select Response