

## Connect the Creatures

### Interdependence

### "Finding out"

Learners investigate interactions among living things and their habitats.

**Grading:** Y Y

**Time:** 88

**Place:** Inside /Outside

**Group size:** 2 - 3

#### Activity Outcomes:

Learners are able to:

- describe some of the ways organisms are connected both to their habitats and to other creatures
- develop awareness of the ways in which people are connected to the natural world.

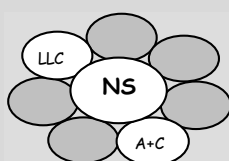
#### Assessment:

- Educator assesses group presentations (see *teaching tip* on next page)
- Include documents in learners' portfolios

#### Skills:

- Exploration and recording
- Interpretation of connections
- Understand the value of connections between organisms, people and the natural world

#### Learning Area links



### Background

Every living and non-living thing in the natural world, whether it is a rock, a river, a beetle or a bird, is dependent on and connected to many other things in complex ways. These connections are often so intricate that it is nearly impossible to separate the threads that weave them together. For example, nearly every leaf that falls on the floor of a forest is eaten by a certain kind of millipede. As the leaves pass through the millipede's gut they are broken down into a form that millions of other invertebrate species can use.

These species break the leaves down even further, making the nutrients in them available to forest plants, which absorb the nutrients from the soil through their roots. Interdependence does not only exist among animals and plants and their habitats, but also between people and the natural world.

### Activity Guidelines:

**Needed:** Provide each group with a copy of "Creature Connections" (See p. E27); collection bags.

- ✎ Explain to your learners that they will be taking part in a hunt to look for connections in the natural world. Decide on whether you will be doing the hunt indoors or outdoors. Then follow the appropriate directions below.

#### ✎ Outdoor version:

- Decide on an outdoor area and set boundaries within which the learners can work.
- Distribute bags for the collecting of small plant samples and non-living items such as acorns, pebbles, dead leaves etc.
- Give the learners a certain amount of time to collect as many of the items as possible.
- Go over the items on the "Creature Connection" copy and make sure the learners understand each item. They need to be able to show the connections (interdependence)



You might want to spread the activity over a couple of days and let the learners conduct the "hunt" in their own time. Also consider having them work in groups. Each group can divide up the items on the list.

Let them take photos or draw the living things they find that are not appropriate for collecting. (See "Collection tips" on p. E25)

#### Assessment guidelines:

##### **Unsatisfactory:**

The group is unable to produce a document that shows connections between the items they have collected and the items on the list.

##### **Satisfactory:**

The group produces a document that illustrates the interactions between at least four items and the items on the list.

##### **Excellent:**

The group shows creative insight into relationships and is able to reveal relationships that go beyond the obvious.

#### Useful magazines:

- Enviro Teach
- African Wildlife
- Africa-Environment & Wildlife
- Conserva
- Earth year
- Panorama &
- Daily Newspapers

between what they find and the items on the list. Use the answer sheet (see p. E28 ) to stimulate ideas.

- Let learners share some of the connections they discovered with the rest of the class.
- Ask the following questions: "Did this activity demonstrate any connections you had never thought of or known about before? Give examples."

#### **Indoor version:**

**Needed:** *Magazines, scissors, glue, poster paper, copies of "Creature Connections".*

- Collect and distribute nature and science magazines that learners can cut up (See list of magazines below).
- Tell learners to cut out or draw pictures that illustrate the items on the "Creature Connection" list. (*Keep track of which picture goes with which scavenger hunt item*)
- Then follow guidelines of outdoor hunt.

## Variations



### Create an artwork

Let each group select four or five of the items they collected. Label and describe each connection in one collage, poster or drawing. The display should show that some organisms are connected to more than one organism or habitat component and that most organisms are indirectly dependent on another.



### Writing idea

Let learners write a paragraph that describes one connection they observed during the hunt. Then let them write a second paragraph that speculates on what the effects may be if one of the connectors were to suddenly disappear.



### Humans and living organisms

Make lists of living organisms that humans need for:

- Survival
- Relaxation and sport
- Enhancing quality of life
- Scientific purposes or to learn from
- Delicacy - not important for survival
- Economic growth and development



## CREATURE CONNECTIONS

### Collection tips:

If you decide to have your students collect real examples of scavenger hunt items, be sure to do each of the following before starting:

☞ Instruct learners to collect dead leaves, nuts or other parts that do not kill or harm the plant. Encourage the students to draw sketches of the plants they want to record or to take small samples from common plants.

☞ Tell students not to collect bird nests. In many areas it is illegal to do so. But even if it is not illegal in your area, learners should avoid collecting them. Sometimes it is hard to distinguish an active nest from an inactive one - and even a nest no longer being used by its original "owners" may serve as a home for other organisms.

☞ Encourage learners to be gentle when turning over rocks and logs. If they find insects, centipedes, lizards, or other small animals, encourage students to observe closely, but leave the animals in their homes. (Collecting can be stressful for some animals. Plus, they can be very difficult to maintain in the classroom, even for a short period of time.)

☞ Have learners return rocks, logs, and plant matter to their original location.

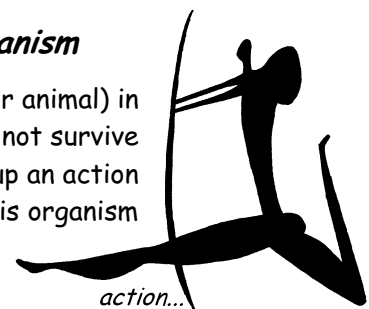
☞ Set boundaries and time limits so that learners do not scatter or get lost.

☞ Check for poisonous plants before sending learners into the area. If there are any poisonous plants, be sure learners can recognize them and know they are not to be collected.

1. A small animal that a bigger animal depends on in some way
2. a big animal that a smaller animal depends on in some way
3. a plant that grows on other plants
4. an introduced species that has caused problems for native species
5. a wild animal that can thrive in or around people's homes
6. an animal that eats dead things
7. an animal home that is in a plant
8. a) a plant that benefits humans in some way  
b) a plant that harms humans in some way
9. a) an animal that benefits humans because of the role it plays in its habitat  
b) an animal that harms humans in some way
10. an animal that looks like a plant
11. two species that are useful to each other in some way
12. an animal that spends its life in two different habitats
13. an animal that eats seeds or fruits and then spreads the seeds by passing them as waste
14. something that turns into soil
15. a plant that depends on animals in some way
16. a plant that is part of a food web
17. an animal that is part of a food web

### Saving an organism

Identify an organism (plant or animal) in your area that will probably not survive without human help. Draw up an action plan on how to save this organism



## Creature Connections - Answers

1. a small animal that a bigger animal depends on in some way (*Insects are food for many animals; krill are eaten by certain whales and other sea life.*)
2. a big animal that a smaller animal depends on in some way (*Fleas and ticks depend on bigger animals such as squirrels and antelope. Mosquitoes depend on humans and other warm-blooded animals. An oxpecker is a bird that gets its food by removing insects from the backs of rhinos.*)
3. a plant that grows on other plants (*orchids, moss, lichens*)
4. an introduced species that has caused problems for native species (*Hakea and Port Jackson which grow aggressively and crowds out native plants; starlings, which take nesting sites that bluebirds and other native species would otherwise use.*)
5. a wild animal that can thrive in or around people's homes (*house flies, house mice, gray squirrels*)
6. an animal that eats dead things (*wood beetles, springtails, termites, millipedes, crows, gulls, vultures*)
7. an animal home that is in or on a plant (*nests and dens in trees, cocoons attached to plant stems and leaves, insect galls*)
8. a) a plant that benefits humans in some way (*crops; trees [timber, shade trees, food, windbreaks]; medicinal plants such as certain herbs or plants from which pharmaceuticals are derived; plants that provide fibres*)  
b) a plant that harms humans in some way (*poison ivy, nightshade, stinging nettle*)
9. a) an animal that benefits humans because of the role it plays in its habitat (*bees, bats, butterflies, wasps, and moths pollinate crops; dragonflies and bats eat mosquitoes, earthworms aerate and mix the soil, and some snakes eat rodents that might otherwise eat crops or cause other damage*)  
b) an animal that harms humans in some way (*mosquitoes, tsetse fly*)
10. an animal that looks like a plant (*insects such as praying mantis or certain moths that mimic twigs, leaves, bark, and other plant parts*)
11. two species that are useful to each other in some way (*honey bees and the flowers they pollinate, clownfish and sea anemones, rhinos and oxpeckers, lichens (symbiotic relationship of fungi and algae).*)
12. an animal that spends its life in two different habitats (*certain migratory birds; amphibians and insects such as dragonflies that spend part of their life in water and part on land; fish that travel back and forth between freshwater and saltwater habitats*)
13. an animal that eats seeds or fruits and then spreads the seeds by passing them as waste (*birds such as thrushes and warblers; fruit bats and other animals*)
14. something that turns into soil (*rotting log, crumbling rock*)
15. a plant that depends on animals in some way (*any plant that is pollinated by animals or that has its seeds dispersed by animals*)
16. a plant that is part of a food web (*any plant, because all plants provide food for other organisms*)
17. an animal that is part of a food web (*any animal - including humans - because all animals must eat other animals, plants, or both*)

