

Nova Scotia Curriculum Outcomes Aligned with SucSeed

Grade 3

Science - Grade 3

- Learners will analyze soil in the environment.
- Learners will investigate plants in the environment.
- Investigate the properties of soil (COM, CT, TF)
- Investigate how water interacts with soil in the environment
- Classify soil samples
- Analyze the interconnectedness of soil, living things, and the environment
- Investigate factors that affect plant growth
- Investigate how various plant parts change over the life cycle
- Investigate factors that affect plant growth.
- Investigate the uses of plants.
- Investigate the properties of soil.
- Investigate how water interacts with soil in the environment.
- How much water do different soil types hold?
- Investigating plant roots and describing how they spread through the soil
- Tasks for Instruction and/or Assessment - Provide students with several types of seeds. From all of the seeds you have been given, decide on a way to group them. State your rule for sorting.
- Test various conditions for growing plants. When you are finished, construct a bar chart to show the plant's growth. From the list, students have generated, various groups can select the variables they wish to investigate. Results can be shared with the class.
- Journal prompt: I would like to find out if ... can make my plant grow faster. I predict that ...
- What is the function of a plant's roots? (Teachers can question about other plant parts throughout this unit.)
- Draw pictures of the plants in your class that grew under different conditions. Which plants grew best? How do you know?

- Draw pictures that record observations at the different stages (germination, sprouting, buds forming, flowering, pollination, fruit/seed growth) of a flowering plant you are growing.
- Using your plant data, construct an appropriate graph. Include a chart and a diagram.
- Journal prompt: Describe ways in which plants are important to humans and all living organisms.
- Classify food items according to the plant part used.
- Create a video, dramatic, or pictorial representation on human uses of plants.
- What can you do to replenish plants in our environment? How does the natural world benefit from this action?
- Investigate shapes in structures
- Activity 1: Investigating Soil
- Activity 2: Screening Your Soil Assessment Students are able to use a variety of appropriate tools to investigate soil.
- Students are able to record their observations relating to their soil samples.
- Students are able to use language (both verbally and written) to describe the soil they are observing
- What did you find in your soil sample?
- What did you observe about the particles of soil as the size of the holes in the sieves became smaller
- Activity 3: Absorption of Water - Which soil sample absorbed the largest amount of water? How were you able to tell which soil sample absorbed the largest amount of water?
- Students are able to measure amounts of soil and water using correct metric measurements (mL or L).
- Students are able to sort their samples in order of their ability to absorb water.
- Students are able to make appropriate bar graphs to represent their findings.
- Students are able to illustrate the results of their investigations.
- Activity 4: Texture of Moistened Soil Assessment Students are able to distinguish the difference between dry and moist soil through observation and touch.
- Students are able to record the differences between various soil samples as related to their textures when they are moistened.

- Students are able to use the descriptions of soils in future activities to distinguish the difference between mystery soils.
- How did the texture of the soil sample change when it was moistened?
- How did the soil sample's ability to hold together change when it was moistened?
- Activity 6: Moving Water/Soil/Plants - What effect did the plants have on the soil when moving water was placed on it? How do plants help prevent erosion?
- Students are able to explain the effects of moving water on soil when it is covered with plants.
- Students are able to illustrate the effects of moving water on various types of soil covered with plants
- Does the type of soil have anything to do with the kinds of homes that are built around the world?
- Activity 7: Seeds – What do some or all of the seeds have in common? How do the sizes of the seeds vary? What types of plants do you think the seeds might come from?
- Students are able to sort seeds using one or more attributes.
- Students are able to describe the various attributes of their seeds.
- Students are able to explain the reasons for their sorting method(s).
- Activity 8: Conditions for Plant Growth – What types of conditions do particular plants need to grow? How would you test your predictions on plant growth? What materials would you need to carry out your investigations?
- How do we as humans help plants to grow?
- Students are able to make predictions about which soils or conditions would be ideal for growing particular plants.
- Students are able to carry out their investigations and record their results over a period of time.
- Activity 9: How Well Is Your Plant Growing? – What unit of measurement would you use to measure the growth of a plant? At what intervals would you record the growth of your plant (daily, weekly, monthly)?
- In observing the various plants that students grew, was there one type that grew quicker than others? How were you able to determine this? Who might need or want measurements of plants?

- Students are able to decide which unit of measurement is appropriate to measure the growth of their plants.
- Students are able to record relevant information in order to produce bar graphs that show the growth of their plant over a period of time.
- Students are able to grow plants from seed, observe plants they planted in the schoolyard or at their homes, and record their growth over a period of time.
- Activity 10: Light and Plants – What impact does the amount of light have on the growth of a plant? How does the amount of light affect the germination of a seed and its growth into a plant?

Math - Grade 3

- N03.01: Place a given set of numbers in ascending or descending order and verify the result using a number chart or other models - Can be done with ascending/descending number of leaves per stem.
- N09.01: Model the addition of two or more given numbers using concrete or visual representations and record the process symbolically.
- N09.02: Model the subtraction of two given numbers using concrete or visual representations and record the process symbolically.
- N11: modelling multiplication using concrete and visual representations and recording the process symbolically
- relating multiplication to repeated addition
- relating multiplication to division
- N12: Students will be expected to demonstrate an understanding of division by -representing and explaining division using equal sharing and equal grouping
- N12 Continued... Modelling equal sharing and equal grouping using concrete and visual representations
- N13: Students will be expected to demonstrate an understanding of fractions by: -explaining that a fraction represents a part of a whole
- -describing situations in which fractions are used
- PR01: Students will be expected to demonstrate an understanding of increasing patterns by describing, extending, comparing, and creating numerical (numbers

to 1000) patterns and nonnumerical patterns using manipulatives, diagrams, sounds, and actions.

- M01.04: Select and use a standard unit of measure, such as minutes, hours, days, weeks, and months to measure the passage of time and explain the choice.
- M01.03: Provide personal referents for minutes and hours
- M03: Students will be expected to demonstrate an understanding of measuring length (cm, m) by -selecting and justifying referents for the units centimetre or metre (cm, m)
- modelling and describing the relationship between the units centimetre or metre (cm, m)
- estimating length using referents
- measuring and recording length, width, and height
- M04: Students will be expected to demonstrate an understanding of measuring mass (g, kg) by -selecting and justifying referents for the units gram and kilogram (g, kg)
- modelling and describing the relationship between the units gram and kilogram (g, kg)
- estimating mass using referents
- M04.01: Provide a personal referent for one gram and explain the choice
- M04.05: Estimate the mass of a given object using personal referents.
- M04.07: Provide examples of 3-D objects that have a mass of approximately 1 g, 100 g, and 1 kg.
- M05: Students will be expected to demonstrate an understanding of perimeter of regular, irregular shapes by estimating perimeter using referents for centimetre or metre (cm, m)
- M05.01: Measure and record the perimeter of a given regular shape and explain the strategy used.

Grade 4

Grade 4 - Science

- Students are able determine the impact that various amounts of light have on plants.
- Students are able to record their findings and report them to the class.
- Students are able to identify various geometric shapes in natural environments.
- Investigate factors necessary for survival of a plant in a local habitat.
- Investigate natural and artificial sources of light.
- Investigate technologies that use light
- How does erosion affect soil?
- Investigate erosion
- How do the properties of natural and artificial sources of light compare?
- How can the properties of light, such as absorption, reflection, refraction be demonstrated?

Grade 5

Grade 5 - Science

- How can the effects of weather be seen on the Earth's surface?
- Compare physical and chemical changes
- Investigate the conservation of mass in physical and chemical changes
- How do chemical and physical properties of a substance compare?
- How do physical and chemical changes compare?

- How can changes in mass be measured?
- How are seasonal cycles important to various communities?

Grade 6

Grade 6 - Science

- Analyse how organisms adapt depending on where they live
- Investigate significant ecological relationships
- Investigate the characteristics of living things
- Classify a set of living things
- How do changes in the environment affect the organisms that live there?
- How are plants different from animals?

Grade 4 - Mathematics

- N01.02 record numerals for numbers expressed orally, concretely, pictorially, and/or symbolically as expressions, using proper spacing without commas
- N02.01 order a given set of numbers in ascending or descending order, and explain the order by making references to place value
- N03.01 represent concretely, pictorially, and symbolically the addition and subtraction of whole numbers, limited to three- and four-digit numerals
- Outcome N06: Students will be expected to demonstrate an understanding of multiplication (one-, two-, or three-digit by one-digit numerals) to solve problems by using personal strategies for multiplication, with and without concrete materials
- connecting concrete representations to symbolic representations
- N06.02 model the multiplication of two given numbers, limited to one-, two-, or three-digit by onedigit numerals, using concrete or visual representations, and record the process symbolically
- N07.01 model the division of two given numbers without a remainder, limited to a one-digit divisor and up to a two-digit dividend, using concrete or visual representations, and record the process pictorially

- N07.04 create and solve division word problems involving a one- or two-digit dividend, and record the process pictorially.
- N08.01 represent a given fraction of one whole object, region, or a set using concrete materials
- N08.02 identify a fraction from its given concrete representation
- N08.04 represent a given fraction pictorially, for example, cutting a harvest into fractions to visually depict the fraction. Can also be used for subtraction and addition.
- N09.01 write the decimal for a given concrete or pictorial representation of part of a set, part of a region, or part of a unit of measure.
- N09.02 represent a given decimal using concrete materials or a pictorial representation
- PR06.01 represent and solve a given one-step equation concretely or pictorially.
- G01.07 identify examples of rectangular and triangular prisms found in the environment

Grade 5 - Mathematics

- N04.02: apply halving and doubling when determining a given product
- N05.01 model the multiplication of two two-digit factors, using concrete and visual representations of the area model, and record the process symbolically.
- N05.04 describe a solution procedure for determining the product of two given two-digit factors, using a pictorial representation such as an area model
- N06.01 model the division of two given numbers, using concrete or visual representations, and record the process symbolically
- N07.01 represent a given fraction of one whole, set, linear model, or region using concrete materials
- N07.02 create a set of equivalent fractions, and explain, using concrete materials, why there are many equivalent fractions for any given fraction
- N08.01 write the decimal for a given concrete or pictorial representation of part of a set, part of a region, or of a unit of measure
- N08.02 represent a given decimal using concrete materials or a pictorial representation
- N08.03 represent an equivalent tenth, for a given decimal, using concrete or visual representations.

- N09.05 express a given pictorial or concrete representation as a fraction or decimal (e.g., 250 shaded squares on a thousandth grid can be expressed as 0.250)
- PR01.01 extend a given increasing or decreasing pattern, with concrete materials, and explain how each term differs from the preceding one.
- M02.02 provide a referent for one centimetre, and explain the choice
- M02.03 provide a referent for one metre, and explain the choice
- M02.04 show that 10 millimetres is equivalent to one centimetre, using concrete materials
- M02.05 show that 1000 millimetres is equivalent to one metre, using concrete materials
- G01.01 identify parallel, intersecting, perpendicular, vertical, and horizontal edges and faces on 3-D objects
- G05.01 provide examples of right angles in the environment
- SP04.01 identify outcomes from a given probability experiment that are less likely, equally likely, or more likely to occur than other outcomes
- SP03.02 classify the likelihood of a single outcome occurring in a probability experiment as impossible, possible, or certain

Grade 6 - Mathematics

- Outcome M01: Students will be expected to demonstrate an understanding of angles by: identifying examples of angles in the environment
- M01.01 identify examples of angles found in the environment
- G02.06 identify and describe regular and irregular polygons in the environment
- N01.06 record, in standard form, numbers expressed orally, concretely, pictorially, or symbolically as expressions, in decimal notation, and in expanded notation, using proper spacing without commas.
- N03.03 identify the factors for a given number and explain the strategy used (e.g., concrete or visual representations, repeated division by prime numbers, or factor trees).
- N04.05 represent a given improper fraction using concrete, pictorial, and symbolic forms
- N04.06 represent a given mixed number using concrete, pictorial, and symbolic forms

- N05.01 represent a given ratio concretely and pictorially.
- N05.02 write a ratio from a given concrete or pictorial representation
- N05.04 identify and describe ratios from real-life contexts and record them symbolically
- N06.03 represent a given percent concretely and pictorially
- N06.04 record the percent displayed in a given concrete or pictorial representation
- N08.01 model the multiplication and division of decimals using concrete and visual representations
- PR04.01 model the preservation of equality for addition using concrete materials, such as a balance, or using pictorial representations, and orally explain the process