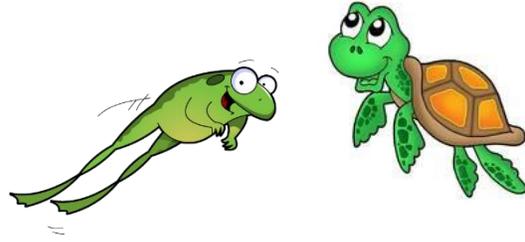


Supplement E - Restoration Exchange

Equipment Restoration Exchange boards, one for each participant, plus one.

Objective Two groups on opposite ends of a series of boards will exchange places.



Story

Imagine that you are two different species, for example frogs and sea turtles. In the past, your habitats have been polluted and depleted. But there is good news! Humans have come together and restored a stream for the frogs to live in, and a beach for the turtles to rest on. Unfortunately, the frogs are on the opposite side of the stream, and the turtles are on the opposite side of the beach. The frogs and turtles must somehow pass each other without collision or falling off the stepping stones in order to get to the right habitat.

Instructor's Information

1. Encourage communication among the group to plan movement strategies.
2. The instructor should actively look for mistakes early in this activity to help the group seek movement strategies.
3. The instructor should spot participants who are exchanging positions.

Activity Instructions

1. Place the small wooden boards on the ground in an arc shape with each board about a foot apart.
2. The instructor should stand on the middle board and ask students to find a board and stand on it.
3. The instructor can step off the center board and explain that the students on the left are frogs and the students on the right are turtles. The groups must exchange positions without stepping on the ground.
4. Only two feet are allowed on any one board at a time.
5. More than two feet on a board or stepping off a board onto the ground will result in all participants going back to their original positions and starting over.

Discussion Questions

1. What did/did not work when completing this activity?
2. How important was planning in this activity?
3. What examples of cooperation are found in this activity?
4. What are some ways humans can help restore a habitat?
5. What are some things students can do at home or at school to help the environment?

Supplement F- Environmental Jenga

Equipment 60 Jenga pieces, one large square board

Objective To engage students in questions about human impact on the environment.



Instructor Information

1. Stack the Jenga pieces in rows of three, changing the direction of the pieces, with the questions facing down.
2. This may be played as one large game with 60 pieces of the whole group, or split up into two sets of 30 pieces.
3. If playing with 60 pieces, use the large board to set the game up on the ground.
4. If playing with two sets of 30 pieces, the game can be set up on the picnic tables.
5. Make sure the students know that this is a group game and the goal is to get the blocks as high as possible.



Activity Instruction

1. Ask the students if anyone has ever played Jenga before.
2. Let the students know that in this version of Jenga, the question on the block must be answered to the best of the group's ability before placing the piece on top of the stack. Any correct answer will suffice. The answers in the lessons are examples for use by the instructor if the group is having trouble.
3. To begin the game, randomly select or ask for a volunteer to go first. Go around in a circle so every student pulls a block.
4. See how high the group can get the tower to stack. Continuing pulling and stacking blocks until the tower falls.

Jenga Questions and Answers

1. Why are trees terrific?
A. *They turn Carbon Dioxide into Oxygen, they slow down runoff, and they filter pollution out of stormwater.*
2. Name one way humans negatively impact the environment.
A. *Pollute water ways, litter, destroy natural habitats, deplete resources, use too many fossil fuels, etc.*
3. Name one way humans negatively impact the environment.
A. *Pollute waterways, litter, destroy natural habitats, deplete resources, use too many fossil fuels, etc.*
4. Name one way humans positively impact the environment.
A. *Plant trees/native grasses, compost, reduce reuse and recycle, restore habitats, reduce pollution production, be energy efficient.*
5. Name one way humans positively impact the environment.
A. *Plant trees/native grasses, compost, reduce reuse and recycle, restore habitats, reduce pollution production, be energy efficient.*
6. Why are wetlands wonderful?
A. *They prevent flooding, they filter water and hold on to excess nutrients, they slow down the flow of water and they provide habitats to many different species.*
7. Name one component of a habitat.
A. *food, water, shelter or space.*
8. Name one component of a habitat.
A. *food, water, shelter or space.*
9. Give an example of a habitat.
A. *Forest, bog, stream, marsh, beach, ocean, bay, river, etc.*
10. Give an example of a habitat.
A. *Forest, bog, stream, marsh, beach, ocean, bay, river, etc.*
11. Name a species that lives in the Chesapeake Bay habitat.
A. *Blue crab, heron, striped bass, oyster, terrapin, SAVs, eels, silversides, red fox, cormorant, kingfisher, osprey, etc.*
12. Name a species that lives in the Chesapeake Bay habitat.
A. *Blue crab, heron, striped bass, oyster, terrapin, SAVs, eels, silversides, red fox, cormorant, kingfisher, osprey, etc.*
13. Name a species that does not live in the Chesapeake Bay habitat.
A. *Lion, tiger, buffalo, bison, leopard, elephant, alligator, moose, etc.*
14. Name a species that does not live in the Chesapeake Bay habitat.
A. *Lion, tiger, buffalo, bison, leopard, elephant, alligator, moose, etc.*
15. Name one way humans can reduce pollution.

A. Use cars less/use public transportation, reduce the use of electricity in their home, reduce the use of fertilizers on their lawns, pick up after pets, clean up litter

16. Name one way humans can reduce pollution.

A. Use cars less/use public transportation, reduce the use of electricity in their home, reduce the use of fertilizers on their lawns, pick up after pets, clean up litter

17. Name one thing that can be recycled.

A. paper, plastic,, glass bottles, aluminum cans, cardboard, wood, old electronics, old batteries, etc.

18. Name one thing that can be recycled

A. paper, plastic, glass bottles, aluminum cans, cardboard, wood, old electronics, old batteries, etc.

19. Name one way we can conserve water.

A. Take shorter showers, turn of the sink when you brush your teeth, wash your clothes only when necessary, collect rainwater and use grey water to water the lawn.

20. Name one way we can conserve water.

A. Take shorter showers, turn of the sink when you brush your teeth, wash your clothes only when necessary, collect rainwater and use grey water to water the lawn.

21. What is one way you can reduce what you use?

A. Turn off lights when you're not in a room, only take the food that you are going to eat, do not buy new products unless you need to.

22. What is one way you can reuse something you use?

A. Use a lunchbox instead of a brown paper bag, use Tupperware instead of plastic bags, or use a reusable water bottle instead of a plastic one.

23. Name one thing that can be composted.

A. Fruit cores, fruit and vegetable peels and tops, plain bread, plain tortillas

24. Name one thing that can be composted.

A. Fruit cores, fruit and vegetable peels and tops, plain bread, plain tortillas

25. Name one thing that CANNOT be composted.

A. Any dairy product (milk, yogurt, cheese), any meat product, any salad dressing, soda, candy, bread with condiments on it.

26. Name one thing that CANNOT be composted.

A. Any dairy product (milk, yogurt, cheese), any meat product, any salad dressing, soda, candy, bread with condiments on it.

27. Give an example of a renewable resource.

A. Wind power, solar power, wood, water flow, biomass, geothermal.

28. Give an example of a non-renewable resource.
A. Coal, oil, natural gas.
29. What do you use to take temperature?
A. Thermometer
30. Name a way YOU could reduce pollution from cars.
A. Ride a bike, walk, skateboard, rollerblade, take the bus, carpool.
31. What is an animal called that only eats meat?
A. Carnivore
32. What is an animal called that only eats plants?
A. Herbivore
33. What is an animal that survives by eating other animals?
A. Predator
34. What is an animal that is eaten by other animals?
A. Prey
35. Name one type of precipitation.
A. Rain, snow, sleet or ice.
36. Name TWO states that are in the Chesapeake Bay Watershed.
A. Maryland, Virginia, West Virginia, Pennsylvania, New York, Delaware and Washington D.C.
37. Which river flows by Arlington Echo?
A. The Severn River
38. What does it mean when a species is endangered?
A. It means a species has a small or declining population size or a very limited range usually caused by factors like, habitat loss, hunting, disease or climate change.
39. What measurement can we take to find out how clear a body of water is?
A. Clarity (or turbidity).
40. Name one animal you have seen in the past week (Not a pet!)
A. (Answers will vary)
41. Name one part of the water cycle.
A. Condensation, precipitation, evaporation, collection
42. What is your favorite activity to do outside?
A. (Answers will vary)
43. What is your favorite activity to do outside?
44. What is something you did to help the environment in the past week?
A. (Answers will vary)
45. What is something you did to help the environment in the past week?
46. What do trees and oysters have in common?
A. They both filter water.

47. Name one stage of the dragonfly life cycle.
A. Egg, nymph and adult.
48. Name one stage of the frog life cycle.
A. Egg, tadpole, adult.
49. What watershed are we in RIGHT NOW?
A. The Chesapeake Bay watershed.
50. What is your favorite Chesapeake Bay species?
A. (Answers will vary)
51. What is your favorite Chesapeake Bay species?
A. (Answers will vary).
52. What is an environmentally friendly outdoor activity you can do?
A. Ride a bike, go on a hike, go kayaking, have a picnic, play a game outside, go for a walk, etc.
53. What is something YOU can do to be a Chesapeake Steward?
A. (Answers will vary, but should be something students can do to help the environment).
54. What is something YOU can do to be a Chesapeake Steward?
A. (Answers will vary, but should be something students can do to help the environment).

Supplement G- Crab Tag

Equipment four orange cones

Objective To help students understand a food chain in the Chesapeake Bay watershed.



Story

Tell the students to imagine that they are three species in the Chesapeake Bay watershed. Some students will be submerged aquatic vegetation or SAVs, some will be blue crabs, and others will be rockfish. In the Bay watershed, blue crabs use the SAVs for shelter and protection. The rockfish like to eat crabs and the SAVs use the sun's energy to grow tall, creating shelter and oxygen for aquatic species. Explain that in the Bay watershed, all species are connected in some way.

Instructor Information

1. This activity is a game of tag. The Instructor should make sure students do not play too roughly and also alleviate verbal disagreements as they occur.
2. The instructor needs to direct the game (telling students when they are a crab, SAV, or rockfish).
3. This activity requires a minimum of 8 students in order to play.
4. Set up four cones to make a square playing space. The space can be fairly large (30"x30")

Activity Instruction

1. To begin the game, choose one student to be the rockfish – they are "it".
2. Choose one student to be the crab – they are being chased by the rockfish.
3. Group the remaining students into sets of twos and have each pair link arms – they are SAVs. (For a group of 8 students, there should be three pairs).
4. The student(s) who is/are rockfish must try to tag students who is/are crab(s). A crab cannot be tagged if they link arms with an SAV. However, if a crab does link arms with an SAV, the student on the opposite side must let go and becomes a crab.
5. Explain to the group that if a crab gets tagged, they become a rockfish and the rockfish becomes a crab.
6. Point out the four orange cones and let students know they need to stay inside the boundaries.
7. If there are more than eight students playing, the instructor can designate more crabs, rockfish and SAV pairs accordingly.