

4.6 Survival Game

Story Extension for This Lesson:

Having students become part of the basic ecosystem in a game scenario, allows them to see how the balance works, and what happens when the ecology is affected.

Grade: 4

Strand: Habitats and Communities

Big Ideas:

- Plants and animals are interdependent and are adapted to meet their needs from the resources available in their particular habitats. (Overall expectations 1, 2, and 3)
- Changes to habitats (whether caused by natural or human means) can affect plants and animals and the relationships between them. (Overall expectations 2 and 3)
- Society relies on plants and animals. (Overall expectations 1 and 2)

Overall Expectations:

1. analyze the effects of human activities on habitats and communities
2. investigate the interdependence of plants and animals within specific habitats and communities
3. demonstrate an understanding of habitats and communities and the relationships among the plants and animals that live in them

Inquiry Skills:

Predicting, Modelling, Evaluating

Specific Expectations:

- 1.1 analyze the positive and negative impacts of human interactions with natural habitats and communities (e.g., human dependence on natural materials), taking different perspectives into account (e.g., the perspectives of a housing developer, a family in need of housing, an ecologist), and evaluate ways of minimizing the negative impacts
- 1.2 identify reasons for the depletion or extinction of a plant or animal species (e.g., hunting, disease, invasive species, changes in or destruction of its habitat), evaluate the impacts on the rest of the natural community, and propose possible actions for preventing such depletions or extinctions from happening
- 2.2 build food chains consisting of different plants and animals, including humans
- 3.3 identify factors (e.g., availability of water or food, amount of light, type of weather) that affect the ability of plants and animals to survive in a specific habitat
- 3.5 classify organisms, including humans, according to their role in a food chain (e.g., producer, consumer, decomposer)
- 3.6 identify animals that are carnivores, herbivores, or omnivores
- 3.8 explain why changes in the environment have a greater impact on specialized species than on generalized species

Instructions:

Students will play a food web/chain game to demonstrate the challenges of surviving in an ecosystem. There are several variations of the Animal Game, some more complex than others. In these realistic outdoor games, students assume the role of producers, consumer, or decomposers, learn about food webs and chains. Links to several options below are provided below:

- cpaws-southernalberta.org/upload/Animal_Game
- <http://www.collectionscanada.gc.ca/eppp-archive/100/205/301/ic/cdc/science/english/bio/projects/foodchan.html>
- <http://www.outdoorbiology.com/files/resources/activities/FoodChainGame>
- <http://www.k12.wa.us/science/ProfDev/TheFoodWebGame>

Discussion:

After the game is over bring the students back together and have them think about their strategies and successes:

These are some good starter questions

- What did you feel when you played the game. Is this how a wild animal might feel?
- What strategies did you use to avoid being caught? Do plants or animals use these strategies?
- What strategies did you use to catch other students? Do plants or animals use these strategies?
- If humans were introduced to this game, what rules would you give them? What about disease? What about famine?

Materials List:

- Depends on the game chosen

Connects to:

All Grades

Connections:**Subject Area:**

Environmental, Science, Physical
Education, Social Studies

Assessment Strategy:

The Learning Process

Use The Learning Process to guide students to learn how to research, define and assess the right solutions to the challenge.

Begin the investigation by asking the students to consider what they believe is the main

idea of the assignment. This creates an opportunity for the students to take charge of their learning. The students will create their own main topic sentence. This can be done using The Learning Process Sheet. The student can write down the "Big Idea" and then conference with the teacher about whether or not this is accurate. On The Learning Process sheet there is room for the student to write down any new information or suggestions that come up during the conference. Once the student has the correct concept, they are ready to move forward.

From the teacher's perspective, you could level (grade) the depth of their understanding of the big idea from the content of their conversation. This process is repeated at each of the four stages of The Learning Process: Introduction; Searching; Outline; and Ta Da. In this way, the teacher has observed the thinking of the students throughout the process of creation and can identify the actual learning of the student. Each stage can receive a level (grade), which the student can see and improve upon, or move forward (if the work is only defined as Level 2 work quality, does the child accept that or want to do better?).

Handouts:

- Food Chain Game

Food Chain Game

There are probably tons of variations of the Animal Game – some versions may be simpler or more complex. Take your pick In this realistic outdoor game, students assume the role of producers, consumer, or decomposers, learn about food webs and chains.

http://cpaws-southernalberta.org/upload/Animal_Game.pdf

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The Learning Process

Inquiry Process: Introduce – *What is the BIG idea?*

Traits

- Where should I look?
- Draw and write ideas down
- Works with groups to create a plan
- Main (“Big”) Ideas
- Completed a meeting about Main (“Big”) Ideas

Step 1: The BIG Question

Step 3: Meeting Notes

Level:

Excellence = 4, Better = 3, Okay = 2, Needs work = 1

Inquiry Process: Search – *Developing Questions, Searching for Information and Answers*

Traits

- Listens, talks, views, and reads
- Uses the Q-chart
- Works with teams
- Completed a meeting to improve questions

Guiding Questions (One (1) guiding questions from each column and each row.)

	Is/Is not	Do\Did(not)	Can (not)	Would/Should	Will	Might/Could
Who						
What						
Where						
When						
How						
Why						

Write out the completed questions in full. (You may change these or add to them during the process.)

Who	
What	
Where	
When	
How	
Why	

Step 3: Meeting Notes

Level:

Excellence = 4, Better = 3, Okay = 2, Needs work = 1

Inquiry Process: Outline – *Intensify research, Synthesize Information, Connect Knowledge*

Traits

- Engages in deeper reading and researching: Books, articles, and websites.

• Checks sources, are they truthful • Joins information • Cooperates • Use appropriate technology • Completed a meeting with teacher about notes	
Step 3: Conference Notes	Level:
Excellence = 4, Better = 3, Okay = 2, Needs work = 1	
Inquiry Process: “Ta Da!” – Sharing Learning	
Traits	
• Completed a meeting • Demonstrates their thinking • Teaching others • Reflects upon the learning process • Works well and sharing with teams to complete project	
Step 3: Conference Notes	Level:
Excellence = 4, Better = 3, Okay = 2, Needs work = 1	