

BIODIVERSITY ACTIVITIES FOR CHILDREN

1. The Web of Biodiversity

Ages: 7+

Objective: Show the links between different species in an ecosystem and why more diversity equals a stronger system

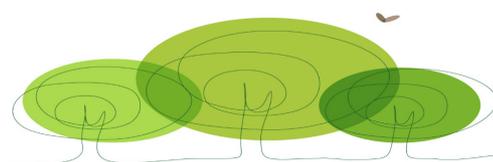
Equipment:

- notecards / paper (one for each child)
- a ball of string / yarn
- scissors
- labels from one of the ecosystem webs*
- ball (optional)

* See below for examples of ecosystem webs.

How it works:

1. Make labels for each child from the ecosystem web and attach to their shirts so everyone can clearly see the labels.
2. Sit in a circle and go around, having each child say who they are and help explain what the species is, if necessary.
3. Starting with the “predator” in the system, give the child the ball of string. Have that child identify a species that it would eat and throw the ball of string to that child, holding onto the end of the string.
4. Have that child throw the ball of string to their food source (again, holding onto the string), and continue until the ball of string reaches a child which is a “plant”.
5. Have the child throw the ball of string to an animal which would eat them and who isn't already “attached” to the string. For example, if the deer threw the ball to the acorn, because deer eat acorns, then the acorn could throw the ball to the beetle, because beetles also eat acorns.
6. Work back up the chain until you get back to the predator, and then go back down again to make a web. You can make as many paths as you like, going up and down the food chain, because many of the species will overlap and link. Make sure each child is included at least once.
7. Once everyone is linked, go around the circle and talk about how each of the children are connected to one another (you don't have to talk about everyone if time / attention spans are running short).
8. Pick one or two children and cut their strings, “removing” them from the ecosystem. Point out to the children how their own strings are affected when



someone else is removed. This is to show how if one species is made extinct in a system, it affects more species and can possibly lead to the extinction of someone else. For example, if one of the species is only connected to one other and the food source is removed, that species will have nothing left to eat, so it is also made extinct. **NB it's not a perfect model, because it's difficult to show what happens if predators are removed from the system, e.g. population explosions. It will work better if you remove herbivores / prey / plants. Also, scavengers and decomposers are omitted from all sample webs.**

9. Ask the children what they could do to make the system stronger (replant native plants, reintroduce animals). Tie the strings back together to show restoration to the system (It's not necessary to go into too much detail about how complicated this can be!)
10. Optional: place an inflatable beachball or other soft ball on top of the web to symbolise how ecosystems can be strong even if some strings are cut, but that there is a 'breaking point' – when too many strings are cut, the whole thing can come crashing down.

Terminology:

Predator – an animal that hunts other animals for food

Top predator – animal not hunted by any other animal (excluding humans)

Prey – animals that are hunted as food by other animals

Producer – plants that produce their own food (through photosynthesis, for example)

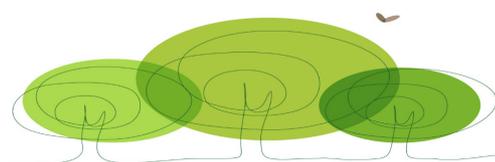
Primary (1st) consumer – animal that eats producers

Secondary (2nd) consumer – animal that eats an animal that eats producers

Tertiary (3rd) consumer – animal that eats a secondary consumer

Biodiversity Webs (examples, feel free to make your own up!)

Species	Role	What eats it?
Woodlands		
Acorn (oak tree)	producer	beetle, deer, squirrel
Bramble berries	producer	blackbird, deer
Beetle	primary consumer	blackbird
Blackbird	1 st / 2 nd consumer	wolf
Squirrel	primary consumer	wolf
Deer	primary consumer	wolf
Wolf	top predator	
Grasslands		
Grass	producer	wren, rabbit
Wildflower	producer	rabbit, bee
Bee	primary consumer	wren
Rabbit	primary consumer	fox
Wren	1 st / 2 nd consumer	fox
Fox	top predator	



Ocean

Phytoplankton	producer	zooplankton, blue whale
Zooplankton	primary consumer	herring
Herring	secondary consumer	seal, killer whale
Seal	3rd consumer / predator	killer whale
Blue Whale	primary consumer	
Killer Whale	top predator	

Jungle

Banana tree	producer	monkey, sloth
Bamboo	producer	monkey, sloth
Monkey	primary consumer	boa constrictor, jaguar
Sloth	primary consumer	boa constrictor, jaguar
Boa Constrictor	predator	
Jaguar	top predator	

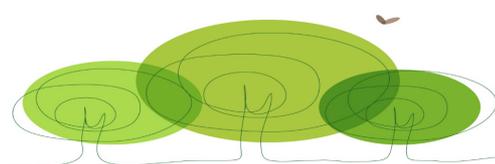
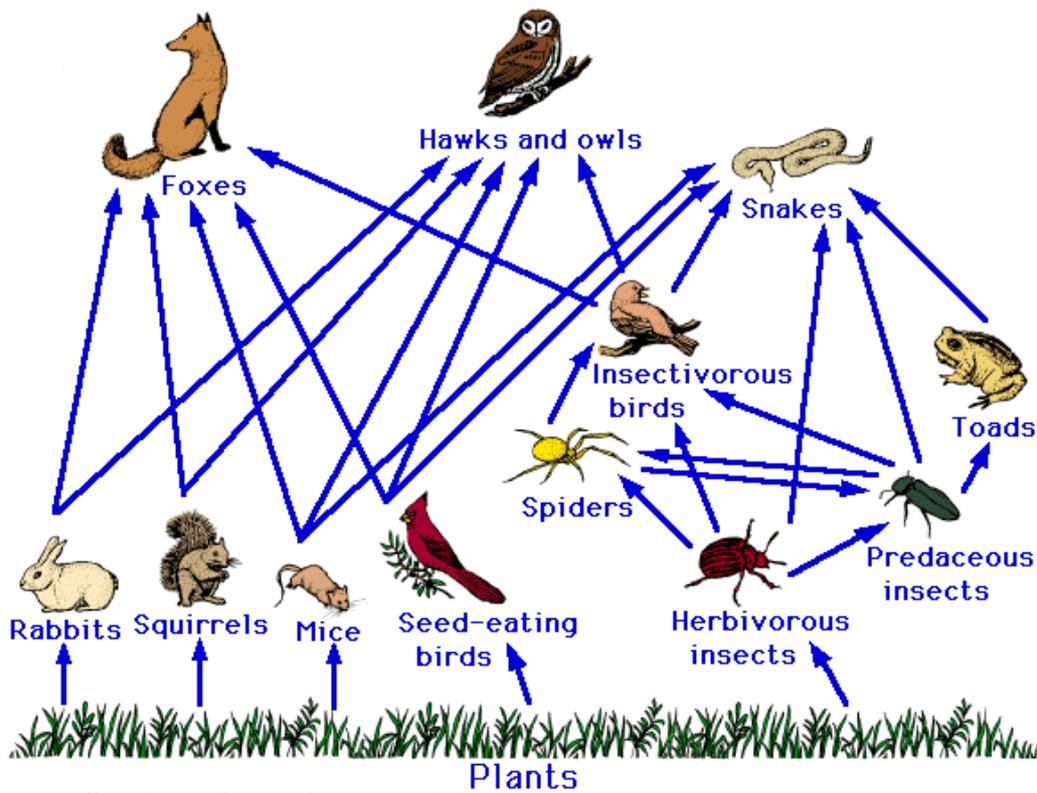
Other Examples:

Grass → Grasshopper → Toad → Grass-snake → Buzzard

Potato peelings → Worm → Song Thrush → Sparrowhawk

Leaf → Aphid → Ladybird → Spider → Mouse → Fox

Algae → Mosquito larva → Dragonfly larva → Small Fish → Large Fish → Heron



2. Ani-maker

Ages: 4+

Objective: get children to talk about the characteristics of animals that make them different and special; create their own special animals

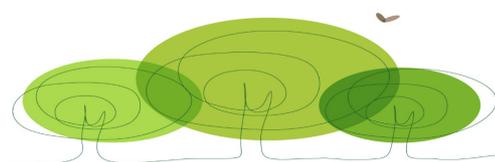
Equipment:

- paper
- crayons / felt tip pens / paint (if you are daring!)
- white board / chalk board / drawing board or laptop and screen

How it works:

1. Ask the children to name a favourite animal (doesn't even have to be wild).
2. Write the animal's name on the board / screen so the children can look at it later.
3. Ask the children what makes this animal special (Does it have wings? Does it have claws? Does it have a really long neck? Is it colourful?). What does it use these special features for (flying, catching prey, reaching food, looking good etc).
4. Add the characteristics (wings, feathers, claws, etc) to the board / screen.
5. Continue making a list of animals and characteristics until you have roughly ten animals listed (more if you like).
6. Give each child some paper and drawing materials, and have them create and draw their own animal, with special characteristics and features. Encourage them to think of ridiculous combinations (eg. a lion body + octopus legs + eagle wings + a turtle shell + a rabbit head with 6 eyes). Have them name their animals as well!
7. When the children have finished drawing, have them share what their new animal is and why it's special.
8. Finish by talking about how it's important to have different animals in the world.

Animals were made to be different so that there is a balance for food and places to live. Some birds live in trees and eat bugs, and other birds live in cliffs along the seaside and eat fish. Some birds make nests on the ground and hide in bushes and grass. Some animals eat meat, and some animals eat plants. Some eat both. Some animals live on land, some live in the water, and some can go back and forth. If too many animals lived in the water, there wouldn't be enough room or enough food for them all. If all animals ate only plants, there wouldn't be enough plants to feed them all; if all animals ate only other animals, we'd run out because they'd all eat each other! Since we have different species, there is a balance. God made the world in this balance and He asked us to take care of this balance. One way we can do this is by appreciating the differences of all the animals.



3. Wildfire!

Ages: 4+

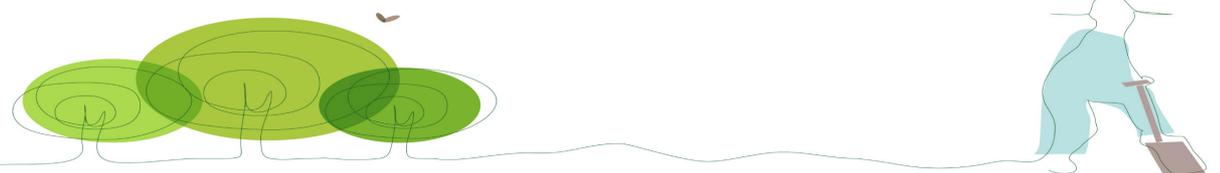
Objective: learn the differences between prey and predators and run around a lot!

Equipment:

- space to run

How it works:

1. It's a variation of "tag" – some of the children are predators (2-3, more if you have a really big group), and most are prey. Let the children pick out different animals for prey / predators if they know any.
2. You will be the caller – you will be calling three different things: "<prey name>" (eg rabbits, centipedes, minnow), "<predator name>" (eg. fox, mongoose, tuna) and "Wildfire!". When you yell the prey name, the prey can run around until you yell "Stop!" They are trying to get away from the predators. When you call the predator name, the predators can run around until you yell "Stop!" They are trying to tag the prey. HOWEVER they CANNOT tag anyone who is not running. They can get up to three steps close to the prey, but they CANNOT tag them. If you only call the prey name, the predators must stay frozen and vice versa.
3. When you yell "Wildfire!" ALL the animals can run around until you yell "Stop!", and any prey that has been tagged by predators have to sit down and remain seated until the end of the game.
4. The last 2-3 prey to remain can become the predators for the next round.



4. Biodiversity Bingo

Ages: 6+

Objective: observe different species in nature

Equipment:

- paper / card
- pens / pencils

**** This can be done outdoors, with children looking around for different species to put in their Bingo cards, or indoors with a brainstorming session. ****

How it works:

1. Either have Bingo cards ready-made (5x5 grid) or have the children draw up their own.
2. Have children draw different species in the blank squares that they can find whilst looking outside (eg. different insects, flowers, trees, birds, etc), or if indoors with species from a list from your brainstorming session (have children list out a variety of animals and plants). You may want to guide this (give them a “scavenger hunt” list or limit them to 15 animals and 10 plants).
3. When lists are done, write down all the options (from the brainstorming list or their discoveries from outside) on separate small pieces of paper, put them in a hat and play bingo! Have children check them off as you pull names out of the hat and go for five in a row or a black-out.
4. You can alter the grid size for time and / or simplicity’s sake (3x3, etc.)

