

# HABITATS: INTERDEPENDENCE AND ADAPTATION.

## HABITATS: INTERDEPENDENCE AND ADAPTATION.

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## HABITATS

### Main Objectives:

1. To show an understanding of the relationships between living things in a habitat.
2. To construct food chains to represent the feeding relationships in a local habitat.
3. To realise that all living things in a habitat are perfectly adapted to live there, through the study of living things in their habitat.
4. To use branched keys to identify living things in a habitat.
5. To know, understand and be able to use scientific vocabulary related to the study of habitats.

## USEFUL WEBSITES:

[www.nationalgeographic.com/ngkids/0304](http://www.nationalgeographic.com/ngkids/0304)

On-line magazine, with lots of interesting activities that could be explored during ICT lessons.

[www.backyardwildlife.info/kidsnhabitats.htm](http://www.backyardwildlife.info/kidsnhabitats.htm)

Habitat related activities kids can do their own backyards or the school playground.

[www.thekidsgarden.co.uk/StimulatingKidsImaginationThroughGardening.html](http://www.thekidsgarden.co.uk/StimulatingKidsImaginationThroughGardening.html)

Gives ideas and instructions for schools and children to set up, maintain and protect a local habitat.

[www.bbc.co.uk/schools/ks2bitesize/science/living\\_things.shtml](http://www.bbc.co.uk/schools/ks2bitesize/science/living_things.shtml)

The BBC schools' website is a godsend for any busy teacher. It is aimed at children, and can be used in ICT classes, with an interactive whiteboard or digital projector, or for reinforcement

at home. This section looks specifically at living things. The first activity is on Food Chains.

[www.teachers.tv/video/12097](http://www.teachers.tv/video/12097)

Teachers TV is an excellent resource for your own Continuing Professional Development (CPD). It is UK Government sponsored and aimed at promoting excellent classroom practice. This video is for use with children. It would be useful to show this during the unit on Plants and / or at the beginning of this unit. It discusses how plants are adapted to their environments. Use the search engine: Science Tube.

**plant**

**animal**

**producer**

**consumer**

prey

predator



**food chain**

**arrow**

branched key

interdependent

**adapted**

**habitat**

**endangered**

**omnivore**


**herbivore**

**carnivore**


## Vocabulary Cards

<p><b>plant</b></p>	<p>n. any of a kingdom of mostly photosynthetic living things usually lacking the ability to move from place to place under their own power.</p> <p><b>"Plants are able to make their own food by photosynthesis."</b></p>
<p><b>animal</b></p>	<p>n. any of a kingdom of living things composed of many cells with capacity for active movement, in rapid response to stimulation.</p> <p><b>"Animals need to feed on other organisms for energy."</b></p>
<p><b>producer</b></p>	<p>n. the producer in a food chain is always a plant.</p> <p><b>"Plants are the producers of all the energy in a food chain."</b></p>

<p><b>consumer</b></p>	<p>n. an organism (usually an animal) that eats another organism for energy.</p> <p><b>"Human beings are consumers, we cannot produce our own food."</b></p>
<p><b>prey</b></p>	<p>n. an organism that is food for another organism.</p> <p><b>"The thrush is the prey of the kestrel."</b></p>
<p><b>predator</b></p>	<p>n. an organism that eats other organisms for energy.</p> <p><b>"The wolf is a predator. It hunts other animals for food."</b></p>

<p><b>food chain</b></p>	<p>n. a diagram used to show the feeding relationship in a local habitat</p>
<p><b>arrow</b></p> 	<p>n. the arrow means "eaten by" and shows the direction of the food chain.</p>
<p><b>branched key</b></p>	<p>n. this tool helps to identify organisms in a habitat using yes or no questions.</p>



<p style="text-align: center;"><b>interdependent</b></p>	<p><b>adj.</b> all animals and plants in a habitat are interdependent upon each other.</p> <p><b>"All living things are interdependent on each other."</b></p>
<p style="text-align: center;"><b>adapted</b></p> <div style="text-align: center;">  </div>	<p><b>adj.</b> all animals and plants in a habitat are perfectly suited to live there. a</p> <p><b>"A Fennec Fox is suited the desert habitat with its large ears to keep cool."</b></p>
<p style="text-align: center;"><b>habitat</b></p>	<p><b>n.</b> the place where animals and plants live interdependent upon each other and perfectly suited to live there.</p> <p><b>"Many organisms are only found in a specific habitat."</b></p>

**endangered**

**adj.** when a habitat or certain organisms living in it are under threat or extinction.

**"Every day, there are more species added to the endangered list."**

## **Glossary**

**adapted:** (v.) all animals and plants in a habitat are perfectly suited to live there e.g. a Fennec Fox is suited the desert habitat with its large ears to keep cool

**animal (n.)** any of a kingdom of living things composed of many cells with capacity for active movement, in rapid response to stimulation

**arrow (n.)** means "is eaten by" in a food chain and shows the direction of the food chain.

**branched key (n.)** this tool is used to identify organisms within a local habitat using yes or no questions.


**carnivore (n.)** an animal that eats meat e.g. Lions and tigers are carnivores.

**Consumer (n.)** an organism (usually an animal) that eats another organism as food for energy

**Endangered (v.)** when a habitat or certain organisms living in it are under threat of extinction. e.g. the polar bear has come under

threat of extinction because of retreating ice fields.

**food chain (n.)** a diagram used to show the feeding relationships in a local habitat. It always starts with a plant, the producer of the all the energy in the chain, which is passed on through subsequent consumers.

Oak leaf  caterpillar  thrush  kestrel

**habitat (n.)** the place where animals and plants live interdependent upon each other and perfectly suited to live there. A pond is a perfect habitat for a pond skater. Its body is perfectly adapted to live and feed there.

**herbivore (n.)** an animal that only eats plant material e.g. Cows are herbivores.

**interdependent (n.)** all animals and plants in a habitat are interdependent on each other.

Oak leaf  caterpillar  thrush  kestrel

In this food chain, the thrush is dependent upon the caterpillar for food. If there were a shortage of caterpillars, there would not be enough food for the next generation of thrushes, this in turn would affect the kestrel population.

**omnivore (n.)** an animal that can eat both meat and plants e.g. Pigs, humans and chimps are all omnivores.

**predator (n.)** An animal that feeds on other organisms is a predator e.g. Caterpillars are predators as much as lions are because they both feed on other living things.

**prey (n.)** an organism that is hunted and killed for food by another organism e.g. The thrush is prey for the kestrel.

What is a  
habitat?

What do we mean  
when we say that  
all living things are  
interdependent?

What do we mean  
when we say that all  
living things are  
adapted to live in  
their habitat?



What is a food  
chain?

In this food chain,  
which organism is  
the producer?

In this food chain,  
which organism are  
the consumers?

In this food chain,  
which organisms  
are the predators?

Which ones are the  
prey?

How many  
different types of  
habitat can you  
name?

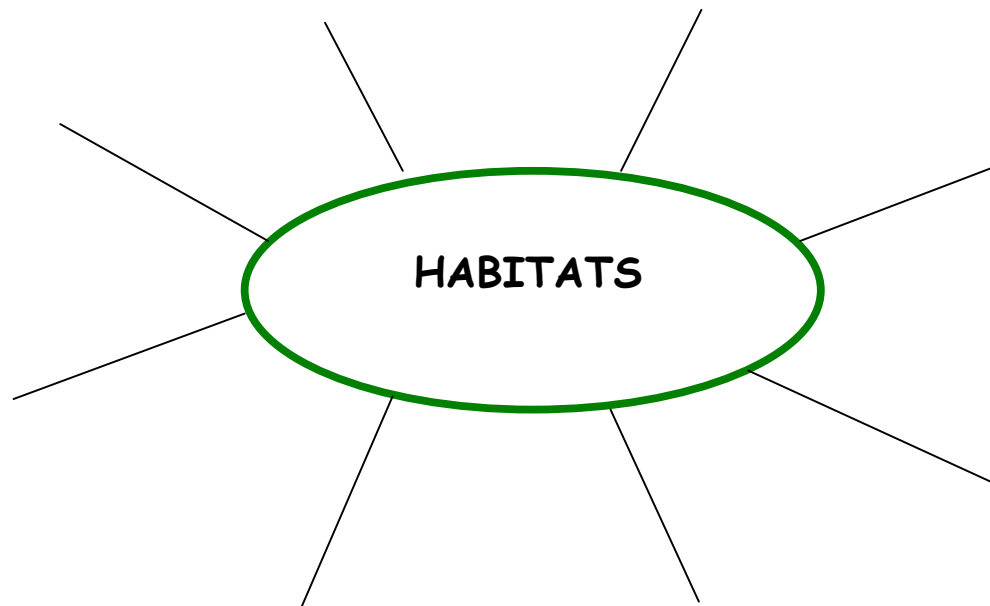
In what way can a  
habitat become  
endangered?

How can we protect  
habitats and the  
organisms that live  
in them?



**What do you already know about habitats?**

**With a partner, fill in the brainstorm with as many things you can remember about habitats.**



Hands on Activity 1  
Teachers' Notes  
Adaptation

**Main Objective:**

1. To realise that all living things in a habitat are perfectly adapted to live, through the study of living things in their environment.

**Introduction:**

Share the Learning Objective and key question card 3 with the children. This activity is best done in pairs or small groups with a plenary to gather ideas. Give out the pupil activity sheet.

Together as a class, look at picture 1. It is a photo of a king penguin. Ask the following questions to the class as an example of how they should complete the activity:

*Q. Can this bird fly?*

*Q. Where does it hunt for its food?*

*Q. How has its body adapted so that it can hunt in water?*

*Q. Look at its beak. How is its shape useful for catching fish?*

*Q. How have its wings changed? Why?*

*Q. Look at its body shape. How does this help it in the water?*

*Q. Would this bird survive well in a jungle?*

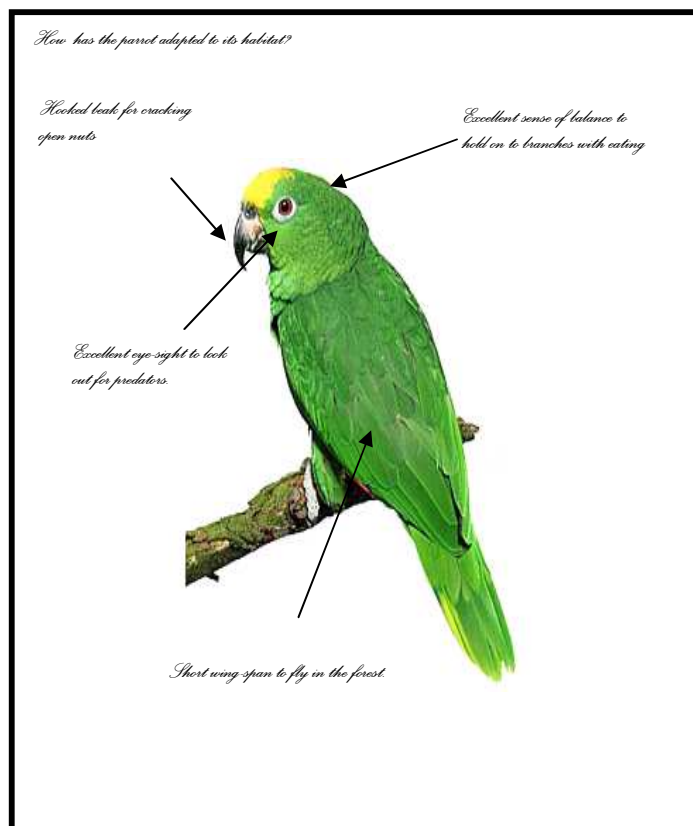
## Development

This activity focuses on birds. Using the photo prompt, the children should be encouraged to ask questions, like in the introduction, about how each bird's body is perfectly adapted to live where it does. The children should be encouraged to make notes or annotations about each bird, focusing on its beak shape, feet and legs, body shape and discuss what type of habitat each bird would live in, what type of food does each bird eat and where can it find it?

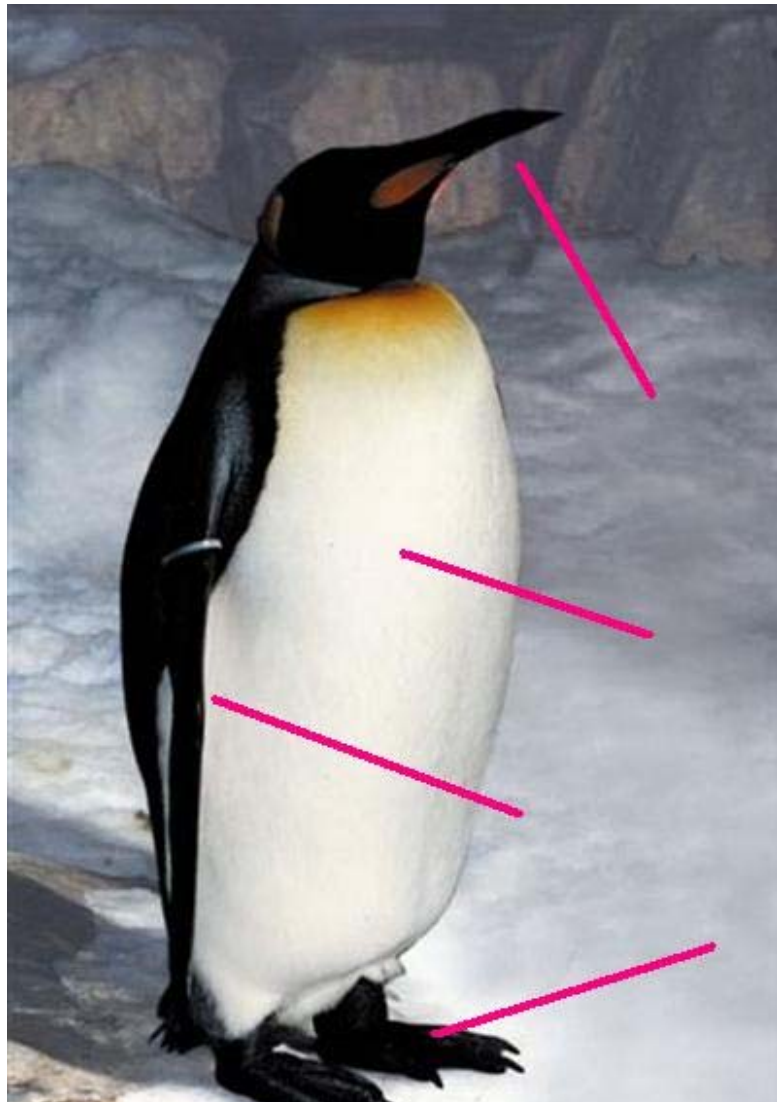
## Plenary

Gather the children's ideas about each bird. As a homework activity, the children could choose one bird and create a poster detailing how their chosen bird is adapted to its habitat.

E.g.



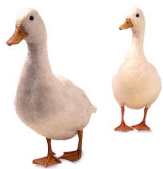
How has the King Penguin adapted to its environment?



**King Penguin**

Hands on Activity 1  
Pupil Record Sheet  
Adaptation

Write a few sentences about how each bird is suited to its habitat:



Hand's on Activity 2  
Teachers' Notes  
Using Branched Keys

**Main Objective:**

1. To use branched keys to identify living things in a habitat.

**Introduction:**

Display the learning objective and the key question on the board and share with the children.

Project the branched key on the board. Use the small organism cards and picking one randomly, walk the children through the branched key asking and answer each question with the children. The children should decide which question to ask next until the organism has identified.

**Development:**

In pairs or small groups the children should use their own branched key and cards to identify each organism, writing its name on their record sheet.

**Plenary:**

Gather the answers from each group until all the organisms have been correctly identified.

Hands on Activity 3  
Interdependence  
Food Chains and Food Webs  
Teachers' Notes

**Main Objectives:**

To show an understanding of the relationships between living things in a habitat;

To construct food chains and food webs to represent the feeding relationships in a local habitat.

**Introduction:**

Ask the children what they remember from previous work about the feeding of animals and plants and ask them to suggest other reasons why animals need plants and why plants might need animals e.g. for food, for shelter, shade, provide fertilizer, help disperse seeds.

Inform the children that we are going to look at the feeding relationships between living things. Use the living things fact sheet to help the children construct a food chain (emphasise that the arrow means "eaten by"). Demonstrate how to use the fact sheet to do this. Children now construct their own food chain using the jungle habitat fact sheet. Label each producer, consumer, predator and prey.

**Development**

Begin by gathering some of the answers the children have found and writing them on the board. Explain that in a habitat, animals tend to eat more than one type of food. Using the original food chain, elicit from the children what other living things each organism eats. Begin to build up the food web.

These websites have some great ideas for environmental games and are useful for getting the point across that we as humans are stewards of our planet, its habitats and its species:

[www.environment-agency.gov.uk/fun/](http://www.environment-agency.gov.uk/fun/)

[www.kew.org/education/wildlifezone/4\\_env\\_games.pdf](http://www.kew.org/education/wildlifezone/4_env_games.pdf)

### **Plenary**

Recap what the children have learned by presenting them with a food web from a jungle habitat. Can they identify any food chains? What would happen if the number of beetles decreased? What would happen if the number of forest eagles increased? It is important that the children see the delicate relationship that exists in all habitats. 6 key question card" a "key question card 3". Quitar "There is a poster version attached". Buscar una foto más clara del pinguino.

Hands on activity 2 - introduction parrafo 2 "Place the poster size branched key on the board" a "Project the brached key on the board".

Hands on activity 3 - introduction - cambiar "woodland" a "jungle".



Thousands of endangered orangutans are under threat in South East Asia because the tropical rainforests where they live are being cut down illegally.

Experts say that if nothing is done to stop people destroying the forests in Sumatra and Borneo, most of them will have disappeared within 15 years.

People are chopping down the trees to make money from selling the wood, even though they're not supposed to do it.

Other wildlife including rhinos, tigers and elephants would also be affected.

In a report for the United Nations Environment Programme, experts said the current situation was a conservation emergency.

In the past four years, the number of orangutans in the jungles of Borneo and Sumatra is thought to have halved from 60,000 to just 30,000.

For many of the creatures, the forests are their last remaining habitat.

Article from "Newsround", February 07

## Comprehension Questions

Name:

Date:

Answer the following questions about the text:

1. What animal is the text talking about?

---

2. Describe the habitat that is under threat in the text?

---

3. On which islands do orangutans live?

---

4. What other wildlife are in danger?

---

5. Which organisation was the report written for?

---

6. What does it mean that "the current situation was a conservation emergency"?

---

7. The number of orangutans has halved from 60,000 to 30,000. Over how many years has this happened?

---

8. Copy a phrase from the passage that tells us that people are chopping down trees illegally.

---

9. What word is used instead of animals?

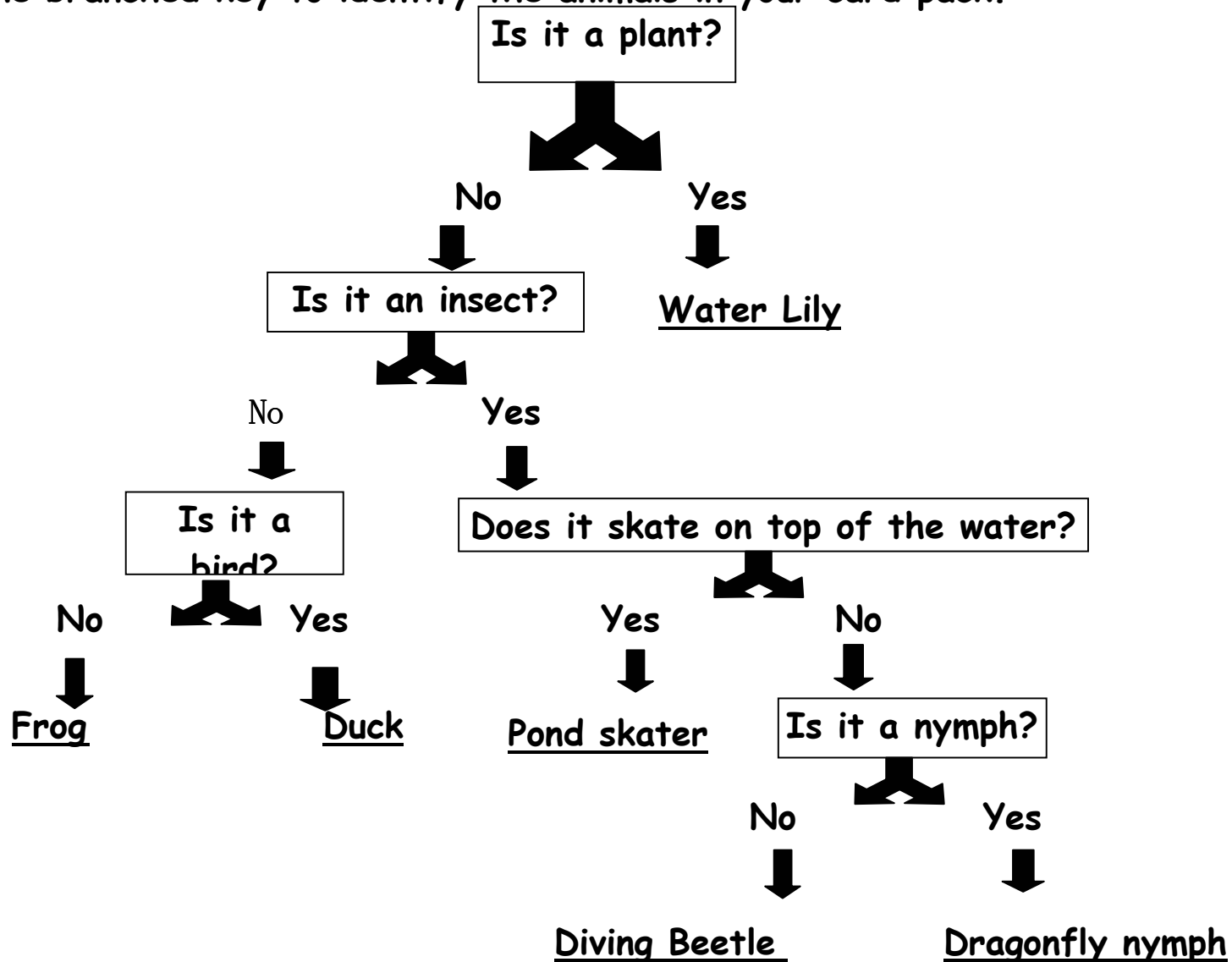
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10. In how many years do experts say the forests of Borneo and Sumatra will disappear?

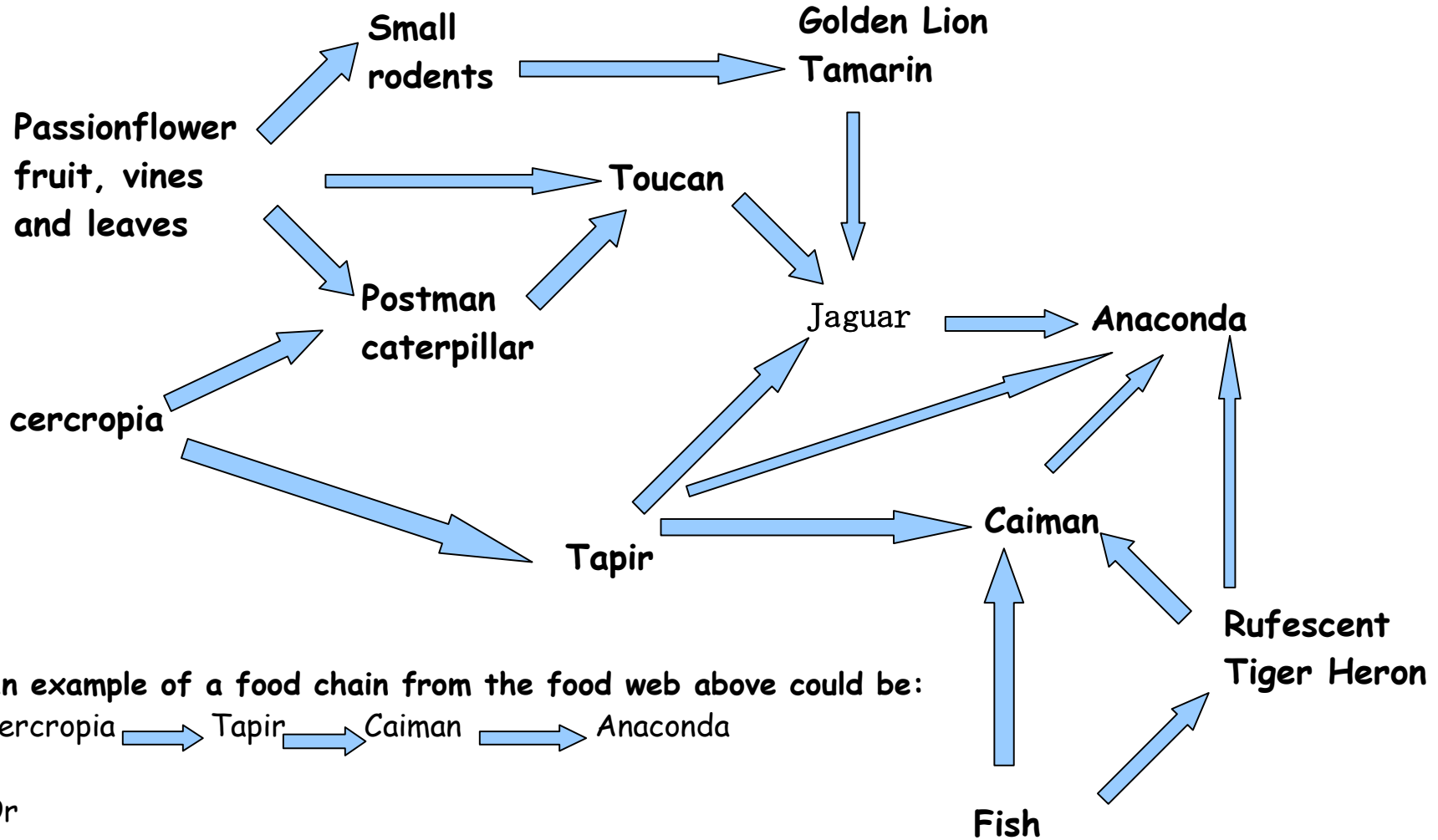
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## Branched key for a Pond Habitat

Use the branched key to identify the animals in your card pack.



# Jungle Habitat Food Web



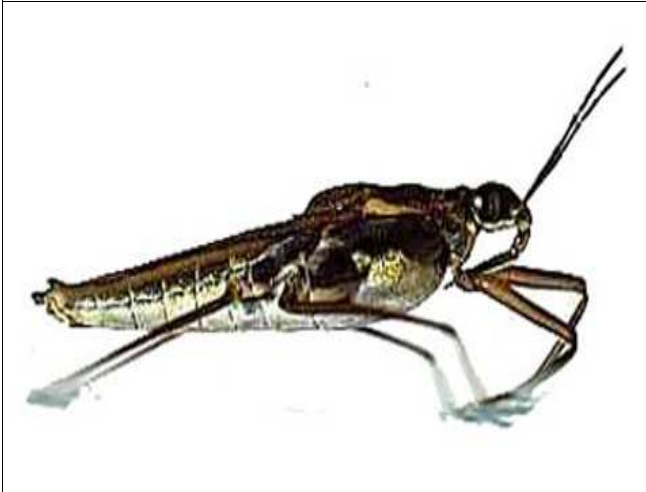
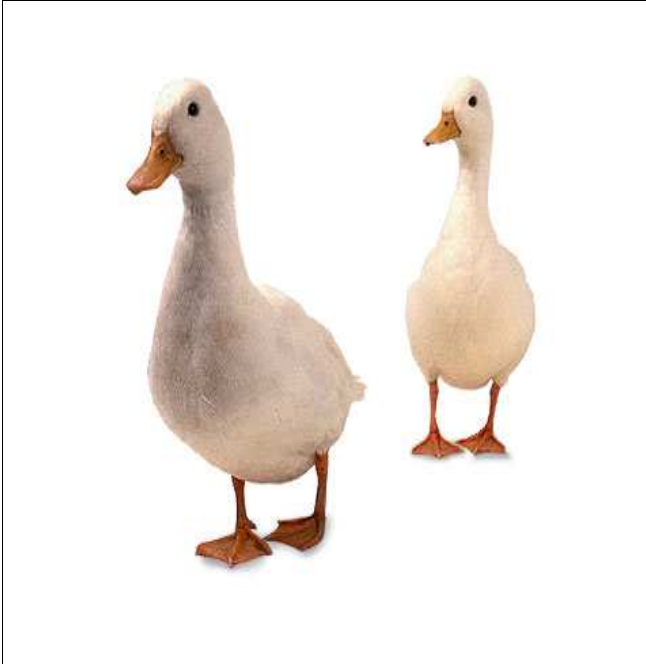
An example of a food chain from the food web above could be:

Cercropia → Tapir → Caiman → Anaconda

Or

Passionsflower → Small rodents → Golden Lion Tamarin → Jaguar

Prompt cards for Branched Keys activity (pupil).



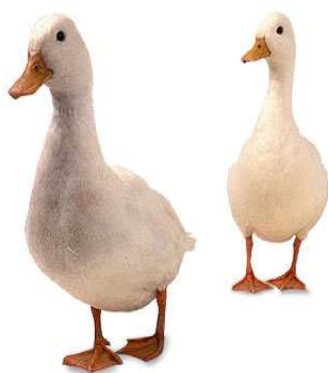
**Prompt cards for Branched Keys activity (teacher)**



FROG



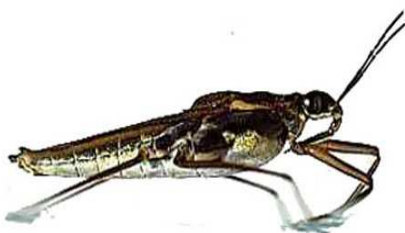
DIVING BEETLE



DUCK



DRAGONFLY NYMPH



PONDSKATER



WATER LILY

## Jungle Habitat Fact File



**Name:** Flying Tree Snake  
**Habitat:** Jungle  
**Eats:** small vertebrates - frogs, lizards, bats  
**Eaten by:** primates, large birds.



**Name:** Yellow Fronted Amazon Parrot  
**Habitat:** Jungle  
**Eats:** seed, shoots, nuts, berries.  
**Eaten by:** Larger bird and reptiles



**Name:** Postman Caterpillar  
**Habitat:** Jungle  
**Eats:** Passionflower vines and leaves  
**Eaten by:** Poisonous caterpillar, no predators



**Name:** Golden Lion Tamarin  
**Habitat:** Jungle  
**Eats:** fruits, insects and small lizards.  
**Eaten by:** large hawks and other raptors, large snakes



**Name:** Giant centipede  
**Habitat:** Jungle  
**Eats:** small insects, bats, birds, lizards  
**Eaten by:** Large birds, lizards and primates



**Name:** Toucan  
**Habitat:** Jungle  
**Eats:** mostly fruit, but known to eat insects, small rodents and lizards.  
**Eaten by:** snakes and lizards raid their nests, birds of prey and large cats



**Name:** Jaguar  
**Habitat.** Jungles  
**Eats.** small deer, tapir, reptiles, rodents  
**Eaten by:** Top carnivore



**Name:** Tapir  
**Habitat:** Jungle  
**Eats.** Fruits, berries, shoots and leaves  
**Eaten by,** Jaguars, crocodiles, anacondas



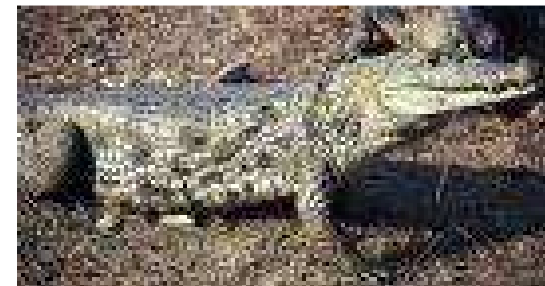
**Name:** Cercropia  
**Habitat:** jungle  
**Eats:** Makes food by photosynthesis  
**Eaten by:** Insects, caterpillars, tapir. Protected by vicious ants.



**Name:** Anaconda  
**Habitat:** Jungle swamps and rivers  
**Eats:** Tapir, small caimans, deer, even on occasion jaguars  
**Eaten by:** spectacled caiman



**Name:** Rufescent Tiger Heron  
**Habitat:** Jungle swamps and rivers  
**Eats :** Fish, reptiles and amphibians  
**Eaten by.** Anaconda, caiman.



**Name:** Spectacled Caiman  
**Habitat:** Jungle swamps and rivers  
**Eats:** Fish, reptiles, amphibians, water birds, tapir.  
**Eaten by:** Anacondas



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17. The number of orangutans has halved from 60,000 to 30,000. Over how many years has this happened?

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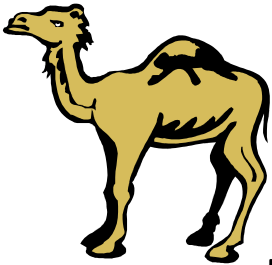
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20. In how many years do experts say the forests of Borneo and Sumatra will disappear?

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# HABITATS

## ADAPTATION & INTERDEPENDENCE



Wherever animals and plants live they have to \_\_\_\_\_ to their \_\_\_\_\_. This means \_\_\_\_\_ that they \_\_\_\_\_ over time to make themselves fit in with the \_\_\_\_\_ in the place where they live. Those who live in the \_\_\_\_\_, where it is very hot and dry and



those who live in the \_\_\_\_\_, where it is very cold and bleak, are very well adapted to their harsh environments. If they were not they would be unable to survive.

An animal that is the \_\_\_\_\_ of another will hide from its \_\_\_\_\_. This helps it to survive. The fur colour of some animals is adapted to its habitat. This is called \_\_\_\_\_.

Animals and plants living in a \_\_\_\_\_ need each other. We call this \_\_\_\_\_. We show this relationship using a special diagram called a \_\_\_\_\_. At the beginning of each food chain is a plant. Plants can produce their own food by \_\_\_\_\_. Plants are called the \_\_\_\_\_ in a food chain. Then come the animals. Animals are called consumers in a food chain. Some of the animals only eat plants, they are called \_\_\_\_\_. Others may eat both plants and animals; these are called omnivores, while others eat only meat; these are called \_\_\_\_\_.

Habitats are very delicate places and we need to take care to protect them because when one organism comes under threat, the balance is lost.

Photosynthesis, conditions, camouflage, herbivores, interdependence, prey, Arctic, predator, change, food chain, producers, adapt, environment, desert, habitat, producers, o

## No place like home

Look at the five habitats in the table below. Write the name of each plant and animal in the correct column.

sea/ deep water	forest/ wood	garden	urban (town)	desert

snail	flower	seaweed	camel	ladybird	
squirrel	dandelion	woodlouse	owl	deer	
pigeon	rat	oak tree	lobster	shark	worm