

ECOSYSTEMS (ECO PAK CHALLENGE)

AN INSTANT MEETING FOR SPARKS
FROM THE BC PROGRAM COMMITTEE

The Eco Pak challenge was launched in 2006 to BC Girl Guide members in the form of an Eco Pak backpack and a resource booklet. If your district doesn't have one, or it is incomplete, no need to worry! You can complete the challenge without the backpack. Download the full challenge, with all activity instructions included, from the BC Girl Guides website. <http://bc-girlguides.org> select Program > Challenges & Activities > Provincial Challenges.



The Eco Pak challenge allows girls and Guiders of all branches in Guiding to engage in hands on interactive activities to help them learn about the environment. It is divided into four categories with the challenge requiring a specific number of activities to be completed from each category.

Remember that these are only suggested activities, and all activities can be adapted to ages, space, location and available resources.

Two meetings plus service are required to complete the challenge.

**originally published in the May 2014 FunFinder.*

Meeting Plan

- 5-10 min: Gathering: Hidden Picture Colouring
- 5 min: Spark Opening
- 5 min: Opening Introduction
- 5-10 min: Shrinking Island Game
- 20-30 min: Round Robin – Outside
 - 10-15m: Forest Squares
 - 10-15m: Eco Bingo Hunt
- 5 min: Spark Closing

60 minute meeting. Approximate activity times shown.

Program Connections

Being Healthy Keeper:

Move to the Beat

Going Outside Keeper:

Nature Walk

Eco Pak Challenge

Meeting Supplies

- printed hidden picture puzzles
- pencils, crayons, markers
- sheets of newspaper or skipping ropes
- music
- a piece of string about 4 meters long per girl
- paper
- Bingo sheets

Gathering: Hidden Picture Colouring

Directions

For Sparks, a hidden picture colouring sheet is an appropriate gathering activity, and can be applied to the Fun & Games section of the challenge.

You can find hidden picture puzzles on the Highlights for Kids website at

<http://www.highlightskids.com/hidden-pictures/>.

One suggested hidden picture puzzle for the Eco Pak theme is Springtime Jamboree http://www.highlightskids.com/media/kids/highlightskids/engines/hidden-pictures-interactive/pdfs/HL_hp_05516_BW.pdf

Supplies

- printed hidden picture puzzles
- pencils, crayons, markers

Opening Introduction: What is an Ecosystem?

An ecosystem is all living plants, animals and organisms in a specified area, the way they interact with each other and the environment around them. In an ecosystem, everything has its own role.

For example, a tree is part of an ecosystem. It depends on non-living things like water, sunlight, and weather to live and grow. In turn, there are all kinds of living things that depend on the tree to live and grow. When anything unfamiliar happens to this ecosystem, such as a new animal, a change in temperature, etc., it can throw it out of balance. This can cause change to the ecosystem that can sometimes be harmful to the dependants of the system, or even entirely destroy it.

With that in mind, we need to remember that everything we do, every piece of garbage we throw out, every toxic chemical we use, etc. affects the ecosystem around us.

Shrinking Island Game

Fun & Games. Eco Pak Challenge, page 8.

Directions

1. Place sheets of newspapers around the room to create "islands". You can also create islands by forming skipping ropes into circles on the ground. If there are enough supplies, try to create one island per girl.
2. The girls are going to represent animals that live on different islands.
3. When the music plays, the girls have to pretend to look for food and water – away from their islands. They will continue to do this as long as the music is playing.
4. When the music stops, the girls have to quickly find safety and shelter on an island. This is to represent the animals seeking safety from their predators or harsh weather conditions.
5. Everyone must get on an island. If there are no islands available, then the girls must make room for other girls to share. If any of a girl's body part is outside the island, then she has "not survived". Encourage the girls to help each stay alive and fit on an island.
6. As the game continues, an island is removed during each round. This is to represent urbanization (e.g. cities) and human developments, where humans have taken over wildlife habitats. The game ends when there are only one or two islands left and all the girls are

Supplies

- sheets of newspaper or skipping ropes
- music

forced to squish together so that everyone fits. Stop the game when it is no longer possible to fit everyone on the remaining islands.

Eco-Message

The girls can learn about the importance of habitat and how a decrease in space for organisms to live can lead to limited resources like food, water, and shelter due to competition amongst the organisms in that community. Brainstorm with the girls and come up with ways in which a habitat can be changed. They will realize that both natural disasters (e.g. acid rain, greenhouse effect, global warming, climate change, forest fires, volcanic eruptions) and human activities (e.g. road construction, building of new homes and golf courses, expansion of farmland, deforestation, pollution) have negative impacts on the environment. Directions

Forest Squares

Taking it Outside

Directions

1. Take the girls out into a wooded area, a field, bog or meadow. Lay down the string so that it forms a square. With a pad and pencil, draw or write all the different kinds of plants and bugs that you find in the square. Count how many of the same thing there are, e.g. how many of the same plant, how many of the same bug, etc.
2. Now, pick up the string and move about 20 steps away and once again, lay down your string in a square. Do the same thing and identify all the plants and bugs in the square. Add them up the same as you did for the first square.
3. Now compare what you found in the first square to what you found in the second square. Were there more of one plant in one of the squares? Were there more of bugs? Do you see any reason why that would be the case?

Supplies

- a piece of string about 4 meters long for each girl
- pencil and paper

Eco Bingo Hunt

Taking it Outside

Directions

Before heading out, have a discussion with the girls about what contaminates the earth, e.g. car exhaust, litter, etc.

Go on a walk and have the girls cross off everything that they see on the list. A line of 5 gets a Bingo. When a girl gets a Bingo, have her say which of the squares she's crossed off are good for the environment and which are bad for it and why.

Supplies

- Bingo sheets
- pencils or markers

Eco Bingo Hunt



FOOD CHAINS (ECO PAK CHALLENGE)

AN INSTANT MEETING FOR SPARKS
FROM THE BC PROGRAM COMMITTEE

The second of two meetings to complete the BC Eco Pak challenge. Two meetings plus service are required to complete the challenge.

**originally published in the May 2014 FunFinder.*

Meeting Plan

- 5-10 min: Gathering: Food Chain Colouring
- 5 min: Spark Opening
- 5 min: Opening Discussion
- 5-10 min: Food Chain Story
- 10 min: Food Chain Tag
- 20 min: Mini Ecosystem
- 5 min: Spark Closing

60 minute meeting. Approximate activity times shown.

Program Connections

Being Healthy Keeper:
Active Game

Going Outside Keeper:
Additional Activity (learning about nature/make an ecosystem)

In My Community Keeper:
Additional Activity:
Community Project (service)

Eco Pak Challenge

Meeting Supplies

- food chain colouring sheets
- pencils, crayons, markers
- poker chips, bingo tokens, popsicle sticks, etc.
- strips of fabric in 3 different colours
- clean glass jars with lids
- peat moss
- charcoal
- gravel
- small seedlings that will fit in the jars with room to grow
- natural items like seashells, twigs, etc.

Gathering: Food Chain Colouring

Fun & Games.

Directions

Find a colouring sheet online for the girls to visually see a food chain or food web.

<https://www.google.ca/#q=food+chain+coloring&tbm=isch>

Supplies

- food chain colouring sheets
- pencils, crayons, markers

Opening Discussion

Ask the girls what they know about food chains and ecosystems. Tell them that today they're going to learn about both of these things so that they have a better understanding of how what they do affects all life around them.

Food Chain Story

Hands On Learning.

Find a story at your local library or bookstore to illustrate food chains. The Best Children's Books.org has compiled a list of appropriate books, with suggested age levels listed.

<http://www.the-best-childrens-books.org/examples-of-food-webs.html>

Food Chain Tag

Fun & Games. Adapted from the Great Canadian Shoreline Cleanup Curriculum Guide.

Directions

1. Explain to the girls that they are going to play a game to represent a simple food chain. The tokens represent food. Scatter the tokens throughout the playing area.
2. Most of the girls will be herbivores, who eat plants. Distribute the green armbands to the herbivores. An example of an herbivore is a mouse. The mice will collect food tokens from the ground.
3. The next group of girls will be carnivores, and they eat the herbivores. Distribute the yellow armbands to the carnivores. An example of a carnivore is a snake. The snakes can only collect food from the mice – they must tag a mouse to collect one food token from her.
4. The final group of girls will be the top predators. They eat the carnivores. Distribute red armbands to the top predators. An example of a top predator is a hawk. The hawks can only collect food from the snakes – they must tag a snake to collect one food token from her.

Supplies

- poker chips, bingo tokens, popsicle sticks, etc. – 5 times as many tokens as there are players (i.e. for a group of 20 girls, have 100 tokens)
- strips of fabric in 3 different colours, long enough to tie around a girl's arm: 60% of one colour (i.e. green), 30% of a second colour (i.e. yellow), and 10% of a third colour (i.e. red). In a group of 20 girls, 12 would have green, 6 would have yellow and 2 would have red.

Summary of tasks: green armbands pick up food; yellow armbands tag girls with green armbands and take one food; red armbands tag girls with yellow armbands and take one food.

5. Players cannot tag the same girl twice in a row.
6. Give the mice a head start on the game. Allow at least 30 seconds for them to begin collecting food tokens.
7. Announce loudly when the snakes are introduced to the game so that the mice are aware of the danger. Allow at least 30 seconds for the snakes to collect some food tokens from the mice.
8. Announce loudly when the hawks are introduced to the game.
9. Allow the girls to play the game for as long as they desire. If they are getting tired, call the girls in for a discussion.
10. Have the girls count how much food they have. If they have eight or more tokens, they have collected enough food to survive. Talk about which creature is most likely to survive.

Mini Ecosystem

Hands On Learning.

Directions

1. Soak the peat moss in water to make it damp.
2. Layer in the jar: gravel, then charcoal, then peat moss.
3. Add your seedling, planting it in the peat moss.
4. Press down to compact the peat moss, but not too hard.
5. Use the natural items to decorate around the plant.
6. Sprinkle a little water in the jar, then cover with the lid.
7. Put the jar into a sunny place.
8. To take care of your plant, only open the jar if it looks dry. Sprinkle a little water in it. Turn the jar around every couple of days to make sure that all sides of the plant get an even amount of sunshine.



Supplies

- a clean glass jar with a lid for each girl
- peat moss
- charcoal (you can find at the aquarium supplier)
- gravel
- small seedlings that will fit in the jars with room to grow
- natural items like seashells, twigs, etc., if you want to build a scene in the jar

Service

These two meetings complete all except the service component of the Eco Pak Challenge. Discuss with the girls what type of service projects they could do that will fit in with the requirements for the Eco Pak challenge.

Some ideas are:

- Fish Hatcheries
- Recycle Plants
- Conservation and Experimental Forests
- Stream/Shoreline/Community Clean-Up
- Community Gardens
- Painted Fish on Drains
- Build butterfly, bat and bird houses to put up in parks and at waterfront
- Adopt a Forest, Animal, etc.