

NAME OF ACTIVITY: Staying Alive!

OBJECT OF THE GAME: To stay alive

This game should be played AFTER the others as it culminates everything they have learned.

GRADE LEVEL: Grades 3-7

RUN TIME: Initially to explain background, rules and answer questions will take 30 minutes or more and background and rules do not have to be done together although correlating the rules with real life application to the background is advised. Subsequent games and options can be done in 45 minute increments.

EQUIPMENT NEEDED: Organism and resource cards

OBJECT OF THE GAME: Don't get caught (eaten)

VOCABULARY: Everything from other games

SET UP:

- 1) Decide how many years will complete the game. (5 to 10 years is good)
- 2) Assign roles
- 3) Designate the boundaries of the playing area.
- 4) Allow students time to become familiar with their organism and the rules
- 5) Remind students that all organisms need nutrient and water resources, plants need sunlight, animals need shelter.

RULES

- 1) Plants must pick a location. The first year they may move one pivot step to get resources. If they get all the resources they need, their root system and leaves expand and they can move 1 additional step farther from their location. Every year of successful growth means an additional step. If they do not successfully grow, they do NOT get the additional step.
- 2) Animals must pick a tree as their shelter. They may move freely throughout the designated area but must start and finish at their shelter. They may change to a different shelter during a turn if no other animal has claimed that tree. If during the course of the game the tree sheltering them is destroyed or dies, they MUST change shelters. Any animal whose card mentions another plant as habitat may use that specific plant as habitat instead of a tree.
- 3) Any plant or animal that accumulated 3 skull and crossbones dies.
- 4) Play continues until time limit or extinction occurs.

PHASES

- 1) Start – animals and plants are at their starting locations
- 2) Natural and human influences. Roll two 6 sided dice. Follow the instructions on the chart.
- 3) Teacher spreads the resources around.
- 4) Resource gathering – organisms gather nutrients and water. Plants must gather sunlight as well.

- 5) Return to start
- 6) Count resources. Decomposers (eliminated players) collect resources and give to teacher.
- 7) Reckoning. Anyone who did not get the required resources gets a skull and crossbones. Anyone who did, grows. OPTION: Answering a teacher made question correctly eliminates a skull and crossbones
- 8) Any organism that reaches maturity can choose a player who has been eliminated to be their offspring and re-enter the game

OPTIONAL RULES: Encourage students to suggest new variants based on elements/options of other games and incorporating them into this game. Strategy is much more important and thoughtful reflection should be encouraged. Especially the first time played, allow students to “think aloud” what they want to do differently and why. Encourage them to try different strategies to see what effect they have on game play (and correlated real life applications) and to focus less on “winning” the first few times. Hypothesize how changes will affect the game before trying them. Afterwards compare expected results with actual results. Try multiple trials.

DISCUSSION EXTENSIONS: Discuss together what worked well, what didn't. How much of a factor was random events vs. personal strategy? How does this relate to life in the deciduous forest?

**16% = a roll of 1 on a 6 sided die**

**33% = a roll of 2 or 3 on a 6 sided die**

**50% = rolling an even number on a 6 sided die**

**66% = rolling a 2, 3, 4 or 5 on a 6 sided die**

**83% = rolling and number EXCEPT a 6**

# Natural and human influences

**2 Tornado habitat destruction** – A tornado rips through your area. 16% of all trees and 16% of all animals are destroyed.

**3 Hurricane** A tropical storm gathers strength and becomes a hurricane that doubles water but the resulting flooding erodes land causing 33% of the plants to be washed away.

**4 Wild fires** – 50% of all plants die, 16% of all animals die. The following year, sunlight is doubled.

**5 Water pollution** – People overuse pesticides and fertilizer and carelessly dispose of waste polluting the watershed. Half of the usual water is available. 16% of aquatic animals die. All plants and animals get skull and crossbones.

**6 Habitat destruction** – People build more buildings and roads in wilderness areas destroying plant life and habitat. 33% of trees and shrubs die, 16% of animals are without shelter.

**7 Perfect climate conditions** – all resources are doubled. All plants double their roots systems expansion.

**8 Air pollution** – Factories spew chemicals into the air and people drive cars sending smoke and chemicals from fossil fuels into the air. Sunlight is decreased by one die roll. All land animals get one skull and crossbones.

**9 Drought** - Precipitation decreases by one die roll causing 50% less water to be available.

**10 Reduce/recycle/reuse** – People actively conserve natural resources. All animals lose a skull and crossbones, water is doubled.

**11 Habitat restoration** – People plant trees, shrubs and flowers; build bird and bat houses and take other measures to protect wilderness and habitats. Nutrients are doubled; all plants and animals lose a skull and crossbones.

**12 Roll three times**