Field Study Planner

North Vancouver School District
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Overview			
Field Study:	Farm	**Conceptual Lens:**	Systems
Overview:	The Cheakamus Centre has a teaching farm, used to introduce students to a variety of animals used on a farm for food, products and pets. Students can study about the concept of Farm to Table, learn about sustainable food production and biology, including adaptation and reproductive systems. This Farm Field Study will focus Systems within a farm setting. We see many systems at play and are interested in some of these questions: how is the organism is a system; how do the animals interact; and how do we interact with animals?		
Grade:	6		
Duration:	2 hours	**Season:**	Fall-Winter-Spring

Stage 1 – Desired Results

Big Ideas

What will students understand?

Multi-cellular organisms rely on internal systems to survive, reproduce, and interact with their environment (Science 6).

Core Competencies

What specific Core Competencies will be developed in the field study?

Collaboration, Critical Thinking, Personal Awareness and Responsibility, Social Responsibility: Contributing to community and caring for the environment

Concepts	Field Study Understandings	Transfer Goals	Essential Questions
Unpack the Big Idea **Systems** Organism Interdependence Survival Adaptation Reproduction Interactions Environment Stewardship	*What will students understand at the end of the field study?* **Students will understand that…** A living organism is made up of many interdependent body systems that interact to sustain life. All organisms require food, water, and shelter for survival. All organisms also need energy, which can be traced back through food chains to plants and sun. All organisms have predictable life cycles. Organisms reproduce in a variety of ways including: sexual and asexual reproduction. Organisms have adaptations to help them survive in particular habitats. Adaptations can be visible, invisible (physiological), or behavioural. Organisms interact with each other in a variety of ways including: competition, predator-prey, symbiotic, and parasitic relationships. Organisms also interact with the surrounding environment (abiotic factors) including: energy, water, air and soil.	*What will students be able to apply from the field study in the future?* **By the end of the field study, students will be able to independently use their learning to…** Understand an organism using a systems perspective Compare and contrast how a variety organisms rely on internal systems to survive, reproduce, and interact with their environment Use systems thinking to understand the interconnectedness of all living things Connect to place and understand their role and responsibility as stewards of the environment Develop a plan of action to address a selected problem or issue	*Questions are open-ended, debatable, foster inquiry, and are revisited across field studies.* **Students will keep considering…** What is a living organism? What do all organisms need for survival? What adaptations help the organism survive in its environment? What interactions do you observe -- between organisms, and between the organism and environment? How am I connected to the organism(s) I've experienced during field studies? What does it mean to be a steward of the environment?

	All organisms are connected, including us. My actions (both positive and negative) impact the organism's ability to survive.		

Cheakamus Centre Principles

Describe how specific CCPs will be integrated into the field study.

How does the field study reflect <u>Cheakamus Centre Principles</u> (Place, Community, Inquiry, Personal Connections, and First Peoples' Perspectives)?

- Teaching in and Learning about Place: students will be at a working farm while they study about systems related to farms and farm animals
- Engaging Students with Nature-based Inquiry: students will ask and answer questions such as, how is the organism is a system; how do the animals interact; and how do we interact with animals?
- Making personal connections: students will learn about and experience where there food and food byproducts come from

Alignment Check:

Are your concepts, unit understandings, transfer goals, and essential questions connected and supportive of your Big Idea?

Curricular Competencies	Content
What students will be able to do **Students will be skilled at…** Experience and interpret the local environment (Science 6) Demonstrate curiosity about the natural world (Science 6) Make observations in familiar or unfamiliar contexts (Science 6) Make ethical judgments about events, decisions, and actions that consider the conditions of a particular time and place and asses appropriate ways to respond (ethical judgment) (Social Studies 6)	*Specify statements from Field Study Understandings* **Students will know that…** -goats, chickens, ducks and pigs have internal systems that function together to sustain life - goats, chickens, ducks and pigs are warm-blooded (circulatory system) & have adaptations to temperature of surrounding H_20 -goats, chickens, ducks and pigs have internal fertilization (reproductive system) Goats: Goats have many predators like coyotes, wolves and foxes. Wild goats also need to be aware of wolves and cougars. Goats have adapted in some ways that help them defend themselves against their prey. · What shape are the goat's pupils? How do you think this could help defend them from predators? Answer- Goats pupils are rectangular; this gives them a panoramic view of their surroundings so they can always have a 360-degree view. · Are the goats usually by themselves or with the rest of their herd? Why do you think this is? Answer- Goats are herd animals, when they are all together they have a stronger defense against predators. Visiting Tips: Be calm and gentle; Sometimes goats jump up, especially if they think you might have food in your hands. Open and lower your hands to show that you do not have any food. Goats are not biters but do like to nibble at things, so watch your fingers and clothing. At the front of their mouths, at the top, they don't have any teeth. They couldn't be serious biters even if they wanted to. Pigs: Do the pigs look dirty at all? Do you think they have dirt on themselves by accident or on purpose? Why? Why not? Despite their reputation, pigs are not dirty animals. They're actually quite clean. The pig's reputation as a filthy animal comes from its habit of rolling in mud to cool off. Pigs that live in cool, covered environments stay very clean. · Do you notice anything on the male pig's face that may have been helpful for wild pigs, but might not be for the environment that he is in now? Answer- Male pigs (boars) have horns for fighting other males. This was very helpful in the wild, but does not have as much of a purpose when they are domesticated. Visiting Tips: It is safe to visit the pigs in the outside visiting area with the cement wall between; Stay off the wall. Watch fingers because pigs have lots of teeth. They don't often bite but you never know. Chickens: Aside from grain, chickens eat insects, some of these insects are so small that we can't see them. How do you think chickens find them? Chickens have amazing eyesight. They can move each eye independently; they can also see ultra violet light. Meaning that they can see the heat from the bugs, which helps them to find their food. What part of their feet do chickens walk on? Chickens walk on their toes. This is a commonality that scientists have found between them and dinosaurs. Chickens share common ancestry with dinosaurs and are deemed the closest living relative of the Tyrannosaurus Rex and Velociraptor. There are four different ways that chickens use their beaks, how many do you notice? Answer- Chickens use their beaks to: learn about objects, protect themselves, hold things, and groom themselves. Visiting tips: Hens are hard at work producing about five eggs a week! Be respectful and quiet when entering their home. Be calm and gentle

Stage 2 – Evidence: Assessing for Understanding

Assess: Field Study	
Formative: Checkpoints for students to show their knowledge and skills during the field study	**Summative:** Final assessments of knowledge and skills at the end of the Field Study
Teachers should consider how formative assessment in outdoor learning is informal, varied, and ongoing throughout the field study.	Teachers should consider how summative assessments revisit essential questions and involve self-reflection.
Walk and Talk, Mind-mapping, I notice-I wonder-It reminds me of...	Play Yes/No/Depends, a game of ethics Have a final debrief

Stage 3 – Executing the Learning Plan

These learning events/activities are suggested activities. Teachers should add, revise, and adapt based on the needs of their students, their own personal preferences for resources, and a variety of instructional techniques.

Essential Questions to revisit at the end of the lesson:

What is a system?

What does it mean to think using a systems approach?

How have I experienced systems at ODS?

In what ways in a Farm a living System?

How am I connected to systems in my everyday life?

Suggested Content and Activities:

- Introduction/Opening circle

Have students circle up and share their name and favorite animal. Decide if that animal is a domestic animal or a wild animal and where it comes from. This is a great way for students to connect with each other, animals and to get an idea of some of their background knowledge

- Food Systems - Everything we eat comes indirectly from a farm. Discuss and record what students have eaten today. Consider the "Story of Food". Where is that food from and what might be local at this time of year and if not local, where might it be from. Brainstorm benefits of eating local foods (see resources for a copy of this handout).

- Animal Systems – Animals are made up of many interdependent body systems that interact to sustain the organism. Farm animals require food, water, shelter for survival. Use animal cards to review what each Cheakamus Centre farm animal eats. Food grown/animals raised on a farm can be traced back through food chains to plants and sun. Describe the life cycle of our farm animals, including life span and reproductive cycles). The adult female chicken is called a hen, the adult make is called a rooster and the young are called chicks. Every chicken came from an egg but not every egg contains a chicken. Rooster and hen must mate for the egg to be fertilized (sexual reproduction, internal fertilization). Sows give birth to a litter of young called piglets. They are pregnant for just under 4 months. They nurse their young for 3-5 weeks. Goats birth two to three kids at one time. Female goats/nannies/does are pregnant for 5 months. Male goats are called billy goats. Farm Animals are domestic animals that have been bred from wild animals. Can describe the ancestry. Explain the adaptations and changes over time. Describe behavior and interactions of our farm animals between species and other species.

- A farm produces more than just food. (ie cotton for jeans). Use the pig kit in the Farm Lab and pass out objects and have students discover all the things made from pig. Debrief sustainability – use of whole pig.

Possible Assessment:

Resources:

http://www.aitc.ca/bc/resources

http://www.foodwastemovie.com/schools/

http://www.natgeoeat.com/

Teacher: Field Study Reflection

What aspects of the field study went well?

What did students struggle with?

What did you struggle with?

What would you add/revise the next time you taught this field study?

What connections can I make back to my school learning community?

e.g. Examine human body systems. Compare and contrast with organisms investigated during ODS Program.