

The Big Squeeze

Object: Students will understand how human population growth has an impact on natural resources and habitat and consequently, on the animals that depend on them for survival.

Learning Outcomes:

- Students can define the words threatened, endangered and extinct.
- Students can explain how and why human population growth has an impact on animals, habitat and the resources on which the animals depend.
- Students can provide one idea for how to reduce habitat loss and destruction.

Materials:

- Paper plates
- Markers or other writing instrument
- A yellow, orange and red marker
- Activity sheet

Vocabulary:

- Threatened
- Endangered
- Extinct
- Extirpated

Preparation:

- Write these words and the definitions of these words on a flip chart, chalkboard or dry erase board:
 - Threatened
 - Endangered
 - Extinct

Procedure:

1. Explain to the students that we will be playing a game called resource round-up.
 - a. Object –
 - i. students who represent animal species are to avoid becoming endangered or extinct.
 - ii. students will see how human population growth affects habitats and the animals who live there.
2. Ask the class if they remember the elements that make up a habitat:
 - a. Food, water, shelter and space (write these on a chalkboard).
3. Give a white paper plate to each student.
 - a. After passing out the plates, have the students count off in 3s (1,2,3 – 1,2,3 etc.)
 - b. Have students who are number 1 to write the word “FOOD” on their plate.
 - c. Have the students who are number 2 write the word “WATER” on their plates.
 - d. Have the students who are number 3 write the word “SPACE” on their plates.
4. Clear an area of the room to do the activity.
5. Place the numbered plates on the floor of the room randomly.
6. Divide the class into 5 teams with equal numbers of students

- a. Explain to teams 1 – 4 that they represent human population.
 - b. Each team represents 12 million people.
 - c. Each person on the team represents some fraction of that number (the students will have to figure out what that number is.)
 - d. The job of teams 1 – 4 : keep track of the total number of people during the rounds.
 - e. Team 5 – represents wild animals.
 - i. students in team 5 will select the animal that they want to represent from a list of animals on the chalkboard.
 - ii. have each student write the name of the animal that they selected on a name tag that they will then affix to their shirt.
 - f. Prepare a chart that shows the list of the animals along with three boxes with the following label next to each box: threatened, endangered, extinct.
7. Ask the members of Team 5 to come forward to explain the rules of the game.
- a. Each “animal” must find and pick up one of each placard labeled “FOOD”, “WATER” and “SPACE” to successfully complete one round.
 - b. Each animal must remain standing in the place where they pick up the last resource placard.
 - c. Explain –
 - i. each “animal” may not always be able to find all three resources.
 - ii. if they cannot find all three, the “animal” species will lose a population and be give a yellow code that means the species is now threatened.
 - iii. orange will mean the species is endangered and red will mean the species is extinct.
 - iv. the object is to avoid losing populations.
8. Call attention to the groups that represent human population.
- a. The game begins in 1976.
 - b. Ask team one to come forward.
 - i. have them find a plate, stand on it and tell how many people they represent.
 - c. Ask class
 - i. “Why are humans on the animals’ resource plates?”
 - d. Explain that teams 2 – 4 will come in at later rounds.
9. Continue round 1 play
- a. Now that team one is standing on the plates, have each animal find and pick up the 3 resources that they need to survive.
 - i. have animals freeze on the last resource.
 - b. Ask the question:
 - i. “Was it hard to find the resources you needed?”
 - c. Have animals return plates to the floor randomly.
10. Explain that we’re now in round 2 and the year is 1981.
- a. The human population has now grown by 12 million
 - b. Send team 2 members into game to represent the increase in human population.
 - i. each member of team 2 needs to find an empty plate to stand on.
 1. have the person call out the resource and the number of people that they represent using the resource.
 - ii. remind team members to keep track of the total population.
11. Have animals repeat procedure from round 1

- a. "Was it more difficult to find the necessary resources?"
 - b. "Was every animal able to find adequate resources?"
 - c. Those animals who were not able to find adequate resources are given a yellow dot on their name tag, signifying that they are threatened.
 - d. Draw an "X" on the threatened box next to the animal's name that is written on the flip chart.
 - e. Place plates randomly back on the floor.
12. Start Round 3 – the year is now 1986.
- a. Send team 3 out to represent the increase in population.
 - b. Have each member find an empty placard.
 - i. have them call out the resource and the number of people they represent.
 - c. Have the animals find their 3 resources.
 - d. Those animals who do not find all three resources will get either a yellow dot (threatened) or orange dot (endangered).
 - e. Make the appropriate mark on the chart with the animal names and boxes.
 - f. Discuss definition of endangered
13. Start final round – the year is now 1991
- a. Send out team 4 to represent population growth to the year 1991.
 - b. As before, have the animals try to gather and find resources.
 - c. Ask the questions
 - i. "Was it more difficult?"
 - d. Make the appropriate mark on the chart with the animal names and boxes.
 - e. Some animals will now be extinct.
14. Conclude game
- a. Ask the students if they think that the game was realistic.
 - i. "Does having more people in the world really take resources away from animals?"
 - ii. "Why does more people mean there is less habitat for animals?"