

## Smart Board Lesson Plan: Predator and Prey

### Introduction:

- The relationship of predator versus prey in aquatic and terrestrial food chains
- 65 minutes
- VA Standards of Learning- Science 3.5: The student will investigate and understand relationships among organisms in aquatic and terrestrial food chains. Key concepts include:
  - a) producer, consumer, decomposer
  - b) herbivore, carnivore, omnivore
  - c) predator and prey
- Context- This lesson is a continuing study of relationships between organisms in different ecosystems. Students have already been introduced to terms and concepts such as producer, consumer and herbivore and carnivore. Continuing study of topic would include description of characteristics of each.
- Global Themes- Being able to identify the relationships between predator and prey will help students understand how an ecosystem works.

### Content Objectives:

Students will:

- Illustrate the relationship between plants and animals in a specific environment.
- Recognize the difference between predator and prey and give examples of each.

### Assessment Aligned to Objectives:

*Formative:*

**The student will be able to illustrate the relationship between plants and animals in a specific environment.**

- Ask students to draw arrows between animals in a food chain on a smart board and/or on a handout and observe and listen to discussion and results.
- Ask students to name animal's relationship to others in a food chain by using vocabulary words such as consumer and carnivore.
- Observe students during the process of the game of "Who's who" and listening to their questions of each other to complete their animal relationship.

**The student will be able to recognize the difference between predator and prey and give examples of each.**

- Students will pick out examples of predator and prey in example food chains

*Summative:*

**The student will be able to illustrate the relationship between plant and animals in a specific environment.**

- Students will draw an example of a food chain in their science journals describing the relationships of the animals by labeling the pictures.

**The students will be able to recognize the difference between predator and prey and give examples of each.**

- Students will label animal relationships in drawn example of a food chain.
- Students will complete Venn Diagram as a class answering the questions, "Can an animal or organism be both predator and prey and why?" and "Can you think of possible examples of animals/organisms that are only predators and why do you think so?"

### Materials/Technology and Advanced Preparation:

- Prepared Smart Board presentation saved to flash drive or on school computer
- Science notebooks and pencil
- Colored pencils
- Prepared pictures of pairs of predator and prey relationships labeled and inserted in clear plastic holders on lanyards.
- Homework page and classroom handouts printed and copies made.



Time	Teacher Actions	Student Actions
<b>Introduction/Anticipatory set cont'd</b>		
5 min. remain	<ul style="list-style-type: none"> <li>• Model how to pull tab next to the term on board to reveal definition.</li> <li>• Tell them, if they want to, come up to the board to check answer for the next 2 terms by raising hand.</li> <li>• Call on student to come to board and pull tab for definition.</li> <li>• Ask student to read definition to the class.</li> <li>• If student does not want to come to the board or to read, offer to another student or teacher completes procedure.</li> <li>• Repeat the same procedure for all terms.</li> <li>• Refer back to the lists of items on the board.</li> <li>• Label some items producer or consumer. For example, “Salad is made of lettuce, so lettuce is a producer because it uses light to make its own food to grow. I am a consumer because I eat other plants and organisms because I can’t make my own food.”</li> <li>• Have students raise hands to label the rest of items on the board.</li> <li>• Advance Smart Board lesson to slide 3 to complete a group sort.</li> <li>• Give students a minute to review animals and decide whether it is a consumer, producer or decomposer.</li> <li>• Ask students to volunteer answers. They may walk up to the board and move only 2 animals at a time.</li> <li>• This procedure will require eight students to complete because there are 16 animal pictures.</li> <li>• Click the “check answer” button to review answers and make any corrections if necessary.</li> </ul>	<ul style="list-style-type: none"> <li>• Observe modeling of pull tab by the teacher.</li> <li>• Think about the definitions of the next terms and raise hand to pull tab to reveal definition on Smart Board.</li>   <li>• Selected students pulls tab and reads definition.</li> <li>• The rest of the students listen to definition being read and observing pictures on board.</li> <li>• Think about the list of food items written on the board.</li> <li>• Listen to teacher model examples of producers and consumers related to food eaten by class.</li>   <li>• Think about the rest of the examples on the board and volunteer to identify them as producers or consumers.</li> <li>• Observe and consider animals in next slide on Smart Board.</li>   <li>• Volunteer answers to animal sort and go to board to move animals by 2.</li> </ul>
0 min. remain	<ul style="list-style-type: none"> <li>• Tell students that we will be focusing on the list of consumers today, but to keep vocabulary in mind to be able to identify relationships between different animals and organisms.</li> </ul>	<ul style="list-style-type: none"> <li>• Observe correct answers to animal sorts and make a note to keep vocabulary in mind during the lesson.</li> </ul>



Time	Teacher Action	Student Action
	Lesson Development cont'd	
25 min. remain	<ul style="list-style-type: none"> <li>• Call on students to come up to the board to draw relationships between animals. Allow one student at a time to draw each step of the food chain. Students may move icons if needed.</li> <li>• Repeat process until food chain is complete and discuss result. If there are errors, ask students what changes they would make to fix them.</li> <li>• Advance slide in Smart Board to second example and repeat the process as before.</li> <li>• Advance slide to more examples of food chains that are not in order.</li> <li>• Ask students to look at the pictures and decide if they are in the correct order.</li> <li>• Tell them to give a thumbs up if they agree or a thumbs down if they don't.</li> <li>• Ask all the thumbs down students if they know the correct order.</li> <li>• Call on student to come to the board to move pictures into the correct order.</li> <li>• Check work and answer questions if there are wrong answers.</li> <li>• Allow a different student to come up and fix any errors.</li> <li>• Advance slide in Smart Board to second example and repeat the process as before.</li> <li>• Advance slide to "Create a Food Chain."</li> <li>• Advise students to turn to their table group members and create a food chain of at least 4 levels on their own. (Desks are pre-arranged in groups of 4)</li> <li>• Tell them to record food chain in their science notebook and remind students to label animals and check direction of arrows.</li> <li>• Allow 4-5 minutes for groups to create food chain.</li> <li>• Tell students they may color their animal pictures if they finish early.</li> <li>• Signal the end of group time by advancing the next slide.</li> <li>• Ask students if they know the term predator and if so give a thumbs up.</li> </ul>	<ul style="list-style-type: none"> <li>• Volunteer to go to board to draw arrow to represent animal relationship.</li> <li>• Complete forest food chain on Smart Board.</li>   <li>• Repeat the same process to complete second food chain displayed.</li> <li>• Observe food chain slide of the food chain.</li> <li>• Consider whether it is in a correct order.</li> <li>• Raise a thumb up if agree that it is in correct order or a thumbs down if do not agree.</li> <li>• Volunteer if they know the correct order and approach board at teacher's request to put them in correct order.</li> <li>• Observe correct or incorrect answers.</li> <li>• Consider changes if all answers are not correct.</li>   <li>• Repeat process for second food chain example that is out of order.</li>   <li>• Turn to students in table group and discuss possible food chains with at least 4 levels.</li>   <li>• Record created food chain in science notebook and use colored pencils to color in if there is enough time.</li> </ul>

Time	Teacher Actions	Students Actions
	<b>Lesson Development cont'd</b>	
	<ul style="list-style-type: none"> <li>• Allow wait time for students to think and then call on a student with thumb up.</li> <li>• Call on more students to get a consensus.</li> <li>• Write answers on board as they answer.</li> <li>• Advance Smart Board to reveal pictures with pull tab definitions.</li> <li>• Call on a volunteer to pull tab definition and read aloud to class.</li> <li>• Repeat the process for the term prey.</li> <li>• Advance Smart Board to the quiz section.</li> <li>• Call on a student volunteer to read question out loud.</li> <li>• Ask students to give a thumbs up if they know the answer.</li> <li>• Allow wait time for more than one student.</li> <li>• Call on student to come up to the board to tap answer.</li> <li>• If answer in correct, repeat answer and then move on to the next question.</li> <li>• If answer is not correct review possible answers and test them against what we have previously discussed about predators.</li> <li>• Repeat the same process with the next question.</li> <li>• Advance Smart Board to the predator or prey sort.</li> <li>• Allow students time (1 min.) to look at pictures.</li> <li>• Begin sort by asking students if they know which animal moves to what side. (Predator or Prey)</li> <li>• Advise them that if they are unsure of what an animal is before they answer, they may drag icon to box at the bottom to reveal animal name.</li> <li>• Tell students to give a thumbs up if they know an answer.</li> <li>• Call on students one by one to move an animal and ask them to give a reason for why they think so.</li> <li>• Once sort is complete, advance slide to video of predators in the ocean.</li> <li>• Advise students to pay attention to which animal are predators or prey.</li> </ul>	<ul style="list-style-type: none"> <li>• Think about possible definition of the term predator.</li> <li>• Volunteer to share thoughts on definition.</li>   <li>• Observe predator definitions written on board.</li> <li>• Volunteer to pull tab for definition.</li> <li>• Read definition out loud to class.</li> <li>• Repeat same process for the term prey.</li> <li>• Volunteer to read quiz questions out loud.</li> <li>• Give a thumbs up when know the answer.</li>   <li>• Approach board to touch the answer if selected by the teacher.</li> <li>• Read correct answer.</li> <li>• Listen to teacher repeat the answer.</li> <li>• Repeat process for second question.</li>   <li>• Observe pictures on Smart Board.</li> <li>• Consider whether each animal is a predator or prey.</li>   <li>• Reveal animal name by dragging picture to the bottom if needed.</li> <li>• Give teacher a thumbs up if they know the answer.</li> <li>• If selected by the teacher to approach Smart Board, move animal to either predator or prey side and share reasoning with the class.</li> <li>• Observe and participate in the completion of the sort.</li> <li>• Listen to instructions on what to look for in video.</li> </ul>

Time	Teacher Actions	Student Actions
<b>Lesson Development cont'd</b>		
10 min. remain	<ul style="list-style-type: none"> <li>• Play Video.</li> <li>• Ask students to identify the predators and the prey in the video and discuss characteristics of each.</li> <li>• Tell students to turn back to their groups to identify the predator and prey in their food chains by writing the terms underneath.</li> <li>• Ask them to think about if some animals could be both.</li> <li>• Give students 1-2 min. to complete labeling activity.</li> <li>• Advance slide to Venn Diagram and call on each group to share their food chains and the animals that are predator, prey or both.</li> <li>• Depending on time, allow students to come to the board to add animal to the correct group. If no time, ask students to tell the teacher and she will record results on diagram.</li> <li>• Extend thinking by asking if any of the animals in the predator only group have any predators themselves and if there are any animals that they think don't have any predators and why.</li> <li>• Advance slide to game instructions.</li> <li>• Read instructions and remind students of classroom procedure rules of volume level and respect toward others.</li> <li>• Have students line up in a straight line beginning at teacher podium and leading to the back of the room. Hand out lanyards with pictures and information on the animal without letting students see. (Put on over head and let it fall down the back.)</li> <li>• If possible, walk down to auditorium or gym to give students more space to walk, otherwise, use classroom and advise students to be careful and respectful of other students' space.</li> </ul>	<ul style="list-style-type: none"> <li>• Watch video.</li> <li>• Think about video and volunteer examples of predator and prey by raising hands.</li> <li>• Turn to group members and label animals in food chain underneath pictures.</li> <li>• Consider if some animals in food chain are both.</li> <li>• Record answers.</li>   <li>• Share food chain animals when called on by group.</li> <li>• Identify whether the animal is a predator or prey or both and write answer on diagram or tell teacher where to record on diagram.</li> <li>• Think about animals that might have more predators than what is in food chains.</li> <li>• Think about predators that have no predators themselves.</li>   <li>• Read game instructions.</li> <li>• Remember classroom procedures during classroom activities.</li> <li>• Line up in a straight line with the start at the teacher podium and the end at the back of the classroom.</li> <li>• Receive lanyard with animal and don't peek.</li> </ul>
0 min. remain	<ul style="list-style-type: none"> <li>• Signal beginning of game by saying, "go" and walk around room to observe and record discussions. Listen for students to ask questions about habitat, producers, consumers, herbivore and carnivore.</li> </ul>	<ul style="list-style-type: none"> <li>• Begin game by walking around the room and asking classmates 3 yes or no questions to figure out what animal they are and if they are predator or prey.</li> </ul>

Time	Teacher Actions	Student Actions
Closure		
5-8 min.	<ul style="list-style-type: none"> <li>• Tell students to stand side by side with partner at the front of the room when they have found their match.</li> <li>• Once everyone had found a partner, ask students to go down the line and share their match and why they chose each other. Listen for answers about similar environments and characteristics of animals. (bigger, sharp teeth, claws, etc.)</li> <li>• Thank students for sharing and behaving well during class activity.</li> <li>• Tell students to return to their desks to go over homework assignment.</li> <li>• Advance slide to homework page.</li> <li>• Review requirements with students and hand out written version of instructions.</li> <li>• Tell students to think of their favorite animal while they are putting their materials away and they may be dismissed if they are called on to share their favorite animal.</li> <li>• Only call on students who are quiet and are prepared to exit class.</li> <li>• Call on students one by one to share favorite animal until all students are dismissed.</li> </ul>	<ul style="list-style-type: none"> <li>• When animal identified and established as a predator or prey, stand with partner at the front of the classroom observing classroom rules.</li> <li>• Once everyone has found a partner, share animal relationship with class and why they think they are a pair.</li>   <li>• Return lanyards to teacher and return to desks.</li> <li>• Read homework assignment displayed on Smart Board.</li> <li>• Listen to teacher explanation of requirements.</li> <li>• Put materials away while thinking of a favorite animal.</li> <li>• Be prepared to leave class and be quiet to wait for teacher to call on them.</li> <li>• Exit class.</li> </ul>

**Homework:** Students are to create their own animal. Requirements for completion include color picture and a paragraph of at least 5 sentences describing animal's habitat, features, where it lives, and its relationship to other animals in the environment. Assignment will be due in 2 days from the date of the lesson.

**References:**

Interactive food chains-[http://www.harcourtschool.com/activity/food/food\\_menu.html](http://www.harcourtschool.com/activity/food/food_menu.html)  
 Creatures of the night video-<http://www.youtube.com/watch?v=dJVPK4MWfCs>  
 Definitions and Information-<http://www.sheppardsoftware.com/content/animals/kidscorner/foodchain/producersconsumers.htm> and <http://www.enchantedlearning.com/subjects/foodchain/>  
 Lesson plan ideas-<http://www.pdesas.org/module/content/resources/13423/view.ashx>  
 and [http://www.doe.virginia.gov/testing/sol/standards\\_docs/index.shtml](http://www.doe.virginia.gov/testing/sol/standards_docs/index.shtml)  
 General information-<http://www.thetoptens.com/wild-predators/>

<b>Prior Knowledge and NEW Instructional Content</b>
<p><b>Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>-Terrestrial organisms are found on land habitats such as deserts, grasslands, and forests. Aquatic organisms are found in water habitats such as ponds, marshes, swamps, rivers, and oceans.</li> <li>-A green plant makes its own food using sunlight, air, and water. Green plants are producers.</li> <li>-A consumer is an animal that eats living organisms (plant or animal).</li> <li>-Certain organisms break down decayed plants and animals into smaller pieces that can be used again by other living organisms. These organisms are decomposers.</li> </ul> <p><b>NEW Content:</b></p> <ul style="list-style-type: none"> <li>-A food chain shows a food relationship among plants and animals in a specific area or environment.</li> <li>-Differentiate between predators and prey.</li> <li>-Infer that most food chains begin with a green plant.</li> <li>-Identify sequences of feeding relationships in a food chain.</li> <li>-Create and interpret a model of a food chain showing producers and consumers.</li> </ul>

<b>Instructional Modifications to ASSIST Students</b>	<b>Main Events of Instruction</b>	<b>Instructional Modifications to CHALLENGE Students</b>
<ul style="list-style-type: none"> <li>-Provide multiple examples in print, picture and video.</li> <li>-Create paper copies for each partner group of food chain activities.</li> <li>-Write vocabulary terms on the board and leave posted throughout the class.</li> <li>-Use Venn Diagram.</li> <li>-Leave directions for game up on Smart Board throughout activity.</li> <li>-Have pictures of different animals and ecosystems displayed around the classroom.</li> <li>-Provide pictures and written words in game activity.</li> </ul>	<ul style="list-style-type: none"> <li>-Welcome students and begin discussion of what they ate for dinner.</li> <li>-Review terms discussed in previous lessons (producer, consumer, decomposer)</li> <li>-Complete review sort.</li> <li>-Introduce food chain and vocabulary by advancing Smart board to basic food chain.</li> <li>-Practice identifying correct sequence of food chains by completing Smart Board slides of drawing and sorting.</li> <li>-Get into groups to create food chains.</li> <li>-Introduce new vocabulary of predator and prey.</li> <li>-Watch ocean predator video.</li> <li>-Discuss video.</li> <li>-Get back into groups, label predator and prey in food chains and complete Venn Diagram as a class.</li> <li>-Play game.</li> <li>-Discuss results of game.</li> <li>-Give students homework assignment.</li> </ul>	<ul style="list-style-type: none"> <li>-Tell students they may create more than 4 levels to their food chain.</li> <li>-Name the habitat or ecosystem that their food chain lives in.</li> <li>-Identify more predator and prey relationships that splinter of original food chain to create a food web.</li> <li>-Extend thinking during Venn diagram activity about animals that don't have any predators and why.</li> <li>-Ask if all prey are herbivores and if all predators are carnivores. What about omnivores?</li> </ul>