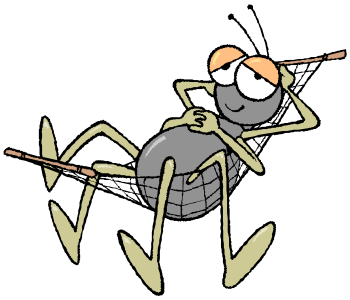
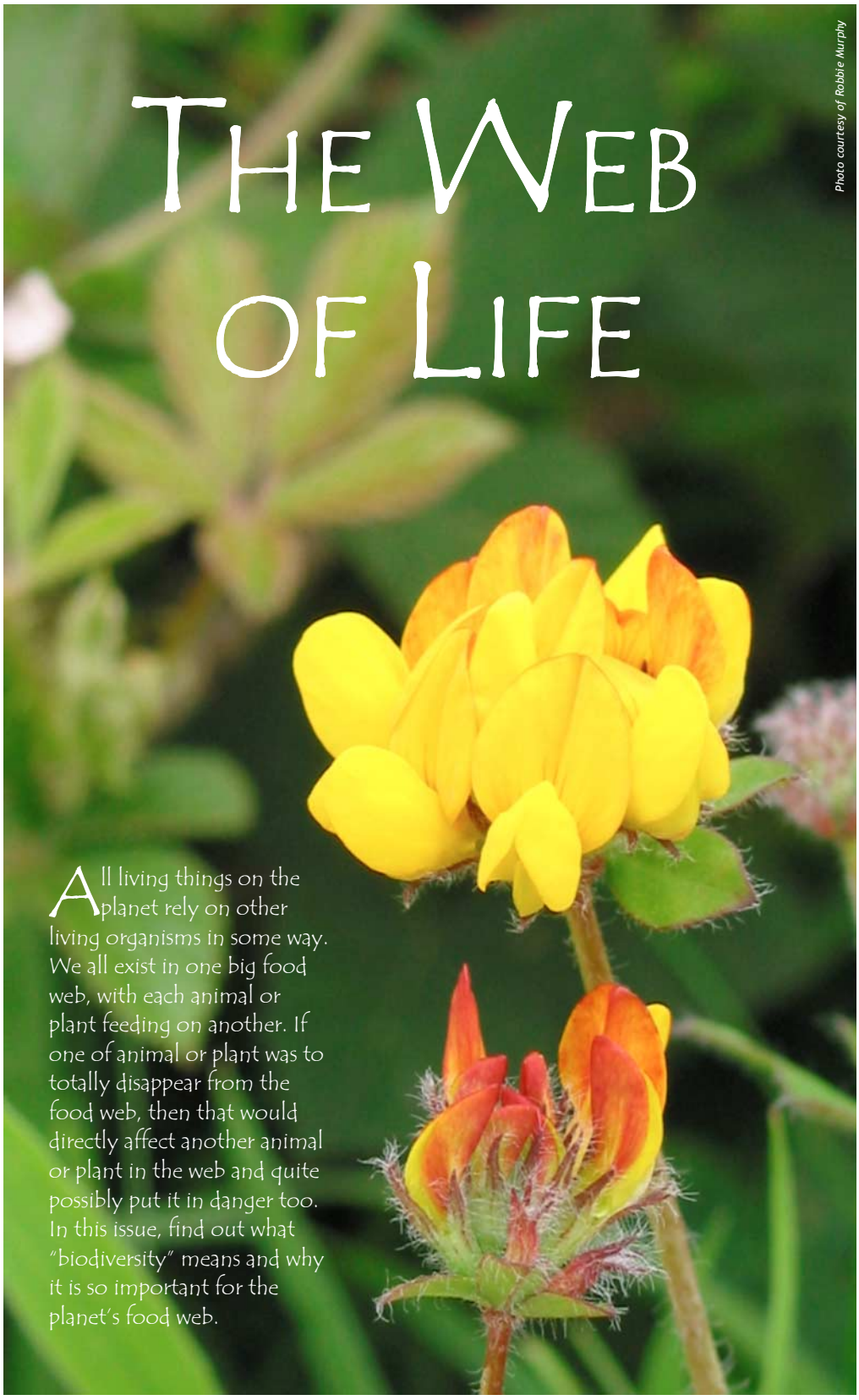


Nature's Web

Issue No. 18 Summer 2010

Inside This Issue...



The Web of Life

Photo courtesy of Robbie Murphy

All living things on the planet rely on other living organisms in some way. We all exist in one big food web, with each animal or plant feeding on another. If one of animal or plant was to totally disappear from the food web, then that would directly affect another animal or plant in the web and quite possibly put it in danger too. In this issue, find out what "biodiversity" means and why it is so important for the planet's food web.

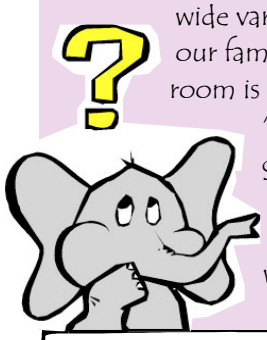
Editor's Page

VARIETY
is *the Spice of Life*

Photo courtesy of Robbie Murphy

This photograph shows a huge variety of plants and flowers in a meadow.

Big words can be very confusing. Even though they might explain or describe a simple thing or idea, they can baffle us and make articles or stories hard to understand. One word that I have always found tricky is "biodiversity". It is a word that is in the news a lot these days, but what does it mean? I looked it up and found that it is actually a combination of two words, "biological" (relating to biology or life and living things) and "diversity" (variety). It is a word used to describe the huge number and wide variety of animals and plants on the planet. If we look around us, at our family at home or in the classroom, each and every person in the room is different in some way. The differences can be described as "biodiversity". Biodiversity is all around us. Just look in your garden and you will see many, and different, plants and animals living there. "Biodiversity" might be a little tricky to understand straightaway, but once you do it explains so much in just one word. To find out a little more about biodiversity, go to page 14.



SMOKED SEAFOOD SALAD

Photo courtesy of www.bim.ie

What you need:

- 110g/4ozs smoked salmon - cut in strips *
- 110g/4ozs smoked trout - cut in strips*
- 110g/4ozs flavoured smoked mackerel - cut in strips*
- Selection of lettuce leaves
- Fresh fruits - to include grapes, nectarines and melon
- Olives
- Chopped chives

*You can substitute cooked flaked cod, rock salmon, trout or salmon.

DRESSING

- 3 tablespoons olive oil
- 1 tablespoon white wine vinegar
- 1 tablespoon lime juice
- 1 tablespoon chopped chives
- Salt and Pepper

What to do:

- Combine lettuces, chopped fruits, olives and fish in a large bowl.
- Mix dressing ingredients, pour over salad and toss gently.
- Sprinkle with chopped chives and serve with crusty bread.

Serves 4

Brought to you by BIM. For more fish recipes visit www.bim.ie

Welcome to the Summer Edition of Nature's Web!

Dear Reader,

Welcome everyone to the summer issue of Nature's Web. This issue we look at why it is important to protect the huge variety of animals and plants on our planet. John Joyce tells us about Crustacea, animals that are tough on the outside but soft in the inside! We find out what Caroline Plant gets up to with her work at the Office of Environmental Assessment. We look at sea urchins and puffins, as well as the rhinoceros, an animal you won't find in your backyard! Check out nature news from around the world on page 11 and enjoy a giggle with the jokes on page 13.
We would love to hear your views and comments and suggestions for future articles. Have a good read!

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Michael Ludwig

The Atlantic Puffin

The Puffin

Latin: *Fratercula arctica* **Irish:** Puifín

It would be hard to mistake the puffin for any other bird. It has a black and white body, large pale cheeks and a brightly coloured parrot-like bill. In summer, during the breeding season, the adult's bill is larger but in winter, it is smaller and duller. Puffins spend most of their lives out at sea, only coming to land during the breeding season, which is from April to early August. They are good swimmers and dive frequently for fish, which is their main food.

Puffins prefers to nest in colonies on offshore islands so that it can avoid mammal predators. They make use of rabbit burrows (sometimes evicting the rabbits) and also nest in cracks on steep cliffs and on broken rock fragments at the foot of cliffs. While nesting, puffin makes groaning calls.

Puffins in Ireland

In Ireland, puffins are seen mainly on the west coast and in a few place on the east coast. Locations include Great Saltee (Co. Wexford), the Cliffs of Moher (Co Clare) and Horn Head (Co Donegal), as well as the Skelligs and Puffin Island off the Kerry coast.

At various times during the years, rangers at the Cliffs of Moher provide guided walks to see the puffins and other seabirds.

The Family Tree

The puffin that is found in the North Atlantic Ocean is known as the Atlantic Puffin. There are two other puffins, the Horned Puffin and the Tufted Puffin, and these are found in the North Pacific Ocean.

Puffins are members of the Auk family. Auks are medium-sized seabirds, which only come to land during the breeding season, to nest on remote cliffs. Other members of the auk family that are found around Ireland include Razorbills, Guillemots, Black Guillemot and Little Auks.

Auks are a little like the Northern Hemisphere's version of penguins, except auks can fly.

Tufted Puffin

Horned Puffin

Fact File:

Body Colour: Black back, white underneath, black head and collar, pale cheeks/face. Orange legs. Red, yellow and blue bill.
Length: 26-36 cm
Weight: 450g
Habitat: Breeds on sea cliffs during the summer, but otherwise out at sea.
Eggs: 1 per season

What's in a Name?

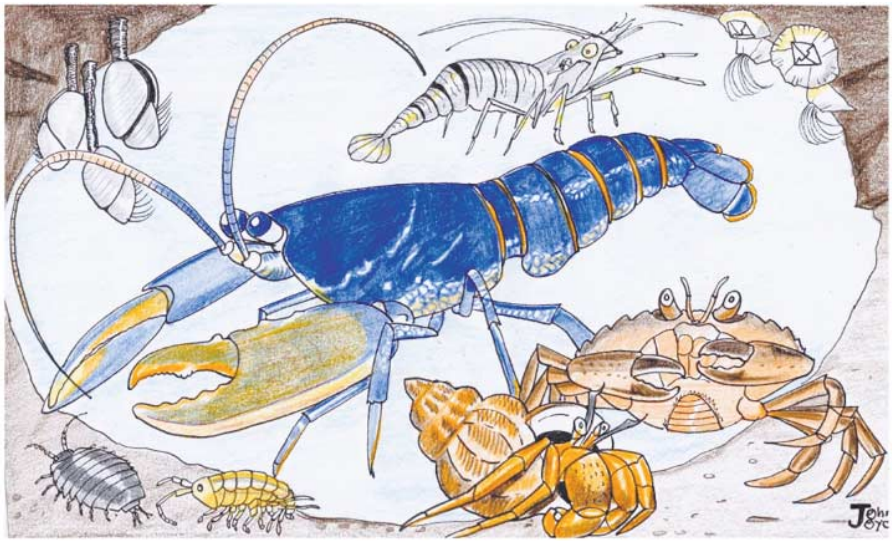
The latin name for a puffin is *Fratercula*, which means "little brother". It is thought to come from the similarity of the puffin's black and white body, to a monk's clothing.

The Crusty Crustacea . . .

Lobsters, crabs, prawns, shrimps, sand hoppers and even barnacles all belong to a class of animals called Crustacea (pronounced "crust – asia". They probably share common family ties with insects in that they belong to the same major division of the animal kingdom, the Arthropoda (animals with jointed feet).

Of the crustacea found around the Irish coast, the most valuable are the lobsters, crabs and crayfish, which are caught with baited pots laid on the seabed. The Dublin Bay Prawn (served in restaurants as "scampi") lives in muddy burrows in the seabed and is caught with nets.

Some crabs in tropical countries have managed to climb out of the sea to make a living on land. In the South Seas of the Pacific, the robber crab, is said to actually climb trees and cut down coconuts. While the largest animals in the world – the great whales – feed almost exclusively on huge swarms of flattened shrimps called "lobster krill" which they filter out of the sea by the ton.



Crusty on the outside – soft on the Inside . . ?

Unlike you and I, lobsters, crabs and all crustaceans do not have a bone in their body. Their strength comes from an outside skeleton (or "exoskeleton") to which their muscles are attached.
As a crab (for instance) grows, this rigid exoskeleton becomes too small and the animal has to split its old shell, climb out of it like an ancient knight climbing out of a suit of armour, and then quickly hide some-where safe until a new exoskeleton grows around it (see left).

Buoy Zone

Fishermen, yachtsmen and other water users can all receive real-time weather information from a network of offshore databuoys on their mobile phones using the text messaging system SMS, thanks to an innovative service pioneered by the Department of Communication, the Marine and Natural Resources, the Marine Institute, Met Eireann and the UK Met Office.
This service complements the on-line weather information by the Marine Institute at www.marine.ie/databuoy

Captain Cockle's Log

Welcome aboard shipmates!

Together, we'll be taking a look at the world's greatest natural resource – the sea!

www.captaincockle.com

The Rhinoceros

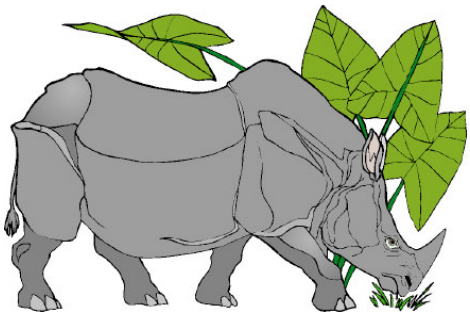
Rhinoceros are one of the most endangered animals in the world. To some people the horn of a rhinoceros is very valuable. In Asia, it is ground into a powder and used as a drug to treat fever and convulsions and in Yemen is it carved to make traditional dagger handles. Poachers receive large amounts of money for a single horn, as it is said to be literally "worth its weight in gold". To get hold of these horns, poachers have killed huge numbers of rhinoceros. This is one of the main reasons for the fall in the world's population of rhino, which currently stands at about 12,000. All rhinoceros are endangered, with the Asian rhinos critically so. To conserve certain rhino populations, the horn is cut off some animals to protect them from poachers. As the horn is made of a hair-like material, it is a painless procedure and has little effect on the rhinoceros.

Rhinos are herbivores, only eating plants. They have a relatively small brain in comparison to their size. Both the Black and Indian Rhinos have prehensile lips. "Prehensile" means that is has adapted for grasping and holding. They use the lip like a finger to select and pick twigs and leaves.

Rhinoceros' are generally solitary animals but some species may travel in pairs or form groups. While adult female rhinos are not territorial, adult males are. When two male Indian Rhinoceros meet they will often fight using tusk-like lower incisors (teeth) as weapons, often resulting in the death of one of the rhinos.

The Rhino's Horn

The rhino's horn is made of keratin, the same substance that makes human hair and fingernails. There is no obvious hair on a rhino except for some on its tail and tufts on its ears. A rhino has a very thick protective skin (up to 2cm) and large folds on the Asian rhino's skin gives the appearance of armour. Rhinos love to wallow in mud. The dried mud keeps their skin cool and protects the surface area from flies and other insect bites.



Five Different Types of Rhinoceros

There are five different species of rhinoceros in the world: two from Africa (living in the savannahs) and three from southern Asia (living in tropical and subtropical forests and swampy grasslands). The two African rhinoceros are the **Black Rhinoceros** and the **White Rhinoceros**. Both rhinoceros each have two horns. The three southern Asian rhinoceros are the **Javan**, **Sumatran** and **Indian Rhinoceros**. Like the African rhinos, the Sumatran Rhinoceros also has two horns, while the Javan and Indian have only one.

Second Largest Land Mammal

The rhinoceros is the second largest mammal on land, next to the elephant. It can weigh up to a tonne or more (the White Rhinoceros can weigh up to 2.3 tonnes) and the heights vary from 1.5 m to 2.0 m. It is a very strong and muscular animal. The frame and legs of the Asian rhinos are quite thick however the African rhinos have surprisingly thin legs, which enable them to run at great speed, sometimes reaching 45kph (28 mph). Rhinos have a good sense of smell and relatively good hearing but their eyesight is poor.

Soil

Soil is all around us. Every field or mountain you see has some soil covering it. It forms a thin layer over the surface of the Earth and it is essential for life. Even if you live in the city, there is soil in your front or back garden, in the window boxes of your house and in the park near your home. Soil is made of living and non-living materials and helps to grow the plants that we need to survive.

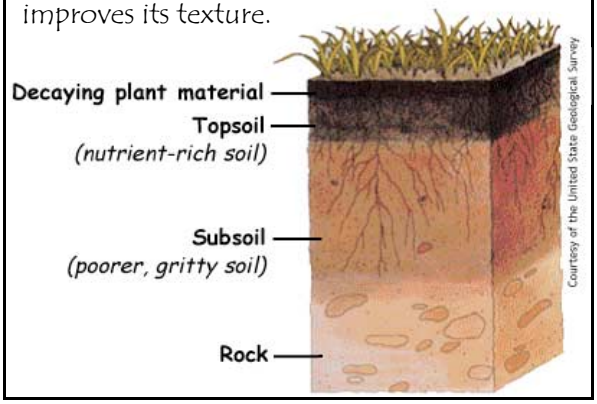
Soil contains rock particles, water, air and organic matter. The texture of a soil and how it looks depends on the amount of each substance it contains. For example, **sandy** soil has lots of particles of sand, which means it is good for drainage and will not hold water for long. **Clay** soil contains lots of clay particles. Clay is sticky when wet so it holds lots of water. **Loamy** soil is a balanced soil and has a good mix of all these different particles, as well as plenty of organic matter. It drains well, yet holds water and is full of nutrients.

Living Soil!

Not only is soil made up of rock particles, water, air and organic matter, but it also contains living organisms. It is these organisms that help to breakdown the organic matter and bring the air into the soil. One of the most obvious animals in soil are the earthworms and they play a very important role in keeping soil healthy. Nearly every bit of soil passes through the stomachs of earthworms and what comes out the other end is full of nutrients. *(For more information on worms see page 5 of the Winter 2009 issue of Nature's Web.)*

Top of the Pile!

The richest layer of soil is the layer at the very top, known as topsoil. The soil in this layer contains lots of decaying plant material, which, with the help of worms (see left), puts nutrients into the soil and also improves its texture.



Soil Erosion

Soil erosion is caused by wind and rain over thousands and thousands of years.

Erosion can wear down mountains, create valleys and even change the course of rivers. Humans sometimes speed up soil erosion by such activities as building, clearing vegetation and mining. However, they can also help prevent soil erosion by planting trees and other plants, so that their roots help to hold the soil in the ground.

The Soil in Your Garden

Dig up a little piece of soil in the garden (but not in the middle of a beautiful lawn!) and take a close look. If it is rich brown in colour and has a soft, crumbly texture then it should contains lots of nutrients for growing vegetables. If the soil is pale and contains lots of stones, compost may need to be added to improve the growing conditions for plants. It also depends on the type of plants you want to grow. There are roughly six different types of soil: sandy, silty, clay, loamy, peaty and chalky. While lots of plants prefer well-drained, food-rich loamy soil, some plants actually prefer the other types of soil.

All in a Day's Work

Caroline Plant – Office of Environmental Assessment

Photo courtesy of Caroline Plant

Caroline Plant works for the Environmental Protection Agency as a member of the Office of Environmental Assessment. She is currently based in Dublin but her work takes her all around the country.

What type of work do you do?
I sample lakes all around Ireland as part of a European wide monitoring programme which aims to ensure good ecological quality in all European lakes. The main part of my job is to sample and identify the animals and plants that live in lakes. When water quality is good in a lake different types and numbers of animals and plants will be found compared to a lake where the water quality is bad. So I can tell if the water in a lake is of good or bad quality by the animals and plants I find. I sample the lakes from April to September each year.

Have you always been interested in what you do?
I always wanted to be a zoologist as I always loved and was interested in animals. I used to bring stray animals home all the time when I was young – which drove my parents crazy! My first interest was animal behaviour but it is very difficult to get a job in that area. My interest in plants was awakened when I went to work for Sherkin Island Marine station!

From the top: Caroline looking at samples in a tray. Hard at work on the shore. A nosey swan watches Caroline at work.

What training did you do to get where you are today?
I completed a degree in Zoology in University College Cork. I also have a Masters in Environmental Science from Trinity College Dublin. I worked as a volunteer for six months for Sherkin Island Marine Station which provided me with plenty of scope for learning. I also do training courses in work every year.

What is a day in your life like?
During the Summer I sample plants in lakes. As boats are needed for this type of sampling I do field work with another colleague who also works for the EPA. We have a little zodiac inflatable which we launch once we arrive at the lake shore. We then move around the lake and stop at sites that we have chosen in advance. We then take a 100m transect out from the shore and sample the plants at certain places along the transect. On a small lake we usually do four transects and on a larger lake we will do many more. A small lake usually takes about 4 hours to sample in this way, so, if there are no problems, we get two lakes done in a day. For a bigger lake it can take all day and for the very biggest lakes we might need up to four days! We sample on both sunny and rainy days but if it is very windy sometimes we cannot launch our inflatable as it can be too difficult and sometimes dangerous on the larger lakes.

What is the best thing about your job?

The best thing about the job is being away from the office, sometimes in a very beautiful part of the country. And if the sun is shining it is even better! I get to go many places that other people have not seen and I see all sorts of wildlife. When I was sampling Lough Leane in Killarney one of the sea eagles flew right over my head when I was on the lake – it was amazing!

What is the worst thing about your job?
The worst thing about the job is having to eat sandwiches every day for lunch! It's hard to find anything else to eat that is so convenient for the boat but I usually don't eat sandwiches during the winter! The rain is the next worst thing especially if it rains for the whole summer.

What advice would you give someone wanting to do your job?
To do my job you need to be good at identifying animals and plants. The best way to get good at this is to practice all the time. So if you see an animal – insect, mammal, bird or fish – or a plant that you don't recognise look it up in a book. The more you look up the more you will know and remember.

Wordsearch

Nature's Web Summer 2010 Wordsearch

Try out this giant wordsearch containing words found in this issue of the newsletter.

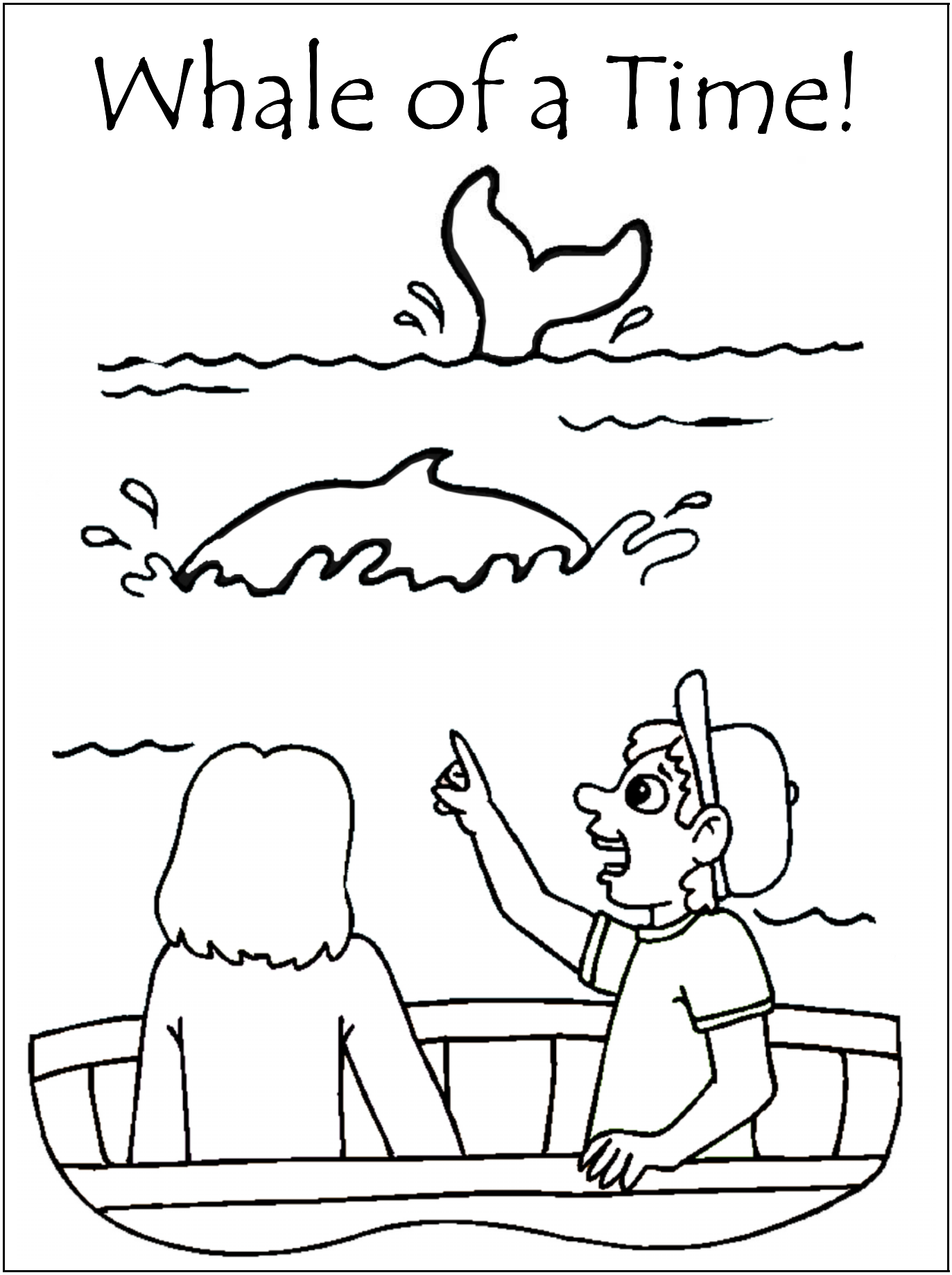
D	B	I	O	D	I	V	E	R	S	I	T	Y	H	I	L	R	S
H	A	F	D	V	A	T	S	E	V	D	G	S	E	I	O	H	E
M	V	L	W	H	Q	N	F	F	E	N	E	N	O	N	O	I	L
K	A	H	A	B	D	I	M	A	I	I	I	S	T	K	L	N	A
P	O	D	C	S	L	O	D	E	F	E	V	F	K	G	T	O	H
G	W	X	R	F	D	Z	L	E	O	T	F	P	F	N	H	C	W
B	Z	W	O	E	O	O	Z	P	H	S	N	V	A	U	R	E	W
E	I	B	W	O	V	W	O	D	H	N	P	L	I	N	P	R	M
A	E	O	L	L	I	A	I	F	B	I	P	S	S	O	O	O	N
W	S	H	L	V	F	V	E	X	A	E	N	K	P	M	C	S	I
O	H	M	P	O	E	E	R	B	N	E	Z	S	N	H	T	Z	H
O	N	J	S	R	G	N	D	I	C	L	S	A	K	L	O	Q	C
K	K	J	S	J	X	I	L	D	P	T	Q	D	L	S	P	J	R
A	J	I	Z	T	R	O	C	G	Z	T	A	A	E	Z	U	X	U
M	T	N	C	U	R	H	Z	A	L	I	B	T	T	K	S	V	A
Y	A	U	N	A	H	J	M	E	L	L	I	P	G	W	O	K	E
X	W	O	C	A	E	C	A	T	S	U	R	C	Y	Y	C	M	S
E	N	C	O	U	N	T	E	R	E	M	M	U	S	K	I	K	S

Beaver Dam
Biodiversity
Biological
Caroline Plant
Crustacea
Dead Zoo
Diversity
Dolphins
Encounters
Little Einstein
Octopus
Puffin
Rhinoceros
Sea Urchin
Smoked Seafood Salad
Soil
Summer
Web of Life
Whales

SOLUTIONS: *(Over, Down, Direction)* Beaver Dam (9,11,NW) Biodiversity (2,1,E) Biological (1,7,SE) Caroline Plant (4,17,NE) Crustacea (13,17,W) Dead Zoo (11,2,SW) Diversity (9,8,SW) Dolphins (6,4,SE) Encounter (1,18,E) Little Einstein (11,16,N) Octopus (16,9,S) Puffin (16,8,NW) Rhinoceros (17,1,S) Sea Urchin (18,17,N) Smoked Seafood Salad (18,18,NW) Soil (13,4,NE) Summer (14,18,W) Web of Life (1,10,NE) Whales (18,6,N).

Colour In

Whale of a Time!



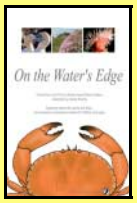
Learn More

A Beginner's Guide to Ireland's Wild Flowers

Have you ever wanted to put a name to the wild flowers you see about you every day, or while on a walk, or on holiday? With the help of this pocket-sized guide, you will be able to do just that. Beginners of all ages will be introduced to the many common wild flowers found around Ireland. *206pp*

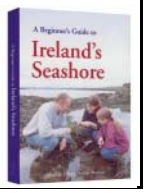
Only €8.50 including postage

Sea Life DVD: *"On the Water's Edge"*



Sherkin Island Marine Station has launched a dvd called '*On the Water's Edge*'. It is made up of a short film on life beside the sea and is presented by Audrey Murphy. It includes 6-10 hours of interactive material for children of all ages. *Available from: Sherkin Island Marine Station, Sherkin Island, Co. Cork. €13.30 including postage.*

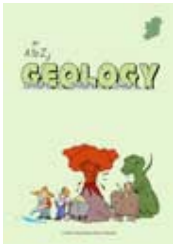
A Beginner's Guide to Ireland's Seashore is a pocket-sized guide, suitable for beginners of all ages. This book will help you to explore the wonders of marine life found on the shores around Ireland.



Only €8.00 including postage

Only €2.10 each including postage or €12.00 for all seven! *32pp each*

Sherkin Island Marine Station has published a range of colouring books, guides and activity books for children. Each 32-page *Colouring & Guide Book* gives you the chance to colour, identify and learn about the wildlife around Ireland. *My Nature Diary* contains lined pages to fill in a daily record of sightings and nature news.



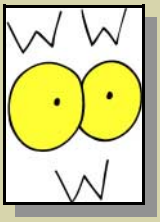
"An A to Z of Geology" explores the fascinating world of rocks and geology – a world of volcanoes, tsunamis, earthquakes, diamonds, gold and even dinosaurs! Produced by Sherkin Island Marine Station, in association with the Geological Survey of Ireland, the book aims to highlight the importance of geology in our everyday lives.

Only €5.99 plus €1.00 postage

To order books, send your name and address along with a cheque or postal order made payable to Sherkin Island Marine Station to:

Sherkin Island Marine Station, Sherkin Island, Co.Cork. Ireland.

Visit: www.sherkinmarine.ie



Useful Web Addresses

There are lots of websites to be found on the internet that will give you further information on topics we have covered in this newsletter. Here are a few that may be of interest:

Biodiversity: www.noticenature.ie www.biodiversityireland.ie http://kids.cbd.int/ http://www.cbd.int/

The Puffin: http://www.birdwatchireland.ie/Default.aspx?tabid=363

The Crusty Crustacea: http://www.enchantedlearning.com/subjects/invertebrates/crustacean/

The Rhinoceros: www.savetherhino.org http://wwf.panda.org/what_we_do/endangered_species/rhinoceros/

Soil: http://www.garden.ie/gardeningskills.aspx?id=539
http://www.kidsgeo.com/geology-for-kids/0002-the-earths-soil.php

Office of Environmental Assessment: http://www.epa.ie/about/org/oea/

Eight-legged Thief: http://www.metro.co.uk/weird/822023-octopus-steals-underwater-camera-from-diver-while-its-recording

Little Einstein: http://www.usatoday.com/communities/ondeadline/post/2010/04/little-horse-in-nh-may-be-worlds-smallest/1

Beaver Dam: http://www.telegraph.co.uk/news/worldnews/northamerica/canada/7676300/Worlds-biggest-beaver-dam-can-be-seen-from-space.html

Iceland's Volcanoes: http://www.iceland.org/ http://www.gsi.ie/Education/Geology+for+Everyone/Volcanoes.htm

The "Dead Zoo": http://www.museum.ie/en/intro/natural-history.aspx

Sea Urchins: http://www.enchantedlearning.com/subjects/invertebrates/echinoderm/Seaurchin.shtml

Encountering Whales & Dolphins http://www.iwdg.ie/downloads.asp?id=26

We cannot be responsible for the content of external websites, so please observe due care when accessing any site on the internet.

The World Around Us

"Foreign Correspondent" Michael Ludwig reports on some strange goings on in the natural world.

Eight-legged Thief!

A rather unusual thief tried to get away with an expensive underwater camera but didn't succeed! A diver in New Zealand got a little too close to a curious octopus, who pried the camera out of the diver's hands in an attempt to bring it back to its lair while it was still recording! (Octopi like to collect things!) Not wanting to lose his expensive equipment, the diver, who was diving without oxygen, followed the octopus from the surface of the water for almost five minutes. When the octopus slowed down, he dove down with the spear gun, which he used to distract the octopus and grab his camera back. Lucky for the diver that the octopus didn't attack him with is powerful beak, which is able to crack rock!

Little Einstein

A little foal born in New Hampshire, USA, could become the world's smallest horse. It weighed only 2.7kg (6lbs) when it was born and measured just 35.5cm (14in) – proportions more suitable for a human baby. Before this, the record weight for the smallest foal was 4.1kg (9lbs). Named Einstein by its owner, the pinto stallion is perfectly proportioned. Even though the foal is a miniature breed, it is still really tiny for a horse.

Beaver Dam can be seen from Space

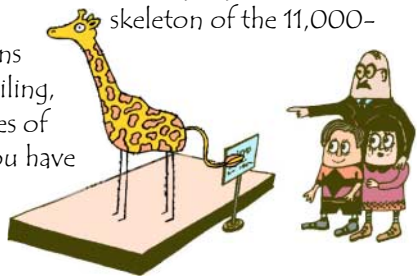
The world's largest beaver dam is so big, it can be seen from space! Sited in Wood Buffalo National Park (in a remote area of northern Alberta, Canada), researcher Jean Thie used satellite imagery and Google Earth software to locate and measure the size of the dam. In Canada, the average beaver dams are 10-100m, with some rarely reaching 500m. This one is a whooping 850 metres long! It is thought that generations of beavers have worked on the dam, which was likely to have been started in the mid-1970s.

Iceland's Volcanoes

There are about 130 active volcanoes in Iceland. Every five years Iceland will experience some kind of volcanic event. Hekla, the most famous volcano on the island, has erupted 18 times since 1104, the last time in 2000. On 20th March 2010, Eyjafjallajökull (meaning "island-mountain glacier") erupted, forcing 500 local people to be evacuated from the area. However, on 14th April 2010 the volcano erupted once again. This time it was 10-20 times more powerful and spewed out large amounts of volcanic ash, causing huge disruption to airline flights across Northern Europe. But why are there so many volcanoes in Iceland? The Earth's crust is made up of about 12 rigid plates that constantly collide, separate and slide against each other. Most of the effects from the movement of these plates are felt at the boundaries where the plates meet. Iceland sits across the boundary of the Eurasian and North American Plates. The island is also situated on a volcanic hotspot. These two factors create a lot of volcanic activity, with regular eruptions of ash and lava. On the good side, this activity provides Iceland with an endless supply of geothermal energy, which is cheap and clean and heats over 90% of Icelandic homes.

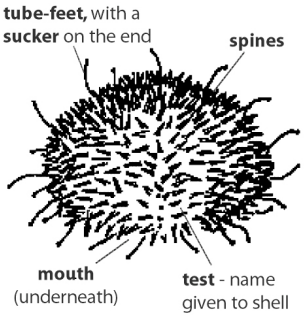
The "Dead Zoo" is Back Home!

Great news for anyone living or visiting Dublin, the Natural History Museum has reopened on Merrion Street. It was forced to close in July 2007, following the collapse of a staircase but it's now back in action – well, maybe not too much action as all the animals in the museum are dead! That is how it became affectionately known as the "Dead Zoo". Now people can see familiar favourites like the skeleton of the 11,000-year-old giant elk, the skeletons of whales hanging from the ceiling, Spoticus the giraffe, the families of badgers, foxes and otters. If you have never visited the Museum, now you have the chance.



Sea Urchins

The sea urchin is quite easy to identify, with its rounded, spiny shell protecting a soft body inside. The mouth of the sea urchin is on the underside of the body and contains five strong teeth which are used to scrape seaweed from the rocks. When living, the round shell contains the soft body of the sea urchin and it feels surprisingly heavy - though it is safer not to pick it up because of its sharp spines. If the sea urchin dies, these spines drop off and the body rots, leaving an empty shell. This shell is called a test. Sea urchins and starfish are related, and like starfish, they also have tube-feet with suckers. These feet are long and are found all over its body, in between the spines. They help it move about and also anchor the animal in one spot.



A typical sea urchin

Edible Sea Urchin *Echinus esculentus* Cuán mara coiteann

The Edible Sea Urchin is the largest urchin to be found around Irish coasts. Empty shells, or tests, are commonly seen washed up on the shore. The shell is fairly thick and strong, offering good protection against predators and damage from waves. It is found in shades of pink, red and purple and has white spines, which often have purple or yellowish tips. It feeds on tiny seaweeds, and on any encrusting animals that it can scrape off the rocks.

Black Sea Urchin *Paracentrotus lividus* Cuán mara dubh

The Black Sea Urchin is easily recognised by its dark colour, varying from dark green through brown to dark purple. It also has a habit of making shallow burrows or pits in the rock, in which to shelter. To do this, it moves its strong spines backwards and forwards to grind away at the rock. The Black Sea Urchin is often found in large numbers. Although it usually lives in warmer waters, it can be found as far north as the west coast of Ireland because of the warm sea currents of the Gulf Stream or North Atlantic Drift.

Green Sea Urchin *Psammechinus miliaris* Cuán mara glas

This small sea urchin is common on the seashore but can be hard to find. It has a habit of covering itself with bits of gravel, shells or seaweed, which are held by its tube-feet. It can be found on the lower part of a rocky shore, particularly under boulders and among kelp holdfasts. The shell, or test, is slightly flat and is greenish in colour; the short spines are green with purple tips, and there is sometimes a whitish or pinkish tinge to the area around the mouth, which is underneath the urchin's body.

Images courtesy of Paul Kay

Sea Potato/Heart Urchin *Echinocardium cordatum* Croídín buí

The Sea Potato gets its common name from the potato-like appearance of its empty whitish test, which is sometimes found washed up on the shore. It usually lives in deeper waters where it can burrow into clean sand. Covered in a thick layer of yellowish-brown spines that point backwards, the Sea Potato can grow up to 9cm but is usually smaller. It is a deposit feeder and uses rows of tube-feet to collect particles from within its burrow. (A deposit feeder takes in a mixture of water and sand/mud, extracts the food and then passes out the undigested material.)

Text & images from "A Beginner's Guide to Ireland's Seashore" © Sherkin Island Marine Station

Fun Page

How much did you learn?

The answers to all these questions can be found in the newsletter...see if you can remember!

1 What name is given to a sea urchin's shell?
2 Is a puffin's bill larger in winter or in summer?
3 Name the three smoked fish used in the BIM recipe.
4 What did Einstein, the tiny horse, weigh when he was born?
5 About how many species of animals and plants have been identified so far in the world?
6 How old is the giant elk skeleton in the Dead Zoo?
7 When at work, what does Caroline Plant have for lunch every day?
8 How many different types of rhinoceros are there?
9 What two words combined make the word "biodiversity"
10 Is a crustacean's skeleton usually on the inside or on the outside?
11 When is it thought work began on the world's largest beaver dam?
12 In which country would one find the volcano called "Eyjafjallajökull"?
13 Which year is International Year of Biodiversity?
14 Which layer of soil has the most nutrients?
15 In New Zealand, what did the octopus try to steal from the diver?
16 In which year were Irish waters declared a whale and dolphin sanctuary?

Answers: (1) Test; (2) Summer; (3) Salmon, trout & mackerel; (4) 2.7kg (6lb); (5) 1.5 million; (6) 11,000 years; (7) Sandwiches; (8) Five; (9) Biological & Diversity; (10) Outside; (11) In the mid-1970s; (12) Iceland; (13) 2010; (14) Topsoil; (15) A camera; (16) 1991.

What am I saying....?

Have fun with your friends making up a caption for this picture of an Eel.

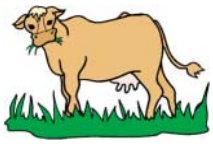
Courtesy of Andrew David, NOAA/NMFS/SEFSC Panama City & Lance Horn, UNCW/NURC-Phantom II ROV operator.

Nature Jokes

What do you get if you cross a toadstool with a full suitcase?
Not mushroom for your clothes.

What did the bee say to the other bee in summer?
Swarm here isn't it.

What do you get if you cross a cow with a grass cutter?
A lawn mooer.

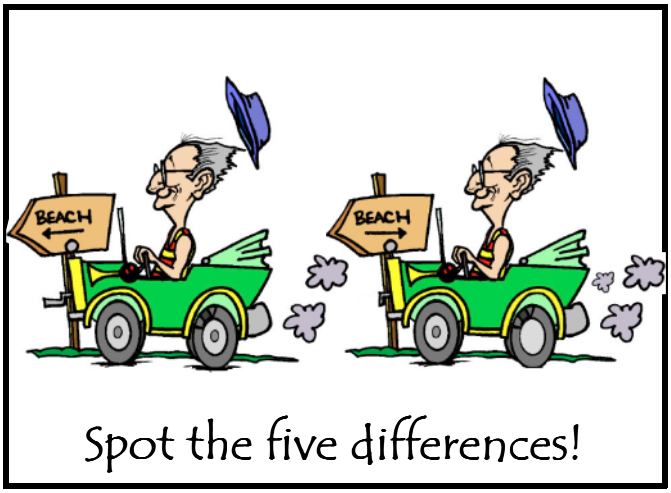


Why don't centipedes play football?
Because by the time they've got their boots on it's time to go home.

What's the difference between a tiger and a lion?
A tiger has the mane part missing.

What do you get if you cross a sheep with a holiday resort?
The Baaahaaaamaas!

What's the biggest moth in the world?
A mammoth.



Spot the five differences!

Special Feature

Biodiversity – the Web of Life

Biological Diversity is the difference between all living things on earth.

Look around you at the natural world; you will find that very few things are EXACTLY alike.
Take for example the species Homo Sapiens, the scientific name for human beings – look around at your family, your friends, your teachers, and your neighbours. Are any of them the same? No they aren't.

Look at these pictures. All of these animals are frogs... but they are all different from one another!

Another thing that is diverse (or different) in the natural world, is the way different animals and plants work with their surroundings. Biodiversity is also the difference in ECOSYSTEMS. Ecosystems are like nature families. In each ecosystem, plants and animals depend on the weather, the type of earth, the amount of water and on other living things around them. They need each other to survive. These pictures show only a few ecosystems:

There are many different types of ecosystems - some are very big, such as deserts, forests and mountains. Others are not so big, such as ponds and gardens. Every large ecosystem will have many smaller ecosystems within it.

Text from "Biodiversity - the Web of Life" and "Why is biological diversity so important?" is courtesy of "Biodiversity for Kids" from the Convention of Biological Diversity at http://kids.biodiv.org.

2010 International Year of Biodiversity

The United Nations have declared the year 2010 as the International Year of Biodiversity. Lots of organisations around the world will be encouraging us to protect the biodiversity (or biological diversity), particularly in our own locality. Notice Nature (www.noticenature.ie) is Ireland's public awareness campaign on biodiversity. The National Biodiversity Data Centre in Ireland has the job of collecting, managing and looking at information on our country's biological diversity (www.biodiversityireland.ie). The "Biodiversity for Kids" website from the Convention of Biological Diversity (http://kids.biodiv.org) also has more information on biodiversity for children, as well as some fun games.

Why is biological diversity so important?

So far, only about 1.5 million species have been identified, out of the 13 million or so thought currently to exist. Some estimates of the overall number are closer to 30 million.

What about the animals and plant species we don't know about? Animals that come out only at night in tangled forests, or that live deep in the ocean, where no humans can see them?

Having many kinds of plants and animals on this planet is good for many reasons:

- Some of the species we don't know about yet could be important medicine, or food that we have not yet discovered.
- Some animals and plants are in charge of clean up! They turn dead plants and animals into earth. That way new things can grow and live.
- Some plants need to be pollinated by another plant. Since plants can't walk, they need to get a ride from animals that do. And if these animals are gone… the plants will quickly die too.
- If there was only one kind of corn, for example, then one kind of disease could wipe out all of the corn on earth! But thanks to biodiversity, there is more than one kind of corn, with protection from different diseases.

Can you think of what would happen if there were no biodiversity? How would that affect us and our world?

Images courtesy of http://kids.biodiv.org

Encountering Whales & Dolphins in Irish Waters

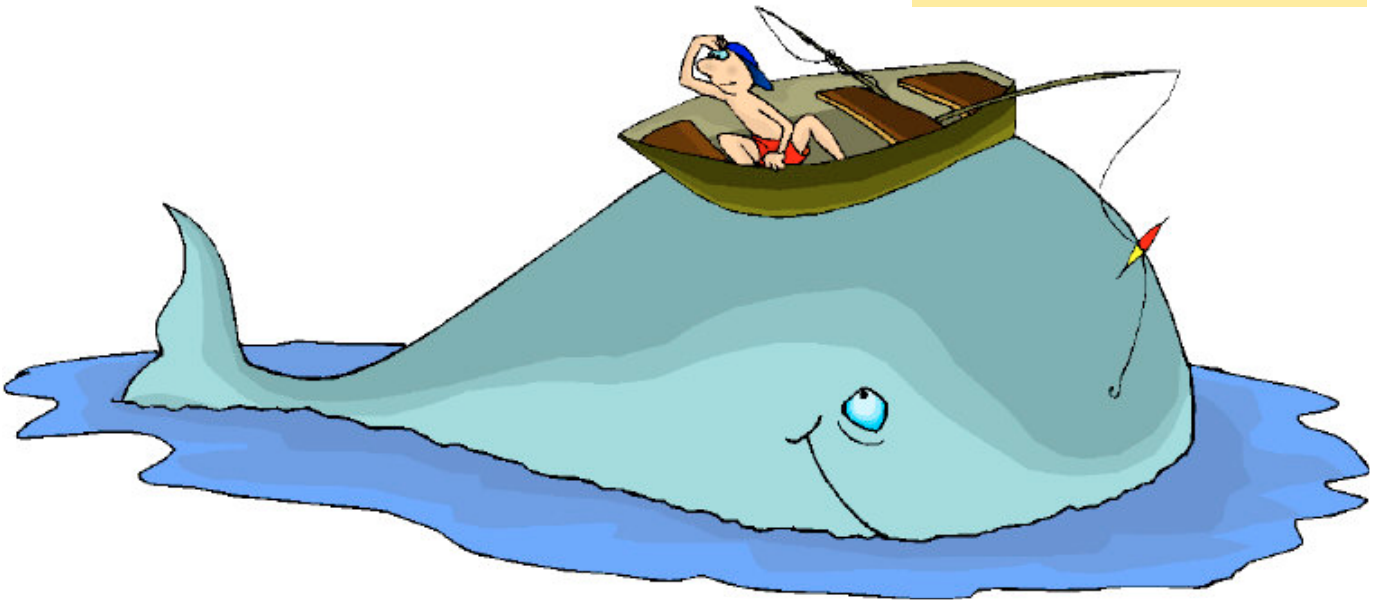
Did you know that in 1991 the Irish Government declared all Irish Waters a whale and dolphin sanctuary? This means that these species must not be deliberately disturbed while they are swimming around our coasts.

In recent years, people have become more aware of these mammals in our waters. There are also lots more people in small boats, coming into contact with them. Though they are wonderful to see, there are risks involved when meeting these creatures, particularly large whales. Not only are these animals unpredictable, especially when they have young with them, but they are capable of damaging a small boat. In the excitement of seeing whales and dolphins, people may also be tempted to go further out to sea than is safe, just to get a closer look.

If you should encounter whales or dolphins when out in a boat this summer, guidelines given by the Department of Communications, Marine & Natural Resources are listed in the box on the right.

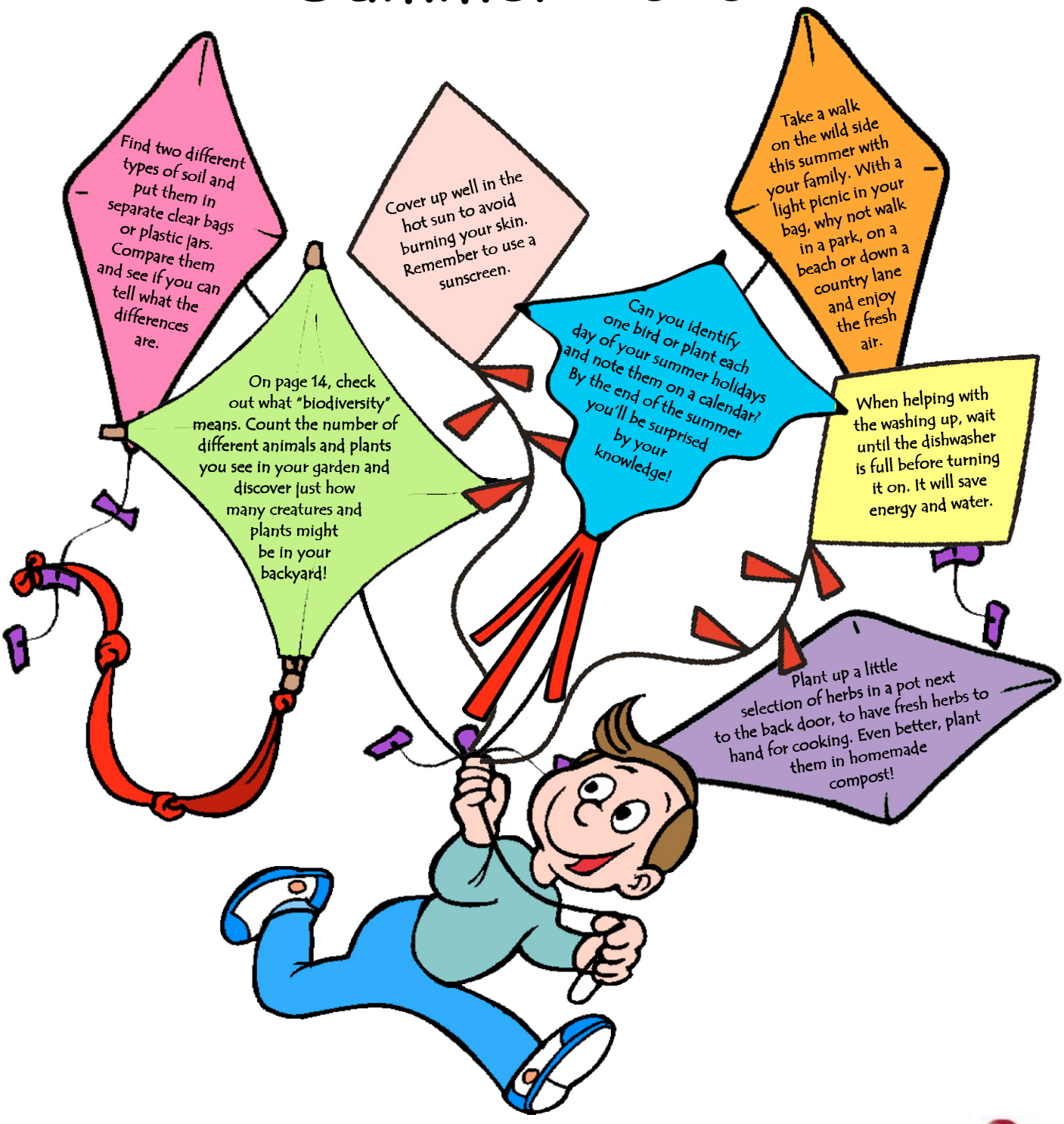
For more information on whale and dolphin watching, visit the Irish Whale and Dolphin Group website (www.iwdg.ie). The site also gives lots of information about the different species you are likely to see in Irish Waters.

- When whales or dolphins are first encountered, craft should maintain a steady course.
- Boat speed should be maintained below 7 knots.
- Do not attempt to pursue whales or dolphins encountered.
- In the case of dolphins, they will very often approach craft and may engage in "bow riding". Always allow dolphins approach a boat rather than attempt to go after them.
- Maintain a distance of at least 100m from whales.
- Maintain a distance of 200m between any other boats in the vicinity.
- Attempt to steer a course parallel to the direction whales or dolphins are taking.
- Do not corral whales or dolphins between boats.
- Special care must be taken when young calves are seen – do not come between a mother and her calf.
- Successive boats must follow the same course.
- Boats should not spend more than 30 minutes with whales or dolphins.
- DO NOT attempt to swim with them.



Nature's Noticeboard!

Summer 2010



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Visit the Sherkin Island Marine Station website at www.sherkinmarine.ie