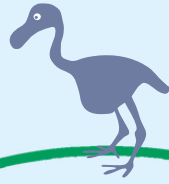


museum

National Museum of Ireland

Ard-Mhúsaem na hÉireann

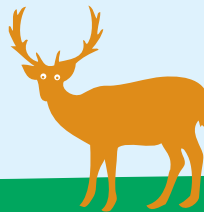


EVERYTHING

COUNTS!

IRISH
BIODIVERSITY

ACTIVITY
SHEET 2



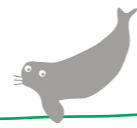
Biological diversity or biodiversity refers to the range of all life forms (or species) on Earth- plants, animals and microorganisms (e.g. bacteria). It's not just concerned with the numbers of species, but diversity within the species and their interdependence (how they need each other to survive).

In Ireland we are lucky to have a rich biodiversity, but if we are not careful with our environment, this might change. Where better to explore Irish Biodiversity than on the ground floor of the Natural History Museum, also known as the Irish Room.

This biodiversity booklet belongs to: _____



THE IRISH ROOM



All the animals in this room were found in Ireland- some are native, some have been introduced in recent years and one or two are oddities!

FACT BOX: We think that there is anywhere between 3 to 10 million different species in the world- and some scientists spend their whole life studying one species! A scientist who identifies and names new species is called a taxonomist (tax-on-o-mist).

When we talk about biodiversity, we mean all living things on earth- trees, flowers, vegetables, mushrooms, insects, snails, worms, mice, birds, fish, frogs, mammals, dogs, cats, hamsters, humans- everything! We are all part of nature and our actions can help or harm the environment around us.

CAN YOU THINK OF THREE THINGS THAT HUMANS DO THAT HARM THE ENVIRONMENT? ONE IS ALREADY DONE FOR YOU:

1. LITTERING

- 2. _____
- 3. _____
- 4. _____



ANIMAL FAMILIES



Everything in the Natural History Museum belongs to **The Animal Kingdom**.

As you walk around the Irish Room you might notice that if you choose any case, all the animals in it are similar. The animals in the museum are arranged into taxonomic (tax-on-om-ik) groups known as **Families**. Museums have arranged animals like this for over 150 years!

When a zoologist talks about an animal family they don't mean mum, dad, brothers and sisters - they mean a group of different types of animals that share common characteristics called *taxonomic traits*.

FACT BOX: The study of animals is known as Zoology and a person who studies animals is a Zoologist.



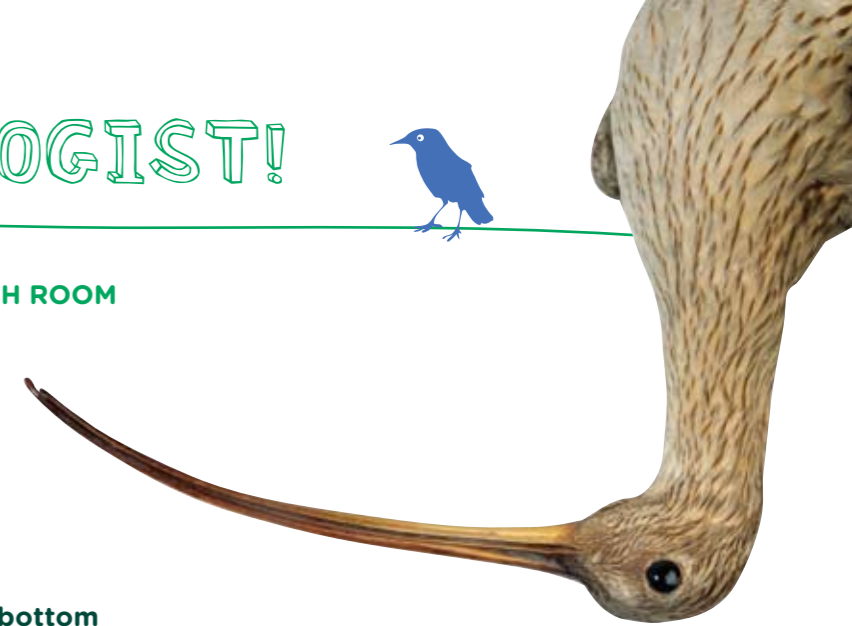
BECOME A ZOOLOGIST!



GO TO THE BIRDS OF PREY CASE IN THE IRISH ROOM (OPPOSITE THE DEER)

In this case you'll see different types of birds of prey- eagles, falcons, owls and an osprey. All these birds are in this case because they have similar taxonomic traits i.e. they all have:

- **Forward facing eyes**
- **Sharp beaks where the top overhangs the bottom**
- **Large talons (claws) on their feet**



Now that you've found out a bit about taxonomy, have a go at being a zoologist yourself! An easy case to start with is a bird family known as the **Family Anatidae** (a-nat-e-day), which has as its members all the different types of **ducks, geese, and swans**.

MOVE TO THE CENTRE OF THE IRISH ROOM AND FIND THE CASE WITH THE DUCKS, GEESE AND SWANS IN THE MIDDLE OF THE GALLERY.

Species from the Family Anatidae, also known as **Anatids** (a-nat-id-s) are found on every continent except Antarctica, and we have several species that are native to Ireland.

BIRD 1:

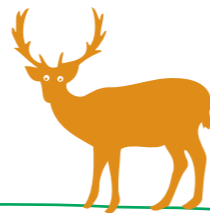
BIRD 2:

BOTH THESE BIRDS HAVE:

WHAT ARE THESE FEATURES USED FOR?

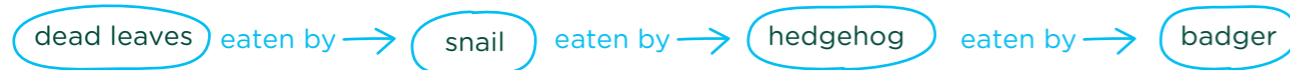


BIODIVERSITY- EVERYTHING IS CONNECTED!



The most important thing to understand with biodiversity is that if we lose one species, then other species may disappear as well. Zoologists know this has happened before by studying **food chains**.

A food chain is a chain showing who eats who in a habitat. A simple food chain for a woodland habitat would be:



If for some reason all the snails were gone from the woodland, then the hedgehogs would have less food and their numbers would drop. If that happened the badgers would have less food and their numbers would drop too. This is why biodiversity is important and why zoologists say that in nature **everything is connected!**

HAVE A LOOK AROUND THE IRISH ROOM NOW- YOU MIGHT FIND PLENTY OF ANIMALS THAT EAT EACH OTHER IN THE WILD! CHOOSE A CREEPY CRAWLY TO BEGIN, AND TRY TO MAKE YOUR OWN FOOD CHAIN BELOW.

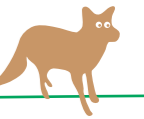


(HINT: JUST BECAUSE THE ANIMAL IS BIG, DOESN'T MEAN IT EATS OTHER ANIMALS! THE TWO BIGGEST ANIMALS IN THE IRISH ROOM ARE THE DEER AND THE BASKING SHARK. HOWEVER, DEER EAT GRASS AND BASKING SHARKS EAT PLANKTON!)

FACT BOX: When it comes to creepy crawlies, we're surrounded! There are more types of beetle than any other type of animal, and all the ants on Earth weigh more than all the people on Earth! This makes insects and all other invertebrates the central link in all food chains.

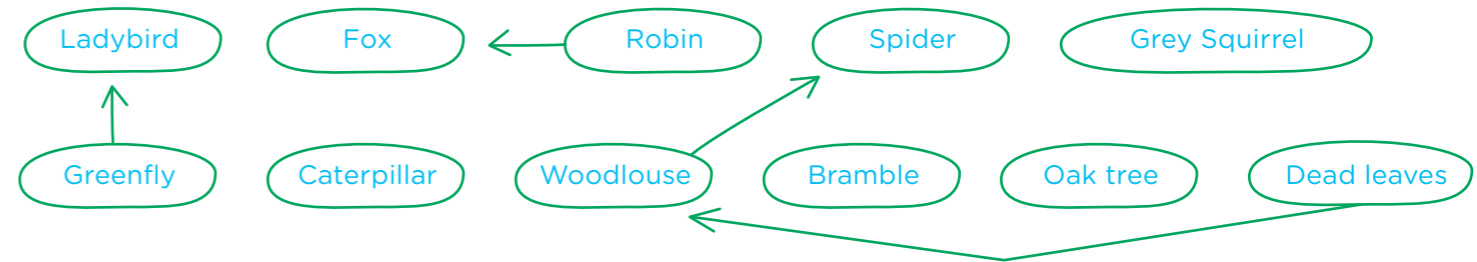


HABITATS AND INVASIVE SPECIES



In a habitat all the food chains link together to form a **foodweb**- these can become so complicated that zoologists use computer programmes to draw them out.

TRY WORK OUT THE RELATIONSHIP BETWEEN THE ANIMALS IN THE FOODWEB BELOW- REMEMBER THEY ARE ALL CONNECTED IN SOME WAY. SOME LINKS ARE ALREADY MADE FOR YOU:



If a more competitive species is introduced into a foodweb, it can out compete and exclude the native species from the habitat- the introduced species is known as an **invasive species**. In extreme cases this can lead to the extinction of a native animal or plant.

One group of animals that has invaded nearly every habitat is the rat. They are opportunistic feeders, meaning they can thrive on almost any available nutrient source, so can adapt to new habitats easily and out-compete others. They are also a threat to birds that nest on the ground as they will eat their eggs- rats have been partly blamed for the rapid extinction on several birds including the Dodo.

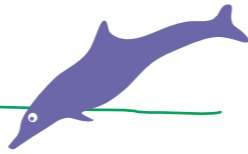
FACT BOX: Rat populations are difficult to manage as one pair of rats can produce up to 15,000 offspring every year!

HAVE A LOOK AT OUR RATS (ALONG THE WALL WITH THE BATS AND SQUIRRELS), AND READ THE STORY ABOUT THE MUSK RAT. IS THIS SPECIES FOUND IN IRELAND?

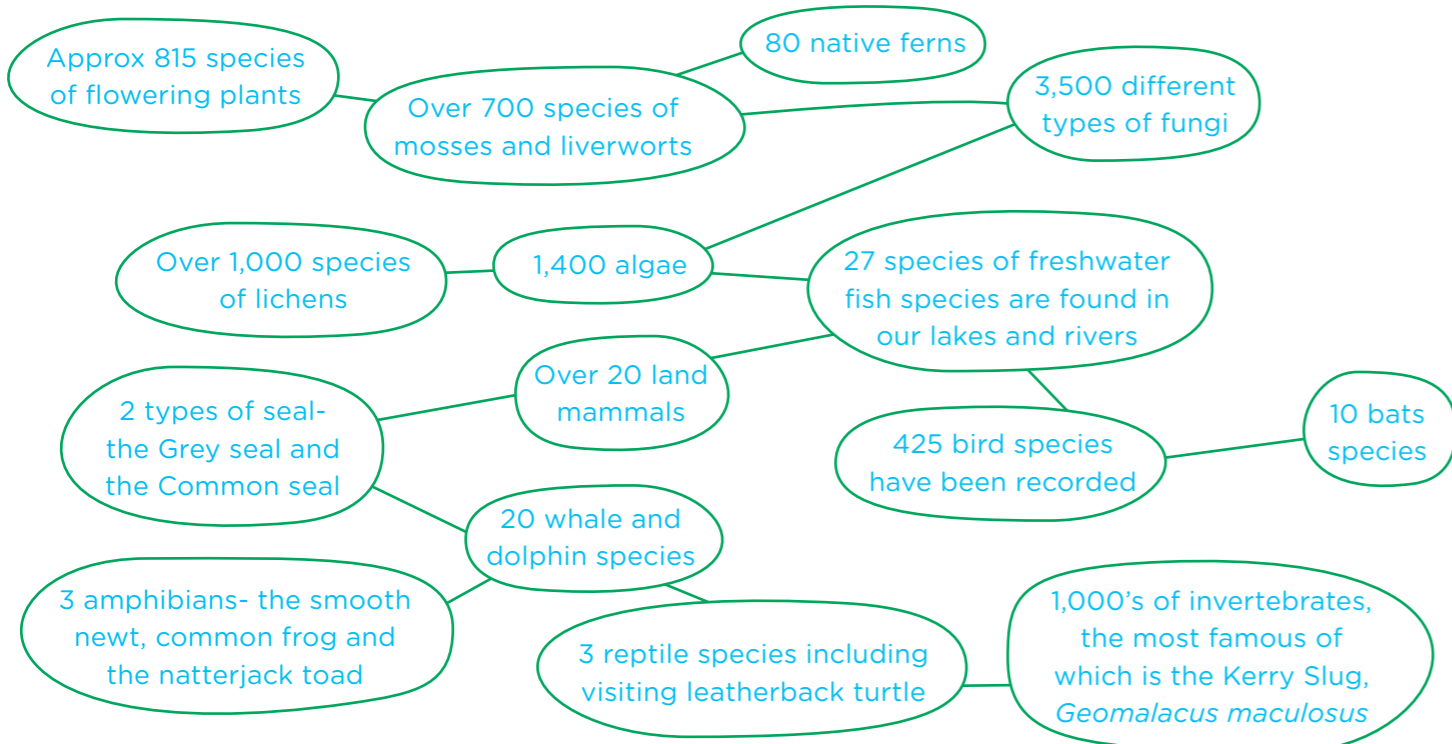
WHY IS THIS ANIMAL IN THE MUSEUM?



PROTECTING OUR SPECIES



It is important that we try to protect our species in Ireland.
According to the National Parks and Wildlife Service, our island is home to:



And we are ALL CONNECTED!

In the past our island has also been home to: The Giant Irish Deer, Lemming, Arctic Fox, Reindeer, Spotted Hyena, Brown Bear, Grey Wolf and the Woolly Mammoth

HAVE A LOOK AROUND THE ROOM NOW AT THE ANIMAL YOU HAVEN'T SEEN YET. ONCE YOU'VE DONE THIS ANSWER THE QUESTIONS BELOW:

WHICH OF THE ANIMALS IN THE IRISH ROOM DO YOU RECKON IS THE STRANGEST? EXPLAIN YOUR ANSWER

DOES THIS SPECIES STILL LIVE IN IRELAND? IF NOT, WHY NOT?

IF YES, IN WHAT KIND OF HABITAT?

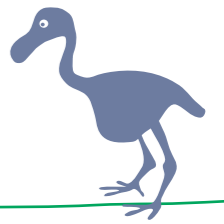
WHY DO YOU FIND THIS ANIMAL STRANGE? GIVE 2 REASONS.

1: _____

2: _____



REINTRODUCTION OF SPECIES



In the last 200 years several species, such as the white tailed eagle and grey wolf, have become extinct in Ireland due to hunting. Luckily these species are not globally extinct and can be re-introduced back into Ireland. One example of this is the Golden Eagle- there are two in the Irish Room in the Bird of Prey case beside the Giant Irish Deer.

The Golden Eagle Project is over 20 years old and the aim is to re-introduce this bird back to Ireland. 5/6 week old eagle chicks (called **eaglets**) were taken from Scotland and transferred to Glenveigh National Park in Co. Donegal. At this age the eaglet can feed themselves and doesn't need its parents to keep warm.

It is important to use chicks as birds of prey try to breed close to their own natal nest (the nest they hatched in).

In the past few years these chicks have grown up and had their own chicks. However not everyone is happy that this large predator has been re-introduced into Ireland.

FACT BOX: Biodiversity loss in Ireland is caused mainly by habitat destruction, water pollution, invasive alien species, land use changes and climate change.

DO YOU THINK IT'S GOOD TO BRING SPECIES BACK INTO IRELAND? EXPLAIN YOUR ANSWER.

(HINT: GOLDEN EAGLES COMPETE WITH OTHER PREDATORS SUCH AS CROWS AND FOXES BUT ALSO PREY UPON NEW BORN LAMBS)

IMAGINE YOU ARE A SHEEP FARMER IN DONEGAL. WRITE A LETTER TO THE GOLDEN EAGLE PROJECT ORGANISERS OUTLINING YOUR CONCERNS ABOUT THE REINTRODUCTION OF EAGLES INTO YOUR AREA.



WELL DONE



You have finished our activity sheet Everything Counts!

**REMEMBER: BIODIVERSITY IS IMPORTANT TO OUR EVERYDAY LIVES
AND ONCE WE LOSE A SPECIES WE CAN NEVER GET IT BACK!**

Every day you can do simple things to help protect the environment.
Here are a few simple tips to help nature and the environment:

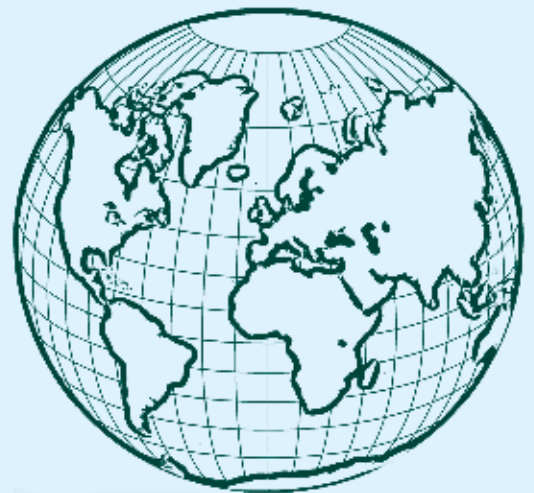
- **Always reuse or recycle your rubbish- and NEVER litter!**
- **Start a compost heap in the garden for all garden cuttings**
- **Never leave the lights, TV or anything electrical on when you're not using them**
- **Don't leave the tap running when you brush your teeth**
- **Cycle or walk whenever you can**
- **Plant a tree**

EVERY LITTLE THING YOU

CAN DO HELPS BECAUSE

EVERYTHING

COUNTS



If you enjoyed this, try our range of other worksheets in the National Museum of Ireland, Kildare St. and Collins Barracks.

DO YOU WANT TO KNOW MORE?

For more information on exhibitions and education programmes, contact the Education & Outreach Department of the National Museum of Ireland:

Tel: 01-677 7444

Fax: 01 661 9199

e-mail: bookingscb@museum.ie

© 2010 Education & Outreach Dept,
National Museum of Ireland- Natural History, Dublin.

museum
National Museum of Ireland
Ard-Mhúsaem na hÉireann



The NMI has been awarded a grant to develop this activity sheet by the Department of Environment, Heritage and Local Government on behalf of IYB 2010.