

## Predator and Prey Freeze Tag

**Overview:** Students enjoy pictures of predator and prey, but what about acting like predators and prey? Try this freeze tag game to assist your students in understanding the concept of predator and prey. Students will have lots of fun and be able to visualize the change in population.

### Procedure:

- 1) Review the terms predator and prey.
- 2) Designate two students as predators and the rest as prey. Have the prey stand on one side of the gym (or large area), and the predators in the middle of the gym (or large area). You can name your predators and prey specific animals; such as lions (predators) and zebras (prey).
- 3) Explain to the students when you give the signal the prey will run across the gym (or large area). If you are tagged then you are frozen (eaten). Prey that has been eaten will then become predators for the next round. Predators must tag (eat) at least one prey to survive. If they do not tag (eat) a prey, they will have to sit out a round and return as prey.
- 4) During this game the teacher will collect data on each round. You can count each round as a month in the wild. Document how many prey and predators you have at the beginning of each round (month). You want to see the population of predator and prey go up and down a couple of times.
- 5) Make a double line graph and/or table with your class to interpret the data.
- 6) Reflect with students on how the population changes when there are more predators than prey and more prey than predators.
- 7) Compare results with data collected of predator and prey populations at websites like [Predator Prey Interdependence](#) and/or [Predator-Prey Models](#).

### ASOLs Covered in this Activity:

#### SCIENCE

- 5S-LPS 2** The student will investigate and understand how plants and animals, including humans, in an ecosystem interact with one another and with the nonliving components in the ecosystem. Key concepts include
- a) plant and animal adaptations;
  - b) organization of populations, communities, and ecosystems and how they interrelate;
  - f) influences of human activity on ecosystems.
- 8S-LS 6** The student will investigate and understand that populations of organisms change over time. Key concepts include
- a) the relationships of mutation, adaptation, natural selection, and extinction.
- 8S-ECO 3** The student will investigate and understand that interactions exist among members of a population. Key concepts include
- a) competition, cooperation, social hierarchy, territorial imperative.

b) influence of behavior on a population.

**8S-ECO 4** The student will investigate and understand interactions among populations in a biological community. Key concepts include

- a) the relationships among producers, consumers, and decomposers in food webs.
- b) the relationship between predators and prey.

**Extension Idea:**

Play predator and prey freeze tag with a new twist. After completing this activity, take time to discuss why populations of predator and prey increase and decrease. Some possible topics may be mutations, adaptations, natural selection, extinction, human impact, competition, cooperation, social hierarchy, and/or territorial imperative can affect the population of predators and prey. Depending on your topic discussion add a new rule to your freeze tag game. For example, if you are discussing adaptations blind fold the predator to resemble your prey being camouflaged. If you are discussing human impact have each animal (student) wear a number. Randomly draw numbers at the end of each round to die off due to various human impacts.

**5S-LPS 2 c:** The student will investigate and understand how plants and animals, including humans, in an ecosystem interact with one another and with the nonliving components in the ecosystem. Key concepts include flow of energy through food webs.

**8S-ECO 2 d:** The student will investigate and understand that organisms within an ecosystem are dependent on one another and on nonliving components of the environment. Key concepts include energy flow in food webs and energy pyramids.

**Extension Idea:**

Make a food web of the animals you have chosen as your predator and prey. Discuss the flow of energy in this food web.

**5S-SI 2** The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigation in which

- g) data are collected, recorded, analyzed, and communicated using proper graphical representations and metric measurements;
- i) inferences are made and conclusions are drawn;

**8S-SI 1** The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations which

- h) data are analyzed and communicated through graphical representation;

**HSS-SI 2** The student will demonstrate an understanding of the nature of science and scientific reasoning and logic. Key concepts include  
c) observation and logic are essential for reaching a conclusion

**Extension Idea:**

These standards can be addressed through the course of this activity.

**READING & WRITING**

**3E-RW 2a:** The student will use newly acquired vocabulary drawn from reading and other content areas.

**b:** demonstrate understanding of the meaning of newly acquired vocabulary.

**3E-CN 1g:** The student will sequence at least two steps in a procedure or ideas/incidents in an event.

**4E-RW 1c:** The student will use newly acquired vocabulary drawn from reading and other content areas.

**5E-RW 1f:** The student will demonstrate understanding of content-specific words.

**7E-RW 1e:** The student will demonstrate an understanding of word relationships by using synonyms and antonyms.

**7E-CN 1e:** The student will use content words and phrases from a nonfiction text.

**8E-RW 1e:** The student will acquire and use content words and phrases.

**8E-WP 1a:** The student will write to convey ideas and information including facts, details, and other information.

**b:** The students will write about a personal experience by introducing the event or experience, at least one character, and two or more events in sequence.

**d:** The student will use content specific vocabulary when writing about a topic.

**8E-WP 3b:** The student will write to convey ideas and information including facts, details and other information as well as graphics and multimedia as needed.

**8E-WP 5a:** The student will write an argument to support a claim with one clear reason or piece of evidence.

**HSE-WP 1b:** The student will write to convey ideas and information using clear organization and including facts, details, and other information as well as graphics and multimedia as needed.

**c:** The student will write about an event or personal experience by introducing the event or experience, at least one character, and describing multiple events in sequence.

**HSE-RW 2c:** The student will acquire and use content words and phrases.

**Extension Idea:**

Upon completion of this activity, students will write a text that summarizes their experiences and findings. This can be a fun way for the students to demonstrate what they have learned. Particular attention may be given to content words, figurative language, and sequence of events. Encourage students to include illustrations, tables, graphs, and digital photographs. Texts might take the form of a PowerPoint presentation, book, journal entry, newsletter, or blog. These texts might make great additions to self-selected reading libraries.

- 3E-CN 2a:** The student will answer who and where questions to demonstrate understanding of details in a familiar nonfiction text.
- b:** The student will identify a detail of a nonfiction text.
  - c:** The student will demonstrate an understanding of nonfiction text by connecting a visual element.
- 4E-CN 1a:** The student will use details from the nonfiction text to retell what the text says.
- c:** The student will identify the chronological structure of a text (first, then, next).
  - d:** The student will interpret information presented visually and orally.
- 5E-CN 1 a:** The student will when given nonfiction text, identify the main ideas that are supported by the key details.
- b:** The student will make connections between two individuals or events/actions in a nonfiction text.
  - c:** The student will identify the beginning, middle, and end of a nonfiction text with a clear sequential structure.
  - d:** The student will given two pieces of information on the same event or topic note what is the same.
- 6E-CN 1b:** The student will determine the central idea of a short nonfiction passage and details or facts related to it.
- c:** The student will use content words and phrases from nonfiction text.
- 7E-CN 1b:** The student will determine two central ideas that progress throughout a nonfiction text.
- e:** The student will used content words and phrases from a nonfictional text.
- 8E-CN 1b:** The student will provide a summary of familiar informational text.
- g:** The student will compare and contrast the key information in two different nonfiction texts on the same topic.
- HSE-CN3c:** The student will provide a summary of in information text.

**Extinction Idea:**

Read a nonfictional text or article from the activity about predator and prey populations. Have the students answer questions and identify details from the nonfiction text. Then have students make connections by reading the table and/or graph provided about predator and prey populations.

**MATH**

- 3M-PSPFA 1d:** The student will interpret data from a variety of graphs to answer questions.
- 5M-PSPFA 1a:** The student will compare two sets of data within a single data display such as a picture graph, line plot, or bar graph.
- 6M-PSPFA 1a:** The student will display data on a graph or table that shows variability in the data.
- b:** The student will summarize data distributions on a graph or table.
  - c:** The student will answer a question related to the collected data from an experiment, given a model of data, or from data collected by the student.
- 8M-PSPFA 1b:** The student will describe how a graph represents a relationship between two quantities.

**HSM-FS 2a:** The student will indicate general trends on a graph or chart.

**HSM-FS 3a:** The student will, given data, construct a simple graph and answer questions about the data.

**Extension Idea:**

Students will use data to create a table and/or double line graph of data collected during their freeze tag game. Ask students to interpret the data on the graph and answer questions related to the graph.

**3M-NSCE 1a:** The student will identify and write numerals 0 to 30.

**4M-NSCE 1b:** The student will compare whole numbers.

**6M-NSCE 1a:** The student will demonstrate simple ratio relationships.

**7M-NSCE 3a:** The student will use a ratio to model or describe a relationship.

**Extension Idea:**

While examining data at the end of freeze tag have students compare predator and prey numbers at the end of each round.

**History**

**HS-G2:** The student will describe how the location of his/her community, climate, and physical surroundings affect the way people live, including their food, clothing shelter, transportation, and recreation.

**HS-G3a:** The student will develop map skills by locating the United States, China, and Egypt on world maps.

**HS-G6a:** The student will develop map skills by positioning and labeling the seven continents and five oceans to create a world map.

**HS-G7:** The student will read and construct maps, tables, graphs, and/or charts.

**HS-G 12** The student will use maps, globes, photographs, pictures, or tables to  
a) locate the seven continents and five oceans.  
b) locate and describe the location of the geographic regions of North America: Coastal Plains, Appalachian Mountains, Canadian Shield, Interior Lowlands, Great Plains, Rocky Mountains, Basin and Range, and Coastal Range.

**Extension Idea:**

Choose predator and prey animals that reside in specific geographic regions. Ask students to locate where the predator and prey live on a map. Then have students describe the climate and physical surroundings of the region and how it affects the animals' ability to survive.

**Materials Needed:**

- paper or table to document rounds
- graph paper

**Instructional Setting:**

This activity requires a large space (gym, cafeteria, or designated place outside).

**Community Connections and/or Peer Interaction:**

You will need a large population of prey to start this game. Include peers to be a part of your freeze tag game.

**Functional Activity/Routine:**

This activity encourages functional skills such as following instructions, being a good sport, and counting.

**Strategies to Collect Evidence:**

For collection of evidence, be sure that each student records and interprets data individually.

**Specific Options for Differentiating this Activity:**

- Have peer helpers assist any student with physical needs play freeze tag.
- Allow students to use their preferred "pencil" when writing. This may include writing utensil, keyboard, alternative pencil, or dictating to a scribe.
- Prepare, as necessary, for each student to make choices and communicate with their preferred method. This may include using augmentative communication.