

Biology

Kindergarten – Creatures

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## A framework for Inquiry

**Significant Content:** A focus on important knowledge and concepts derived from standards. Students should find the content to be significant in terms of their own lives and interests.

**A need to Know:** Activate learner curiosity. Engage student interest and initiate questioning with an entry event: this could be a story, a video clip, a photograph...

**A Driving Question:** A question that captures the heart of the inquiry in clear, compelling language, giving students a sense of purpose and challenge.

**Authentic Purpose:** Establishing an authentic purpose for the tasks we invite our learners to explore, enriches learning opportunities.



**Voice and Choice:** Guided by the teacher, learners have voice and choice in terms of design, what resources they will use and how they structure their time.

**Revision and reflection:** Learners go through a process of seeking feedback from their peers to think in-depth about their inquiry. Students learn that revision and reflection are frequent features of real-world work.

**In-depth Inquiry:** Learners follow a trail that begins with their own questions, leading to a search for resources and the discovery of answers and ultimately leads to generating new questions, testing ideas and drawing their own conclusions.

**21st Century Competencies:** Collaboration, communication, creativity, critical thinking, problem solving and social responsibility.

Adapted from: Larson, J. & Margendollay, J. (2012). 8 essentials for project-based learning.

## Suggested Ways to Engage Students in Science Inquiry:

What are the features of animals? (A Need to Know)

Related Kit Books: *Spot the Difference Ears, Mouths, Noses, Eyes, Wings, Legs, Feet, Tails*

Compare various animal features to human features using the books listed above. Visits to local farms such as Shamrock Farms, Bison Farm or a family farm to see live animals will enhance the experience for students. Venn Diagrams can be used to compare themselves to an animal of choice.

Go on *I Wonder* walks, look for evidence of animals such as tracks, fur on sticks, insects, spider web searches. Make observations about the features of animals. Use Animal Yoga or dramatic role play to enhance understanding of animals basic features.

How do the different features of animals help them meet their basic needs? (A Driving Question)

Related Kit Books: *Creature Features* Steve Jenkins & Robin Page Explores unusual animals and explains specific features that make them look the way they do.

*Feathers Not Just for Flying* Melissa Stewart Look at a variety of **local bird feathers** contained in the kit. Look at patterns on the feathers. Use language to describe the various properties of the feathers (smooth, rough, bendable, soft, shiny, dull, etc.) Use the senses to make a variety of observations to compare and contrast feathers. Sort the feathers by patterns, types or properties. Make questions about the birds the feathers may have come from, the different jobs the feathers may do. Read the book and list all the jobs feathers do (warmth, soak up water, camouflage, distract attackers, floatation, etc.)

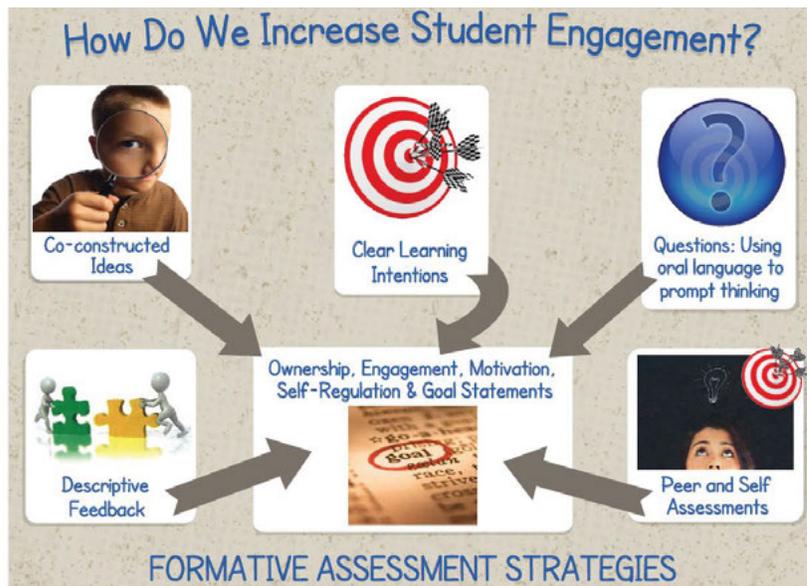
Sort a variety of **plastic animals** contained in kit into categories such as fur, feather, fins, skin, scales, etc.

What do the basic needs of plants and animals have in common? (Inquiry)

Create a Venn Diagram together comparing the basic needs of plants and animals. Using *Growing Up Wild* (order from your school library), do the *First Impressions*, *Spider Web Wonders*, *Grow as We Go*, *Wiggling Worms and Ants on Parade* activities.

What are your basic needs? (food, water, shelter and space) (Need to Know)

Create a Venn Diagram together comparing students basic needs to a variety of animals.



### Suggested Ways to Embed Assessment *for* Learning Strategies:

I can observe and describe features of a variety of animals.

Use a variety of animal books contained in the kit to look at animal features, acrylic animal parts models, feather & fur samples. Field trips to local farms (Bison Farm, Seaview Farm, Shamrock Farm), Butterfly World, pond walks, river/stream walks, view Trumpeter Swans, MARS

Related LRC science kits such as *Butterfly Kit*, *Meal Worm Kit*, *Frog Kit*.

I can explore the basic needs of local animals.

I can ask simple questions about animals and their features.

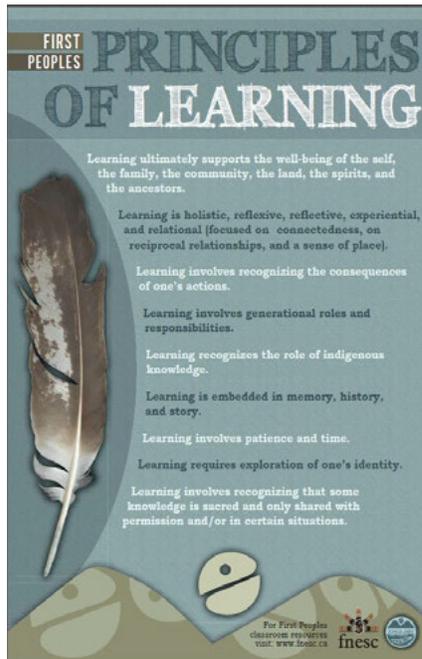
I can describe how animals are important in the lives of aboriginal people.



I can represent observations and ideas by drawing or building.

Complete the *Science Learning Map* (teachers' resource binder) to compare yourself with animals.





## Suggested Ways to Weave Aboriginal Ways of Knowing within this unit:

### Aboriginal knowledge of local animals.

Suggested resources: *Sharing Our World Animals of the Native North Coast*, *Mountain to Sea: We Live Here* by Strong Nations, *Willy Kalawi* from Wachiyay Friendship Center (local animals in the Kwak'wala language), Strong Nations Readers Series: *Who is Missing*, *Bald Eagle Facts*, *Raven Facts*, *Bear Facts*, *Frog Facts*, *Seasonal Round* from Open Schools, *Salmon Life Cycle Cards* from Strong Nations, *Byron Through the Seasons* by Children of La Loche

Expose students to a variety of aboriginal books and art forms depicting animals. Explore the inter-generational passing down of observable animal features that helped the First Nations people know how and where to hunt. Bring in a First Nations storyteller who will focus on animal features: How did the bear get his short tail? Why does a loon have a diamond necklace? *The First Salmon People* story can be told by aboriginal resource workers.



Other Resources:

<https://www.youtube.com/watch?v=jemRyj2-mDs>

A video showing a variety of animals and body parts specific to those animals. Labelling is used in the video.

<https://www.youtube.com/watch?v=INd6wQ3S38s>

A short video which shows a variety of animals. It has the name of the animal and its classification as mammal, reptile, etc. as well. Simple but excellent, clear examples.

<https://www.youtube.com/watch?v=KHZAzn7-w0>

A dynamic video which shows basic animal parts. Excellent visual resource.

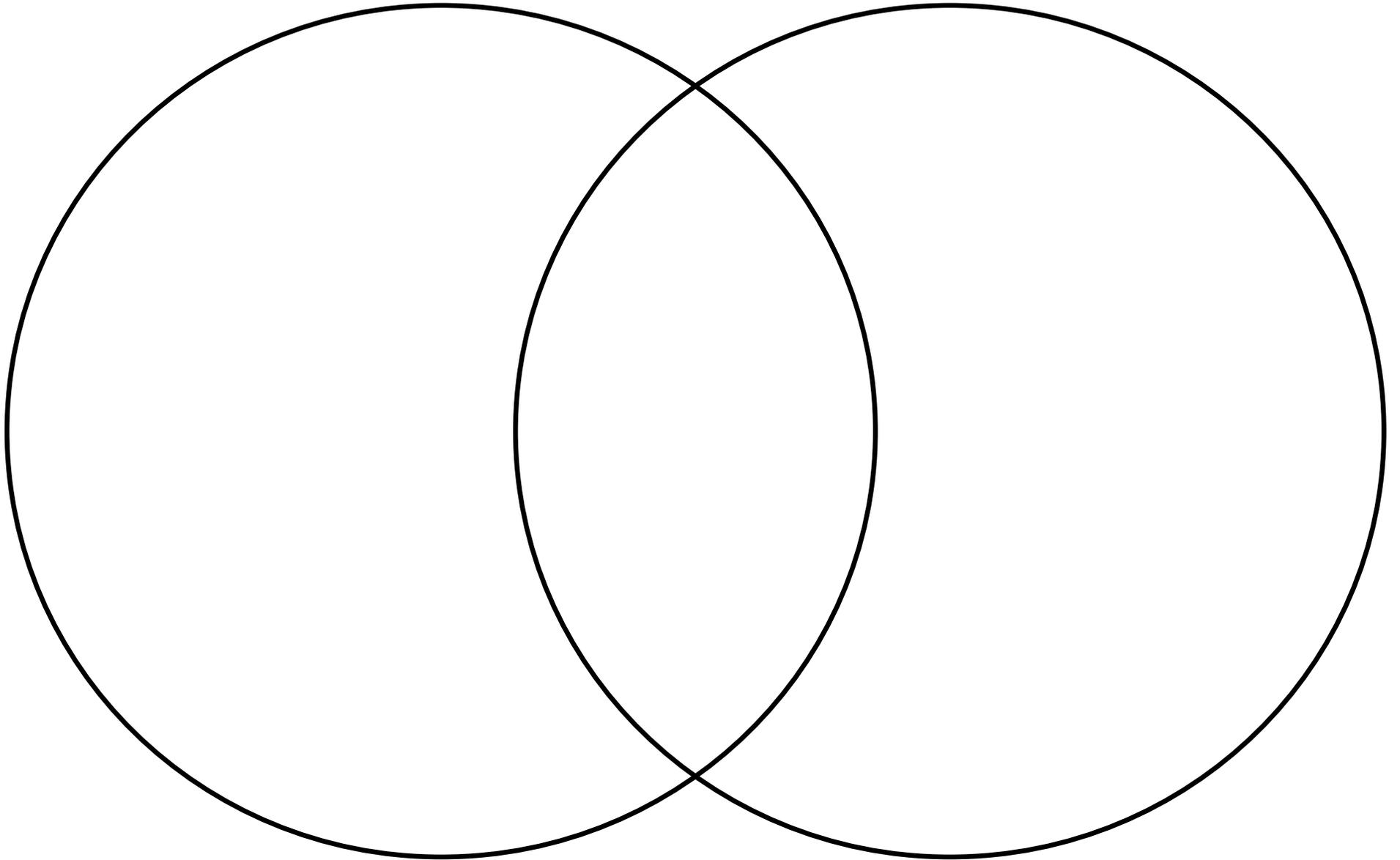
<http://www.learn71.ca/scienceprimary/animals/>

education.com

A sight filled with hands on activities and resources for teachers. Some great ideas here!



# Venn Diagram





Building Inquiry: How does collaboration help us create and problem solve?

I can do this **independently**.

I can do this **with guided support**.

I can do this **with direct support**.

**Learning Target**

**Evidence**

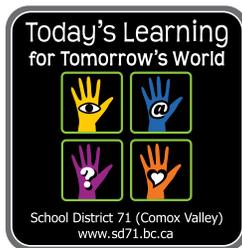
I can share my ideas with my team.

I can listen to others' ideas.

I can make my group feel comfortable (smile at them, use kind words, act like I want to work with them).

I can work with my group to get the job done.

I can explain the purpose of our project.



An electronic copy of this teacher guide can be found on Learn71 at <https://portal.sd71.bc.ca/group/wyhzgr4/Pages/default.aspx>

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