My wolf story goes like this..Draft 1

My wolf story goes like this...Illustration 1

What was the Wolf Like In...

Little Red Riding Hood	The True Story of the Three Little Pigs	Koyukon Story

Human and Wolf Caricatures

Centre One: Vital Statistics

1. Using the measuring tape and your research skill, fill in the missing answers. Begin your research by using the wolf edukit library.

Characteristic	Wolf	Human (you)
colour of hair	Variable	
weight	32 - 45 kg (average male) _ - _ kg (average female)	
height at shoulder	~ 1 metre	
tail (length)	36 - 50 cm	
total length	~ 2 metres	
speed	walking 8 km/h, running 55 - 65 km/h	
life span	wild _ years/captive 14 years	~70 years
gestation period	~ __ weeks	
number of young at one time	2 - 10 (usually 5 - 6)	
birth weight	340 - 450 grams	
weight at four months	__ - __ kg	
sexual maturity	6 - 12 months	~12 - 14 years
eye placement	binocular	
how much can they eat at one time	7 - 9 kg	

2. Look closely at the wolf pelt and then at your own hair. *Write three words to describe how the hair on the wolf pelt differs from your own.*

_____

_____

3. The longest hairs on the human body are found on the head. This may be to help insulate your head from heat loss. *Where are the longest hairs on the wolf located?*

_____

4. An adaptation is a change in a plant or animal's physical structure or behaviour which helps it better survive in its particular environment. *In what ways is the wolf's fur adapted to help it survive?*

_____

_____

_____

_____

5. Humans use wool and down clothing to insulate their body from the cold. *How might the short soft hair next to the skin help the wolf to survive?*

_____

6. Humans wear raincoats and hats or use umbrellas to protect them from wind and rain. *What is the job of the long wolf hairs? How do they help the wolf to survive?*

_____

_____

7. In the space below make a drawing of a wolf foot.

8. In the space below make a drawing of a wolf nose.

Centre Two: Skulls and Teeth

Skulls

Skulls tells us interesting information about animals:

- Eye sockets on the side of the head indicate an animal preyed upon by other animals. It can see danger coming from behind. Sockets toward the front of the head are important for animals that need to perceive depth and are not as worried about things sneaking up on them.

- The saggital crest (the bony ridge on top of the skull) is where the lower jaw muscles attach to the skull. A large saggital crest means an animal has large, powerful jaws. The wolf has extremely strong jaws, with a crushing pressure of 1500 pounds per square inch in comparison to a German Shepard with a crushing pressure of 750 pounds per square inch. A wolf can snap off the tail of a yearling or full grown cow in one bite.

Teeth

Animals' teeth tell much about them. There are four main types of teeth:

- *Incisors* are used for nibbling. Animals that eat plants (herbivores) use these teeth to nip food from plants. Animals like wolves that eat meat (predators and scavengers) use these teeth to clean meat scraps from bones.

- *Canine teeth* are used for seizing and holding food. A herbivore does not need large canine teeth because plants don't try to escape. The larger and stronger a predator's prey is, the larger and thicker the canine teeth are; slender canine teeth could break while the prey struggles.

- *Premolars* and *molars* are for crushing, tearing, and grinding. A herbivore uses these teeth to grind and crush plants. A predator uses these teeth to tear off chunks of meat and to crush bones for the marrow inside. Specialized premolars or molars called *carnassial teeth* act like scissors to shear or tear off chunks of meat.

Some of the skulls found in this edukit are prepared by first cutting off most of the meat and then putting the skulls in a colony of special beetles that clean off the rest of the meat. Skulls are then soaked in ammonia and hot water to remove fat from the bone. Teeth often chip, crack and loosen as the skulls dry. *Please handle them carefully*.

1. Examine the wolf skull and locate the incisors, canines, and molars on the skull. *How many incisors, canines, premolars, and molars do wolves have? How many do humans have?*

	Wolves	Humans
incisors		
canines		
premolars		
molars		

2. Incisors are used for nibbling.
What do you think we use incisors for?

_____

What do you think wolves use incisors for?

_____

_____

3. Canine teeth are used for grabbing. *What do you think wolves use their canine teeth for?*

_____

_____

What do humans use in place of large canine teeth to grab their food?

_____

_____

4. *What do you think wolves use their premolars and molars for?*

_____

_____

What do humans use premolars and molars for?

_____

_____

5. Look at the molars of the wolf on the wolf skull. Feel these teeth with your fingers. The biggest molars in the back are called **carnassial** teeth. These teeth work like scissors, to shear or tear off chunks of meat. *What do people use in place of carnassial teeth to tear off pieces of meat?*

_____

_____

Centre Three: The Nose Knows

The sense of smell may be as important to a wolf as the sense of sight is to us. Some researchers figure that wolves can smell one hundred times better than we can!

Wolves use odours to find their way around their territories in much the same way we use road signs. They do this by scent marking (urinating) on objects such as stumps and rocks. These scent marking posts are *freshened up* regularly. They are especially common at crossroads of wolf highways and around the borders of their territories.

Wolves produce odours that tell the other wolves its rank in the pack. Wolves in a pack rub up against each other so that they all smell alike and can easily tell members of their pack from those of a strange pack.

When a wolf rolls in something that smells terrible to us, it may be a way of bringing messages back to other pack members about some available food. Of course, it may be that the smell of a dead animal to a wolf is like the smell of a fine perfume to us!

Through their noses, wolves can *read* the news of the last few days. They can tell where and when a deer crossed the trail and where a raven spent the night. They may even be able to tell whether a prey animal is sick by the odour it produces.

1. Find out and label the north, south, east, and west corners of your classroom. Use these compass points to answer the questions that follow.

2. Hold a doubled tissue tightly over your nose. If you have allergies be sure to check with your teacher before you continue at this centre. Open the container labelled Kananaskis Pack. Without removing the tissue from your nose, smell inside the container. Now go to each corner of your classroom and smell the sponge there. *In which corner is the territory of the Kananaskis Pack located?*

Now go back to the centre and, one at a time, smell inside each of the remaining containers. Remember to keep your nose covered with the tissue.
In which corner is the Cascade Pack located? _____

Which corner is the territory of the Bow Valley Pack? _____

Which corner is the territory of the Kootenay Pack? _____

3. Now remove the tissue from your nose and start all over. With the tissue gone you are smelling like a wolf, compared to smelling like a human (with the tissue in place).

Which corner belongs to the Kananaskis Pack? _____

Which corner belongs to the Banff Pack? _____

Which corner belongs to the Bow Valley Pack? _____

Which corner belongs to the Kootenay Pack? _____

After you have completed the activity, ask your teacher to identify the correct answers.

4. *Were you able to identify all "territories" correctly?* _____

5. *Did it make a difference with the tissue removed?* _____

6. *Do you think you could learn to know your world through your nose?* _____

Centre Four: Wolf Scats

Scientists learn many things about wolves by studying their droppings or scat. Scats can tell us:

- what wolves eat
- how many wolves live in an area—the amount of scat found in an area can be compared to the amount of scat found there later. If less scat is found in the same area later, it may mean there are fewer animals than in previous surveys
- whether the animal has parasites or not.

For a short time after wolves feed on fresh meat, their scat is very runny and black because blood turns black when it goes through the digestive tract. After the wolves have eaten the organ tissue of the prey animal, they begin to feed on muscle tissue that may have hair attached to it. After eating this tissue, the scat becomes firmer, with more and more hair and bone in it.

Important: Scat of any animal may contain parasites that are dangerous to humans. Never handle scat with bare hands, and do not breathe dust from the scat.

1. Look at the scat samples in the centre. Compare them to the Scat Identification Chart taped beside the samples.

   Draw a picture of the one you think belongs to the wolf.

Draw a picture of the one you think belongs to the dog.

Draw a picture of the one you think belongs to the deer.

2. *If these were actual scats, which animal would have scats with hair in it? (Circle one.)*

   wolf deer dog

3. *What kind of animal might this hair be from?*

   _____

Centre Five: Wolf Tracks and Trails

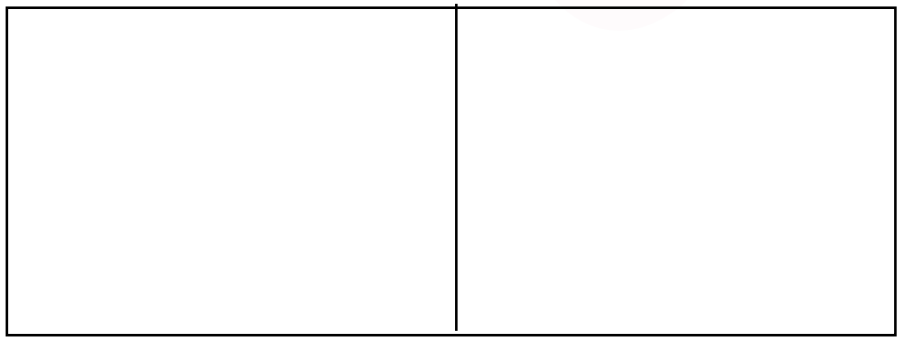
Like detectives, biologists use animal tracks to tell them who or what came by, when they came by, how fast they were going, and even whether they were injured. Good trackers spend a lot of time in the woods studying tracks. They go back day after day to see how tracks age in different weather conditions and different kinds of soil or snow. Then the next time they come across a track, they will know how long it's been since the track was made.

Good trackers keep notebooks with measurements and other information about the tracks they find. Many books have been written on the art and science of tracking; it is an amazing topic to explore.

Track Patterns

When you find a set of tracks, you can often discover what animal made them by following these steps.

- Look at the field guide on Animal tracks. Look at the pattern of the tracks. Is the animal hopping? trotting? walking?
- Look at the shape of the track. Does it have toes? Does it have hooves? The track's shape tells you the general type of animal. In the space provided draw a track with toes and a hoofed track.



a track with toes **a hoofed track**

- Measure the size of the track. The length is the longest part of the track including the claws. The width is the widest part of the track. Measure the length and width of your own footprint or track.

  Length _____ Width _____

- Measure the intergroup distance of your tracks by using the tape measure. That's the distance from where the toes of one foot hit the ground to where the heel of the next foot hits the ground. Add your intergroup distance to a chart showing the intergroup distance of everyone in your classroom.

  Your intergroup distance _____

  Place your intergroup distances and track measurements in the centre chart, *Tracks and Trails Chart*. Compare everyone's measurements. Is there a relationship between the length of a person's track or foot and their intergroup distance?

  _____

Optional: Research the intergroup distances of other animals. Is there a relationship between the length of those animals' track and their intergroup distance or between the length of their legs and their intergroup distance.

Look at your own hand and the wolf track. List below all the things you can see that are the same and different between the two.

Similarities	Differences

Time permitting...

- Make a plaster cast of the wolf track. Follow the instructions found at the centre.

- Make an imprint of your hand in the damp sand or dirt. Follow the instructions and make a plaster cast of your hand.

- On the next page, *Paw/Hand print*, is a place for you to create your own work of art.

  Use the paint provided and the wolf print stamp to put awolf print on the page. Now make a print of your own hand somewhere on the same page. The place is up to you.

  Go back to your work space. Using pencils, pencil crayons, felts, or paint (your choice), finish you work of art. You can use the painting to show connections between wolves and humans.

Paw/Hand print

Centre Six: Trail Mysteries

Track Mysteries

Try to solve the three Track Mysteries included at this centre. Each mystery shows a set of tracks. Try and figure out what happened in each track story.

Track Mystery One

1. Explain what happened to lead to this pattern of tracks.

2. Write an ending to the mystery based on what the tracks tell you.

Track Mystery Two

1. Explain what happened to lead to this pattern of tracks. Remember to describe details such as how many deer, etc.

2. Why might the raven or eagle have been at the kill site?

3. What other animals might benefit from having wolves around?

Track Mystery Three

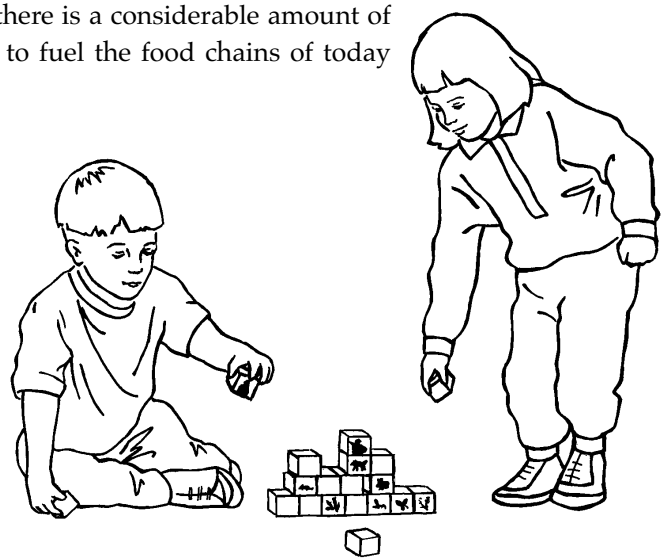
1. Explain what happened here.

2. Why might wolves kill strange wolves that are in their territory?

Centre Seven: Where do Wolves Fit?

In the natural environment, all living things are linked to each other. All energy comes from the sun. Energy from the sun is collected in plants. Energy from plants is passed onto herbivores(animals that eat plants). The energy from plant-eating animals like deer, moose, and rabbits is passed onto carnivores (animals that eat other animals, like wolves, eagles, and hawks). As an example, the sun's energy is collected by a willow plant, a deer eats the buds of this plant and a wolf kills and eats the deer. Even later, when the wolf, deer, and plant dies, their remains then become energy for decomposers such as bacteria, worms and beetles.

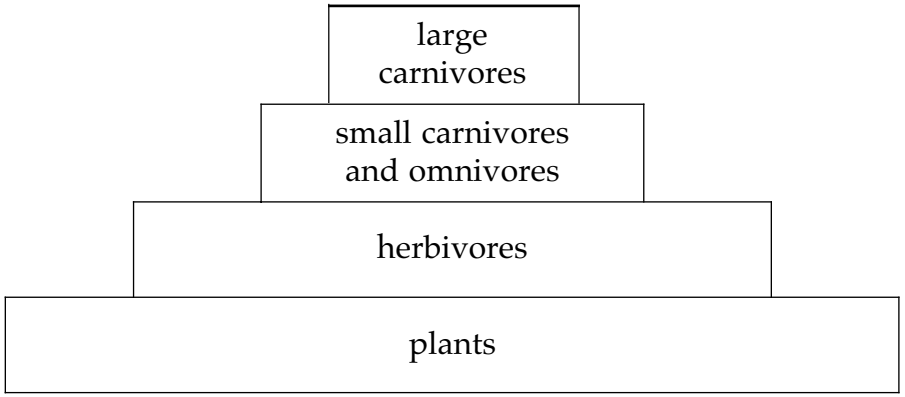
Energy is used by living organisms to fuel their life processes. Only a small part of the energy taken in by an animal over its life span is stored; the majority is used by the animal to help it keep warm and perform bodily functions such as breathing, eating and moving. For this reason, the energy available to organisms at each successive stage of a food chain is always less than the energy taken in by the preceding organisms. Energy, unlike most components in an ecosystem, does not recycle - it simply diminishes with each step in the food chain. Fortunately, with the sun as the ultimate source of energy, there is a considerable amount of energy remaining to fuel the food chains of today and tomorrow.



In this centre you have the opportunity to build an energy pyramid. In an energy pyramid, the plants which capture energy from the sun are at the bottom. The energy is passed onto herbivores which eat the plants and then again when the herbivores are eaten by carnivores. The pyramid shape shows that more plants are needed at the bottom to support the energy needs of animals at the top. *Why would this be the case?*

1. **Build an Energy Pyramid**

   Using the blocks in the plastic container, build a pyramid with the plant blocks at the bottom, the herbivore (plant eater) blocks stacked on top of the bottom plant blocks, the smaller carnivore and omnivore (eat both plants and animals) on top of the herbivores and the carnivores on top. The colour and pictures on the blocks will help you match and build each level.



Note: Do not use the purple blocks. You will use those later.

Read the events below and answer the questions. As you read about the event, think how it caused a problem. As the events happen, remove blocks in the pyramid. At what point will your pyramid fall apart? See how long you can keep the pyramid together removing only the blocks you are told to move.

- Humans put out forest fires, aspen trees become scarce as forest matures. Remove one of the plant blocks.
- Logging removes more trees. Remove another plant block.
- Wetlands are drained. Remove a herbivore block.
- A development project for a new airport changes the habitat. Remove a herbivore block and another plant block.
- Bad berry crop this year. Remove an omnivore block.
- Severe drought, little growth of grasses and shrubs. Remove two plant blocks.

Try again! By building the pyramid in different ways, see how long you can make it last.

1. *What happened to the plant eaters (herbivores) and meat eaters (carnivores) as the habitat was changed?*

_____

_____

_____

2. *Are any parts of the pyramid unimportant?*

_____

_____

3. Rebuild the pyramid. Remove the blocks again in the following order.

- Humans kill the wolves. Remove the large carnivore block.
- Disease kills all the snowshoe hares and the bobcats starve. Remove the herbivore and small carnivore blocks.
- Wetland habitat for moose dries up. Remove a herbivore block.
- Since all the wolves were killed, the deer numbers have grown. Add all the purple blocks.

Important: Purple blocks can only go on top of green plant blocks.

Is there enough food for all the new deer to eat? Is there room on the plant level to hold all the purple blocks?

_____

_____

_____

4. *What happens when there are too many animals and not enough plants for them to eat?*

_____

_____

_____

5. *Where do humans fit into the energy pyramid? Where would you place the blue block?*

_____

_____

_____

My wolf story goes like this..Draft 2

My wolf story goes like this...Illustration 2

How do we...? How do wolves...?

Pack Structure & Behaviour	Wolves	Humans
Feed the young		
Place of Birth		
Who cares for the young		
Gather and share food		
Structure of the family		
Go to school		
Spend first growing years		
Identify territory		
~~Pick your own~~		

Seeing Wolves Howl

My final draft of the wolf story...

My final illustration of the Wolf Story

Wolves & Me

A Discovery Book

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FRIENDS OF BANFF NATIONAL PARK
A Cooperating Association with Parks Canada

Kananaskis Country

BANFF NATIONAL PARK
PARC NATIONAL BANFF

Alberta
ENVIRONMENTAL PROTECTION
Natural Resources

Feb. 23/96