Cub Meeting Schedule: Week One
Theme: Rock Hounds

Date: _____

Time	*Activity*	*Program Details*	*Leader Responsible*
10 mins.	Gathering Activity	Race to the Klondike instructions *See Detail Planning Sheet*	
5 mins.	Opening Ceremony	*Details can be found in the Wolf Cub Leader's Handbook*	
10 mins.	Game	Map and Compass Review *See Detail Planning Sheet*	
10 mins.	Theme Activity	Six preparation for Klondike Race *See Detail Planning Sheet*	
50 mins	Theme Activity	Race to the Klondike Activity	
10 mins.	Theme/Review	Review each Six's success and decisions.	
5 mins.	Six Meeting	Discuss Teamwork. Remind Cubs to bring crystals next week.	
5 mins.	Spiritual Fellowship	- Recite Law / Promise - Prayer / Talk	
5 mins.	Closing Ceremony	*Details can be found in the Wolf Cub Leader's Handbook*	
15 mins.	Leader Discussion Time	Review meeting and discuss next week's plans	

Badge Links: Green Star

Meeting Notes: _____

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Cub Meeting - Detail Planning

Theme: Rock Hound

Gathering Activity

Race To The Klondike

1995 was the 100th Anniversary of the gold discovery in the Klondike.

There are two objectives for sixes to accomplish in this Treasure Hunt Activity:

- Collect more gold than any other six, and return to the meeting space within the allotted time.
- Using a map, the six must orient themselves, figure out the route to take, find the gold field, retrieve the gold and return back to the meeting space. *(Because no two maps are the same, no six covers the same route.)*

The following is an example of how you might structure this activity.

Materials needed for each six

- Compass
- Street map of the neighbourhood
- Watch
- Several pillow cases/cloth sacks for carrying gold
- Written synopsis
- Written synopsis of the below information (to study as they enter the meeting and to use while on the activity).

Directions

- Before starting the actual activity, go over the objectives and clarify any questions the Cubs might have.

The Scene

Back in the 1800's, an old prospector named "True North" Ned and his faithful mule, *Buttercup*, discovered gold in the neighbourhood.

Unfortunately, Ned would get his directions mixed up. He never took the same route to the gold field twice. Ned did keep accurate maps, written in code, of each trip he took. By sheer coincidence, he made the same number of maps as there are sixes in the pack.

Each six must take a map and Buttercup (for this Activity, a Leader will substitute for Buttercup) and follow the map's directions to the lost gold field. Once there, the Cubs are to retrieve as many gold nuggets as they can, and return to the meeting space.

Ned's Maps

- Ned's maps can only be figured out by using a local street map with it.
- A picture of a tree with the word "Elm" next to it might refer to Elm Street.
- Some of the clues may prove to be too difficult for the Cubs to figure out. Fortunately, Buttercup the mule remembered each trip and can provide answers to what some of Ned's map symbols mean.
- For an extra handful of hay, Buttercup can answer two questions the six might have about the map (to find out where the six gets hay, keep reading).
- The trip from the meeting space to the lost gold field should take about 15 minutes at a brisk walking pace.

The Gold

- Obtain several buckets of washed, pea size gravel for each six.
- Spread the gravel out on a large piece of cardboard and spray paint the gravel gold.
- Once dry, take the gravel to a large playing field or open area and scatter the fake gold nuggets in a wide area.
- The wider the area, the more time it will take the Cubs to find the gold. You should plan on the Cubs taking 10-15 minutes to search for gold.

The Challenge

- Prospecting is not without risk. Ned needed to carry all his supplies and *Buttercup's* food for the trip, or risk starving. As well, winter weather brought the risk of deep snow that would trap prospectors and their gold in the wilderness.
- To bring home the concept that valuable supplies are used up with time, and that winter is approaching, provide each six with a number of "Supply Cards."
- Using index cards, give each cards to each six, labelled:

  FOOD (6 Cards)
  WATER (6 Cards)
  HAY (8 Cards)

- Once the six begins their hike, they must give Buttercup (the Leader) a food, water and hay card every 5 minutes. If the six takes longer than 30 minutes to complete the activity, it will run out of food and water supplies.
- Therefore, the six must purchase the necessary supply cards back from Buttercup (the Leader) or risk death. Each card costs a "Cub-Size" handful of gold nuggets from the gold the youth have collected.

- The Cubs can sacrifice Buttercup (the Leader) in order to save gold, but only if the Cubs think they can make it back to the meeting space without needing any more food and water supply cards. (This means the Cubs can reach the meeting space in less than five minutes.) If the six takes longer than 45 minutes to complete the activity, they become trapped by deep snow and freeze.

Cub Strategies

Remember, finding gold is important, but all the gold in the world is worthless if the six does not survive the trip to the gold field and back. Therefore, the Cubs have a number of strategies to figure out:

1. **How fast they can read the map.** Speed will give more time to find gold, but may result in costly direction mistakes. Asking Buttercup questions also uses up valuable hay cards, and so the questions must be asked only when needed.
2. **How much time to spend looking for gold.** Once at the gold field, Cubs need to decide how long they can afford to look for gold before needing to find supplies. Can the six find more than the handfuls of gold needed to buy extra supplies?
3. **Once at the gold field,** the Cubs do not have to take the same route back to the meeting space, and can save time taking a more direct route home. How long it will take them to get home is another problem to figure out.
4. **Cubs must also decide which has the higher priority:** Preserving the gold they carry or preserving their lives.

- End the activity by gathering all the sixes.
- See which six collected the most gold. Then discuss some of the problems the sixes encountered, and how they worked out finding a solution together.
- This discussion ends the “Race to the Klondike” Activity. You may wish to teach the Cubs the song called “Klondike”, found in *Scouts Canada’s “Song Book”*.

Game

Map and Compass Review

- Split the pack into sixes.
- Provide each six with one or more compasses and a street map of the neighbourhood.
- Discuss and demonstrate how to find north using the compass, and then how to orient the street map to north.
- Discuss and show common map symbols for schools, main highways, for example, so the Cubs can read the map with some basic understanding.

Cub Meeting Schedule: Week Two
Theme: Rock Hounds

Date: _____

Time	*Activity*	*Program Details*	*Leader Responsible*
10 mins.	Gathering Activity	Rock Kim's Game *See Detail Planning Sheet*	
5 mins.	Opening Ceremony	*Details can be found in the Wolf Cub Leader's Handbook*	
10 mins.	Game	Household Minerals I.D. (Identification) *See Detail Planning Sheet*	
20 mins.	Theme Activity	Fossil Making *See Detail Planning Sheet*	
10 mins	Game	Iron Hunt *See Detail Planning Sheet*	
30 mins.	Theme Activity	Rock Collecting and Examination *See Detail Planning Sheet*	
5 mins.	Spiritual Fellowship	- Recite Law / Promise - Prayer / Talk	
5 mins.	Closing Ceremony	*Details can be found in the Wolf Cub Leader's Handbook*	
15 mins.	Leader Discussion Time	Review meeting and discuss next week's plans	

Badge Links: Black Star; Collector Badge; Naturalist Badge; Observer Badge.

Meeting Notes: _____

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Cub Meeting - Detail Planning

Theme: Rock Hound

Gathering Activity

Rock Kim's Game

- To teach Cubs observation skills, collect 10-12 ordinary rocks from around the meeting area, or bring in some special rocks if you have some.
- Place them on a table and cover with a cloth.
- Give each Cub 30 - 60 seconds to look at the rocks.
- Have the Cubs try to write a description of each rock on the table.

Game

Household Rocks and Minerals

- Split the pack into sixes.
- Give each Cub a copy of the *Household Rocks and Minerals Checklist*.
- Have each six work to make the right matches.
- Then have each six work to add as many more household items and the associated rock or mineral as they can.
-

Note:

This activity takes some thinking, since most Cubs and adults do not normally relate household items to minerals. Raising awareness is the objective of this activity. You may want to have some samples handy, such as nails, pencils, etc. to show and tell afterwards.

Checklist: Household Rocks and Minerals

Connect the Matching Components by Drawing a Line

R = Rock **M** = Mineral

Rocks and Minerals	Household Rocks/Minerals
Bauxite (Aluminium) **(R)**	Drinking Glass, Windows
Boron **(M)**	Antique Gun
Carbon	Electrical Wire, Cookware
Cassiterite (Tin) **(M)**	Tin Can
Chalcopyrite (Copper)	Silverware
Chert (Flint) **(R)**	Jewellery
Chromite (Chromium)	Fertilizer
Cinnabar (Mercury) **(M)**	Match-Head
Dolomite **(R)**	Nails
Feldspar **(M)**	Table Salt
Galena (Lead) **(M)**	Radiation Shield; Pipe Solder
Gold	Coffee-Mate
Granite **(R)**	X-Ray Tube
Graphite **(M)**	Thermometer
Gypsum **(M)**	Diamond Ring
Halite **(M)**	Computer Chip (Silicon)
Hematite/Magnalite (Iron) **(M)**	Building Stone
Lepidolite (Lithium)**(M)**	Pencil
Limestone **(R)**	Cement
Pentlandite (Nickel) **(M)**	Glowing Surface of Clocks
Phosphorus	Light-Bulb Filament
Potash **(R)**	Electrical Boxes; Galvanized Metal
Quartz (Silica) **(M)**	Plaster Board for Building; Toothpaste, Money
Silica Sand **(M)**	Talcum Powder
Silver	Stainless Steel Pots (along with Nickel and Iron)
Sphalerite (Zinc) **(M)**	Bread Whitener
Sulphur	Pop Cans
Talc **(R)**	Glass; Medications
Wolframite (Tungsten) **(M)**	Building Blocks

Answers: Household Rocks and Minerals

Aluminium: Pop Cans
Beryl: X-Ray Tube
Carbon-Diamond: Rings
Chromium: Stainless Steel Pots
(along with nickel and iron)
Copper: Electrical Wire; Cookware
Dolomite: Building Stone
Feldspar: Coffee-Mate
Flint: Antique Gun
Gold: Jewellery
Granite: Building Blocks
Graphite: Pencil Lead
Gypsum: Plaster Board (for building);
Toothpaste; Bread Whitener
Halite: Table Salt
Iron: Nails

Lead: Radiation Shield; Pipe Solder
Limestone: Cement
Lithium: Glass; Medications
Mercury: Thermometer
Nickel: Money
Phosphorus: Glowing Surface of Clocks
Potash: Fertilizer
Quartz: Computer Chip (Silicon)
Silica Sand: Drinking Glass; Window
Silver: Silverware
Sulphur: Match-Head
Talc: Talcum Powder
Tin: Tin Can
Tungsten: Light Bulb Filament
Zinc: Electrical Boxes; Galvanized Metal

Theme Activity

Plaster Leaf Fossil Making

Common fossils owe their existence to a complex process called *Recrystallization*.

For example, when a clam dies in the sea, it is soon covered with sediment or the remains of other plants and animals. As the years pass, water moving through the sediment slowly dissolves the clam shell.

The cavity left behind can become partially or completely filled with silica, pyrite or calcium carbonate. In this way the original shape of the shell may be preserved, in some cases including the finest detail.

To make a plaster fossil, you follow the same basic steps for creating a real fossil. First, you need some sediment. Play dough is a good substitute.

The recipe for play dough is as follows:

- 1 cup all purpose flour (250ml)
- 1/2 cup salt (125ml)
- 1/2 cup water (125ml)

Directions:

- Blend flour, salt and water and knead until you have a dough consistency
- Cubs can easily do this work
- Roll the dough out flat
- Have the Cubs collect several leaves with large, thick veins
- Press the leaves into the dough about 1/2 cm to make an impression. Remove the leaves
- You are now ready to fill the cavity with plaster
- Using **Plaster of Paris**, mix up a small batch in a large paper cup so the consistency resembles thick pancake batter
- Spoon the plaster onto the leaf impression and set aside to harden
- You can also use shells, animal bones or real fossils

Game

Iron Hunt

- Split the pack into sixes.
- Give each six a number of fridge magnets
- Paper and a pencil
- Using the magnet, each six has 5 minutes to locate as many things in the meeting area or other space that has iron in it by seeing if the magnet sticks to the object.
- See which six can locate *the most* items containing iron.

Theme Activity

Rock Collecting

- Provide each Cub with an empty egg carton.
- Split the pack into sixes and take a hike around the meeting area to look for rocks.
- If leaders would like to collect rock samples for Cubs from larger rocks or rock outcrops by using a hammer, make sure the Cubs stand well back and that the leaders wear safety goggles.
- After enough rocks have been collected, return to the meeting space to examine the rock. Have the Cubs conduct physical property tests and identify each rock's properties, such as colour, hardness, smell, streak and density.
- Compare the rocks with each other. Density means comparing the weight difference between two equal sized rocks.
- Provide each six with several scratch plates, pocket knives, pennies, and plastic magnifying glasses.
- Identification is not as important as learning to observe and recognize a rock's characteristics. Have the Cubs sort their rocks according to density, hardness and crystal shape.

Six Meeting

Crystal Making Challenge

- Have the Cubs refer to their *Cub Books* for instructions on making sugar crystals.
- Challenge them to make crystals at home, substituting salt for sugar.
- See which Cub can bring in the biggest and best formed salt crystals.
- Discuss the property of minerals forming into characteristic geometric shapes.
- See what shape salt crystals make.

Cub Meeting Schedule: Week Three
Theme: Rock Hounds

Date: _____

Time	*Activity*	*Program Details*	*Leader Responsible*
10 mins.	Gathering Activity	Share Crystal Formations. Prepare for visit if "Off-Site" *See Detail Planning Sheet*	
5 mins.	Opening Ceremony	*Details can be found in the Wolf Cub Leader's Handbook*	
80 mins.	Theme Activity	Exploring Rocks and Minerals	
5 mins.	Spiritual Fellowship	- Recite Law / Promise - Prayer / Talk	
5 mins.	Closing Ceremony	*Details can be found in the Wolf Cub Leader's Handbook*	
15 mins.	Leader Discussion Time	Review meeting and discuss next week's plans	

Badge Links: Observer Badge; Canadian Arts Award.

Meeting Notes: _____

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Cub Meeting - Detail Planning

Theme: Rock Hound

Theme Activity

A Leader's Introduction to Geology

1) It is important to distinguish between **"Minerals"** and **"Rocks"**.

2) There are thousands of different minerals, each of which is a particular mixture of elements that form the earth and the universe!

The Most Abundant Elements are:

- Oxygen, Silicon, Aluminum, Iron, Calcium, Sodium and Magnesium. They make most of the common rock-forming minerals including Quartz, Feldspar, Mica, and Calcite.
- Minerals are identified by the type and abundance of elements within them, and by their physical properties such as Crystal Shape, Hardness and (sometimes) Colour.
- Quartz, for example, is made up of one part silicon and two parts oxygen. It commonly resembles clear, irregular pieces of glass.
- Quartz sand on an Atlantic seashore is the same as quartz sand in the Sahara desert, or anywhere else in the world.
- In summary, minerals are naturally occurring materials having a definite chemical composition and crystal shape.
- Rocks are made up of minerals which can come together in a near-infinite variety of combinations.
- Granite, for example, is a rock formed by three minerals: Quartz, Feldspar and Mica. Mica is a mineral that is usually black or clear, and flakes off in thin sheets. Feldspar has shiny, salmon-pink or whitish surfaces.

Rock Classification:

Rocks can be classed into one of three groups. The following is a brief description of each group and some common rocks found in them.

1. Igneous Rocks

Igneous rocks are formed from molten rock.

Molten rock is called "Magma" when it cools underground, and "Lava" when it spills out onto the earth's surface, for example, volcanoes. Because Magma cools more slowly, minerals within magma are larger. Rocks derived from Magma include Granite.

Obsidian:

Mostly grey to black. Very smooth, glass like. Valued by early native people for arrowheads and decorations. It comes from Lava.

Basalt:

Fine-grained black rock. It comes from Lava.

Granite:

As mentioned above.

2. Sedimentary Rocks

- Sedimentary rocks, as the name implies, are made of sediments that gradually form into deposits.
- Sedimentary rocks are made of mineral grains and rock fragments deposited by Wind (into sand dunes); Water (rivers, lakes and oceans); and Ice (glaciers).
- These rocks are widespread in Canada, underlying the prairies and, where the earth has piled them, forming large parts of the mountains in western Canada and the maritime provinces.

Mineral Grain Sizes

COARSER

Conglomerate:

Composed of rounded waterworn pebbles cemented together by the mass of finer material filling the spaces between. Conglomerates show where rivers once ran.

Sandstone:

Common rock made of sand grains cemented together. Ancient beaches are a source of sandstone.

Shale:

Composed mostly of clay particles, often with a little sand mixed in. Stream-carried mud, consisting of fine particles, will be carried and deposited farther than sand before settling out.

FINER

Limestone:

Composed of Calcium Carbonate. Commonly formed from accumulated lime removed from seawater by living organisms, such as coral. Limestones often have fossil sea life embedded in them.

3. Metamorphic Rocks

Pressure and heat that accompany the deep burial of rocks will, in time, change the crystal pattern of the rock.

Examples of metamorphic rocks are:

Slate: Formally Shale

Gneiss: Formally Granite or Shale

Quartzite: Formally Sandstone

Marble: Formally Limestone

Igneous and metamorphic rocks make up most of the *Canadian Shield*, which extends from northern Saskatchewan and Manitoba across much of Ontario and Quebec.

Physical Properties of Minerals

Geologists and rock collectors identify rocks and minerals by a number of physical properties.
Some of these properties are:

Colour

Colour is the first trait we notice about minerals. Sometimes colour is directly related to a specific mineral. Traces of blue and green can indicate the presence of copper. Rust coloration can indicate iron deposits. Precious stones such as emeralds and rubies have distinctive colours. Violet coloured quartz is called Amethyst.

Lustre

Lustre refers to metallic and nonmetallic surface shine. Non-metallic shine, in lay terms, can include glassy, greasy, silky and pearly.

Hardness

Friedrich Mohs, an Austrian mineralogist, developed the **"Mohs Hardness Scale"** in 1822 as a means to compare the relative hardness of minerals. In a scale from softest (1) to hardest (10) it shows as below:

The Mohs Hardness Scale

1	Talc	6	Feldspar
2	Gypsum	7	Quartz
3	Calcite	8	Topaz
4	Fluorite	9	Corundum
5	Apatite	10	Diamond

Harder minerals with the higher number can **scratch** softer minerals. To determine the hardness of a rock or mineral, geologists use their fingernail (Hardness of 2.5); a copper penny (Hardness of 3); a steel knife (Hardness of 5.5); and an unglazed ceramic tile (Hardness of 7). If an unknown rock can be scratched with a knife blade, but not with a penny, it has a hardness of about 4. Talc and Gypsum can be easily scratched with your fingernail.

Specific Gravity

This property simply describes the **density** of a rock or mineral. Lead will weigh more than the same size piece of talc.

Streak

Streak is the **colour** of the mineral powder. It is best seen on a dull, unglazed bathroom tile, available through hardware stores. Minerals over a hardness of 7 will not make a streak. Softer minerals, especially black ones, will leave a powder trail.

Other (Smell / Magentism/Texture)

Some rocks have a distinct **smell**. Sulphur smells like rotten eggs. Occasionally, limestone will smell like oil and gas when broken. Remember, oil and gas are “fossil” fuels derived from ancient plant and sea life.

Magnetism is another simple property. A kitchen magnet held to a rock or mineral will detect iron rich metals. Crystal shape is common to all minerals in their formation. Salt crystals (Halite) have a cube shape, while quartz crystals are hexagonal (six sides). Some rocks also have characteristic texture; Soapstone, commonly used in sculptures, has a distinct greasy or hard soap feel to it.

Cub Meeting Schedule: Week Four
Theme: Rock Hounds

Date: _____

Time	*Activity*	*Program Details*	*Leader Responsible*
10 mins.	Gathering Activity	Distribute equipment to each six for soil sample taking.. *See Detail Planning Sheet*	
5 mins.	Opening Ceremony	*Details can be found in the Wolf Cub Leader's Handbook*	
10 mins.	Game	Soil Identification *See Detail Planning Sheet*	
40 mins	Theme Activity	Soil Profile Hike - Collection - Microbug Search - Effect of water on soil *See Detail Planning Sheet*	
20 mins.	Theme Review	Water Tests on Samples *See Detail Planning Sheet*	
10 min.	Six Meeting		
5 mins.	Spiritual Fellowship	Recite Law / Promise Prayer	
5 mins.	Closing Ceremony	*Details can be found in the Wolf Cub Leader's Handbook*	
15 mins.	Leader Discussion Time	Review meeting and discuss next week's plans	

Badge Links: World Conservation Badge; Naturalist Badge

Meeting Notes: _____

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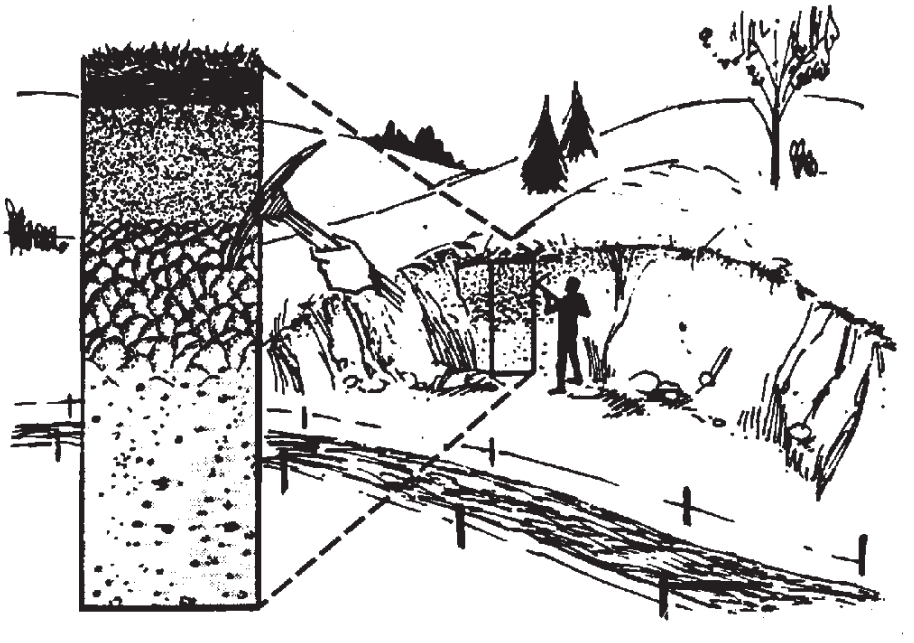
A Leader's Introduction to Soils

"Soil" is the loose material that overlies bedrock. It is important for plant growth in agriculture and forestry, for construction of roads and buildings, and for our water resources.

- Soil is made of minerals and rock fragments, water, and organic matter such as leaves, grasses and roots.
- The minerals provide the chemical elements necessary for plant growth.
- The smallest mineral grains are most suitable because they are accessible to rootlets.
- In Canada, most soil is derived from the erosion of bedrock by glaciers which has left us with a widely varied mixture of mud, sand, gravel and stone. This variability is one of the distinctive geologic features of Canada.



If you look closely at soils you can see that they are "layered" in what are called "soil horizons."

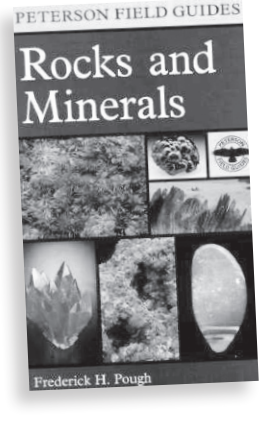
- The horizons reflect complex chemical and mechanical changes associated with weathering.
- Soils can change dramatically among sites, reflecting variations in the texture (coarse and fine soils) and the type of mineral and rock fragments, water drainage, climate, land slope (relief), and vegetation type.
- In many areas the uppermost layer ("A Horizon") is commonly dark coloured because it contains organic matter: it is the horizon where leaf and plant litter decompose.

- The thickness and amount of organic material reflect the ability of a soil to grow plants and to hold moisture.
- Below the **"A Horizon"**, is the **"B Horizon"** where weathered minerals accumulate and plant roots occur; it is commonly marked by an iron stain (red or orange). The **"B Horizon"** changes downward into the **"C Horizon"**, where rocks and minerals are little changed from the parent glacial debris or bedrock on which the soil has developed.

You will be amazed to know that soil is actually "alive." A typical patch of soil measuring a half a hectare by 15 cm deep contains:

- One to two tonnes of fungi: Organisms that live on dead matter
- One to two tonnes of bacteria: Single-celled creatures
- 90 kilograms of one-celled animals: Protozoa
- 45 kilograms of algae: Tiny water plants
- 45 kilograms of yeasts: Microscopic plant-like organisms.

These tiny creatures help purify water, recycle nutrients, generate oxygen and carbon dioxide, decompose waste and produce soil.



Further explanation of rocks and minerals can be found in this book:

Peterson Field Guide Series: A Field Guide to Rocks and Minerals

by Fredrick Pough

Game

Soil Identification

- For Cubs who like to play with mud, this game will be just what they have been looking for.
- Soil can be classed three ways: **Sandy, Clay** or **Loam**. Sandy soil feels gritty and does not hold water very well. Clay soil feels greasy and can be clumped into a ball when squeezed. Loam has a soft, crumbly feel.
- Put out different samples of soils collected from around your neighbourhood and let the Cubs decide what type of soil the samples are.

Theme Activity

Soil Profile Hike and Collection

To develop a better understanding of soil, Cubs need to explore what is called a soil profile.

- Find several areas around the neighbourhood in which the Cubs can dig a hole.
- Have each six visit these sites, and using shovels, dig a hole 1/2 metre wide, 1 metre long and 1/2 metre deep.
- Examine the side of the hole for differences in soil layering.

An alternative to digging is looking at a road cutline.

- Have Cubs draw a sketch of the soil profile.
- Use small glass jars to collect a cup (250ml) of top soil at each site and mark the location from which they were taken on a neighbourhood map. See how soil samples differ among sites disturbed by construction activity and those not disturbed by people.
- Take a sample of topsoil and spread it out on a white paper plate. Using a magnifying glass, see how many living things you can find. The Cubs may want to try drawing some of the bugs or other living creatures they find.
- As you travel from site to site to collect samples, look for ways water has affected soil. Water erosion washes millions of tonnes of productive topsoil away each year, while breaking down stream banks and roadsides. Water trapped in rock cracks expands when frozen, splitting large rocks into smaller pieces that eventually make up soil.
- Since most of Canada was once covered by glaciers, you may want to include a discussion about how glaciers helped to form soil.
- The large variety of rocks you find in many soils in Canada is a direct result of glaciers transporting and mixing soils as they moved. Prairie potholes are a soil feature left over from chunks of melting glaciers forming small ponds. Smoothed surfaces on rock outcrops and rocks with scratches (called *Striations*) are also products of glacier wearing.

Theme Review

Water Test

- Take the soil samples and mark on a neighbourhood map the location they were taken.
- Put each sample into a clear sandwich size plastic bag.
- Using a measuring cup, pour a cup (250ml) of water into the bag.
- Carefully drain any extra water back into the cup.
- By seeing how much water each soil sample can hold, you can show which sample has the greatest amount of organic matter and potential for productive plant growth.