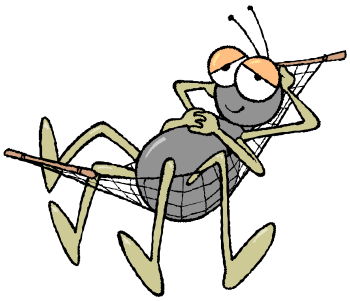

Nature's Web

Issue No. 13 Spring 2009

Inside This Issue...

Beak Basics!

Beaks come in all shapes and sizes. Their main purpose is feeding and they are shaped according to what each bird eats. Studying the beaks can help you identify a bird and give you some idea of what types of food they eat. The Gannet (right) has a long, powerful and pointed beak, which enables it to catch and devour fish. To read more about beaks go to page 3.

Courtesy of www.naturespicsonline.com (CC By-SA 3.0 Unported)

Editor's Page

An Unusual Visitor

From time to time, we all get visits from wildlife in our homes. It might be a spider, an earwig, a mouse or even a very unwelcome rat. But imagine if it was a skunk! Thankfully we don't have skunks in this part of the world but they do in the US and that's what dropped in on our brother one night.

A few months ago he was lying in bed and heard a noise coming from the garage, which was next door to his bedroom. Looking out the window, he could see that the garage door was open about six inches and presuming it was a cat, he went back to bed. A few hours later he was woken by a terrible smell coming into the room! He decided to investigate further and slowly opened the garage door. There staring him in the face, with its striped back arched and its tail up in the air, was a skunk. Both of them were so frightened they ran in opposite directions, our brother back into the house and the skunk to the back of the garage. Deciding to wait it out, our brother stood at his bedroom window for at least an hour. Finally he saw the skunk pop its head out of the garage door and wander down the street, so he rushed out and closed the door in case the skunk came back. The smell, a little like burnt rubber, stayed in the house for hours!

Every now and then, before he goes to bed our brother sees the skunk walking up and down the street looking for another open garage and another unsuspecting neighbour to visit. That's one visitor he'll never forget!

Photo: © BIM

Salmon Burgers

What you need:

450g cooked salmon fillet - flaked *
110g breadcrumbs
1 spring onion - finely chopped
1 clove garlic - finely chopped
Grated zest and juice of 1 small lemon
Salt and pepper
Little oil and butter to fry

To serve
4 burger buns
Shredded lettuce
Sliced tomato
4 tablespoons crème fraîche with lemon zest added
Chopped chives

Method:

- Add breadcrumbs, spring onion and garlic to salmon. Season and moisten with lemon juice
- Form into patties. Chill for at least 1 hour
- Fry burgers in oil and butter mixture or if preferred cook on barbecue
- Place on toasted buns with lettuce and tomato. Top with a spoonful of crème fraiche and sprinkle with chopped chives

**You can substitute trout*

To Serve
Serve with salad or baked potato

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

Welcome to the Spring Edition of Nature's Web!

Dear Reader,

Welcome everyone to the Spring issue of Nature's Web. In this issue we look at the working day of Robbie Murphy, who farms Pacific Oysters on Sherkin Island with his brother Michael. We also look at the differences between these oysters and the native variety. There are some tips on creating an insect-friendly garden and you can find out a little more about the potato, as well as discover something about water pressure! 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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Beaks and Bills

By Jenna Poole

The terms beak and bill actually mean exactly the same thing. It is the hard part of a bird's mouth and is made of a substance called keratin, which is actually the same substance that feathers are made of. A bird's beak is made up of an upper and lower mandible, much the same as a mammal's jaw, and is used for a number of different jobs such as nest building, drinking, preening and feeding.

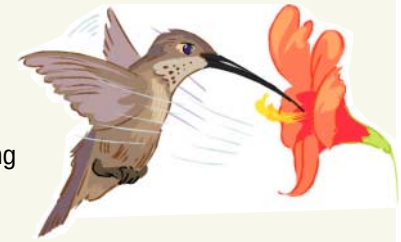
Beaks are far from being hard and insensitive. They all contain at least some nerve-endings, which allow them to feel prey moving where they may not be able to see it clearly (e.g. the woodpecker's beak in a small hole in a tree trunk).

Waterbird and Wader Beaks

Waders are a group of birds that have very long beaks, though they vary considerably. These are birds that feed on the waters edge and use their beaks for sweeping through the shallow water and mud looking for insects, fish and other animals at different depths in the water and shallow mud. The Snipe can even open just the tips of its submerged beak to catch its prey without the mud surrounding it!

Ducks and geese tend to have very wide and sensitive beaks. These are designed to "scoop" through murky water and muddy river or lake bottoms to find tasty treats without using vision. There is even a species called the Shoveler because of its large shovel-shaped beak.

Vegetarian Beaks



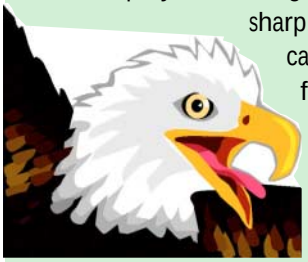
Many of the small herbivorous birds have short and strong beaks for cracking and collecting numerous small nuts or seeds. Some, appropriately named the Crossbills, have beaks that have overlapping upper and lower parts purpose-built for extracting the seeds from inside pinecones.

Hummingbirds have long beaks so that they can reach the nectar at the bottom of large tropical flowers while hovering above them. The longest beak relative to body size amongst birds belongs to Sword-billed hummingbird of South America. It can measure up to 11cm, which is more than half the total length of the small bird!

Hunting Beaks

Pelicans and toucans both have very large and heavy-looking beaks, however they are not as heavy as you might think. Pelicans use theirs almost like fishing nets as they swoop down and scoop up fish as well as water. They then drain the water out and swallow the fish. Toucans use their massive and colourful beaks for stealing young birds and eggs from the nest of other birds.

Birds of prey such as eagles, vultures and hawks all have sharp, hooked beaks with which they can tear the flesh of the their freshly caught prey. They are also short and strong to enable them to carry their meals back to the nest or to a safe perch.



Pretty Puffins

Like the Toucan, the Puffin has a very chunky beak for its size and it is brightly coloured with yellow, red and blue-grey stripes. This colouring is due to colourful horny plates covering the beak, which are brightest during the breeding season. In autumn the puffin will shed the plates but will regrow them again for the next breeding season.

The Puffin's beak also has the ability to expand at the base, allowing the upper and lower parts to remain parallel (instead of creating a triangular-shaped opening like most beaks) so that many fish can be carried back home after a trip out to sea.

Oysters

Oysters are molluscs. Like most molluscs, they have a soft, fleshy body and a hard, limy shell on the outside for protection. Some molluscs have one shell (gastropods) and other have two shells (bivalves). Oysters are bivalves, having two shells joined together by a strong ligament. The ligament keeps the shells together as they open and close.
Like most bivalves, the oyster lives in muddy water and feeds by drawing water, filled with particles, into its shell. As it passes over feather-like gills, oxygen and tiny food particles are absorbed before the water is pumped out again. This is known as filter feeding.

Courtesy of www.fao.org

European Flat Oyster

Ostrea edulis

Oisre Eorpach coiteann

European Flat Oysters (also known at Common European Oysters or Native Irish Oysters) are native to Irish waters. They are a flatter and rounder oyster than the more teardrop-shaped Pacific Oyster.
For centuries, these oysters have been harvested for food. However in the 1970s, Pacific Oysters were introduced into Ireland as the stocks of these native oysters declined, due to over-harvesting.
Oysters are usually eaten raw (though it is okay to cook them as well) and are said to taste salty, like the sea.

Pacific Oysters

Crassostrea gigas

Oisre an Aigéin Chiúin

Pacific Oysters, as the name suggests, come originally from the Pacific coast of Asia. They are not native to Irish waters but have been introduced here.
To reproduce, Pacific oysters need water temperatures of over 20°C. As water temperatures in Ireland are not warm enough, oyster farmers who grow these oysters in Ireland must import the seed (young oysters) from elsewhere. Some seed is grown in special tanks, known as hatcheries, where the water temperature can be controlled. The oysters spawn (produce eggs) in these tanks and when the seed is big enough to handle, it is sold on to oyster farmers who put the seed in mesh bags, which are then tied onto special frames and placed on the shore to grow.

Oyster trestles

When oysters are grown commercially, the farmer needs to be able to reach to them easily. On Sherkin Island, Robbie Murphy (& his brother Michael) farm Pacific oysters (see page 7). These oysters are grown in mesh bags, which are tied on to steel frames, called trestles. The trestles are about knee high and can be reached at low tide.

Courtesy of Robbie Murphy

Celebrating Oysters!

Oysters are so popular they even have their own festivals. One of the most famous in Ireland is the Galway International Oyster Festival, at which they serve thousands of native Irish oysters. They even have an oyster opening competition; the winner in 2008 opened 30 oysters in 2.27 minutes!

Pearls and Pearl Oysters

Most people are familar with the creamy-colour round pearls, used to make necklaces and other jewellery. A pearl is formed when an organic irritant (e.g. a parasite) becomes trapped under an oyster's mantle, inside the shell. To prevent it damaging the soft tissue inside, the animal produces nacre (Mother of Pearl), which builds up layers around the irritant, eventually creating a pearl. Most bivalve (two-shelled) molluscs are capable of producing a pearl, but few do. Those that are valued as gemstones come mostly from the pearl oysters , found in tropical and sub-tropical waters. These oysters are different to those we eat here in Ireland.
For many years, people would dive for pearl oysters, opening many just to find a few "natural" pearls. As this proved very wasteful, people began to "cultivate" pearls by manually inserting an irritant into pearl oysters and growing the oysters in a controlled environment.

The Skunk

The skunk belongs to the mustelid family, which also includes animals such as mink, otter, pine marten, badger and weasel. There are a number of different types of skunk but the one that is most identifible to us is the Striped Skunk which has a distinctive white stripe down its back and along its tail.

About the size of a domestic cat, the Striped Skunk is 55-75 cm long (including its long bushy tail) but its short legs means it is not very tall. It has a triangular-shaped head, that tapers down to a rounded nose, and has small ears and black, beady eyes. Each foot has five toes, with long, curved claws on the front feet and shorter, straighter claws on the back feet.

The Striped Skunk is an omnivore, eating animals and plants. As it is a nocturnal animal, it usually eats at night and sleeps during the day. Its diet includes plants, fruit, insects, worms, eggs and small mammals.

A female skunk usually has one litter each year of about five to six young. These are usually born from early May to early June, without much hair, but do have the faint black and white markings. Skunks usually live for two to three years. In captivity, they have been known to survive for up to 15 years.

Where does the Skunk live?

The Striped Skunk is native to Northern America and can be found from Canada, all the way down to New Mexico. There are a few other varieties of skunk and most of these are found in the Americas. However a relatively new addition to the skunk family can be found in Asia and it is known as the Asian Stink Badger!

The Striped Skunk often lives alone, but sometimes it may gather with others in a winter den. It inhabits lots of different habitats but prefers the edge of forests, bushy areas or grasslands. It is able to dig a den but more often uses those made by other animals, and sometimes even lives in caves, piles of rock and sheds. A source of fresh water is usually close by.

Oh, what a smell!

Skunks are famous for the smell they can discharge. If threatened, a skunk will arch its back, fluff up its fur and lifts its tail. If the skunk's warning is ignored then it stands on its front feet, with its rear legs in the air and ejects a foul-smelling liquid at the agressor from glands underneath its tail. The glands contain about one tablespoon of a thick, yellowish and oily liquid. The skunk has great control over the glands and can direct the liquid in specific direction. Sometimes the mist can travel up to 3 metres. The substance can be painful to the eyes but doesn't cause permanent blindness. The smell is strong enough to be detected up to 2 kms from where it has been discharged!

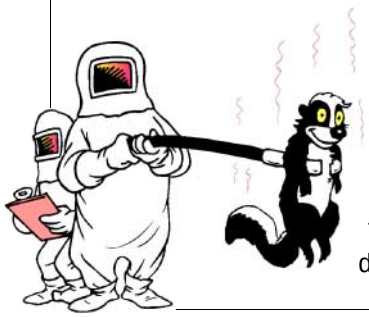


Photo courtesy of Erwin C. Nielsen/Painet Inc.

The Striped Skunk

Potato

By Marketa Janouchova

Latin: Solanum tuberosum
Irish: Práta

Where do potatoes come from?

The first potatoes came from the Peruvian Andes in South America. These wild potatoes were collected by Andean farmers some 8,000 years ago from a high plateau that stretches between Cusco and Lake Titicaca. However, it was farmers in the Central Andes that were able to successfully farm potatoes and it is these varieties that made their way to Europe. Brought over by Spanish conquistadors (explorers) in the beginning of the 16th century, they were first introduced in Spain and then in different parts of Europe.

Are there many varieties of potato?

Nowadays we have many potato varieties to eat, some of them are more resistant to blight than others. The most commonly produced varieties in Ireland are Roosters, Kerr's Pink, Golden Wonder and the early variety British Queen. But there are many other less known varieties like May Queen, Sharpe's Express and Cara. There are even potatoes which are purple, blue or red inside! Worldwide there are about 5,000 varieties of potato. About 99% of those grown in Europe today originated from those farmed in the Central Andes. These varieties are better suited to our conditions than the original varieties from the Peruvian Andes.

Potatoes in Ireland

Potatoes, "spuds" or "tatties" became popular among poor people in many countries where other crops would fail. It is believed that the explorer Sir Walter Raleigh brought the first potatoes to Ireland. As they were easy to grow and provided the main nutrients, they served as a staple food in rural areas for almost a century. In 1845 potato crops in Ireland were affected by a fungal disease called "potato blight", which turned the potatoes black and into mush in the ground. The loss of the potato from people's diets, caused a great famine that lasted for seven years. More than a million people in Ireland died of hunger and another million left for America, hoping for a better life.
In Ireland today, potatoes are still very much part of our diet. However, with some many other types of food available us, we do not have to rely on them as much as our ancestors did.

Courtesy of Manuel Anastácio CC-A-2.0

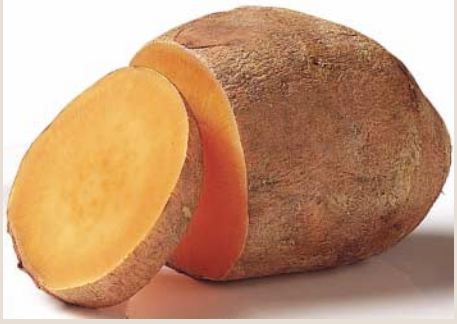
The leaves and flowers of the potato plant.

Potatoes & Poison

Potato plants are not harmless! When the plant's tubers (potatoes) are exposed to light, they turn green and they produce solanine, a natural poison that helps prevent the exposed tubers from being eaten. In high levels solanine is toxic to our bodies, so it is important not to eat green potatoes. Believe it or not potatoes actually belong to the same family as some of the most poisonous plants, such as Deadly Nightshade *(Atropa belladona)*, Thorn-apple *(Datura stramonium)* and Henbane *(Hyoscyamus niger)*!

Sweet potato

Sweet potatoes or "batatas", as they are called in Latin America, do not belong to the same family as potatoes. Though they resemble them, they are not even related! They grow in soil on the roots of a plant called *Ipomoea batatas* and are native to tropical areas of America. A creeping vine, the plant can grow up to 3m tall and has beautiful trumpet-like flowers - very much like our Bindweed *(Calystegia sepium)*. It grows in tropical countries and would not survive outside in our climate.



All in a Day's Work

Robbie Murphy – Oyster Farmer

PROFILE

Robbie Murphy lives and works on Sherkin Island, Co. Cork. He and his brother Michael run Sherkin Oysters Ltd. The company grow Pacific oysters on the island and export them to countries such as Germany and France.

A Day in the Life of Robbie Murphy

How do you farm oysters?

In the spring time, we buy oyster "seed" (weighing between 2-5 grams each) from hatcheries on Guernsey in the Channel Islands and Cumbria in North West England. It takes two years to grow these oysters to a harvestable size. Oysters are grown in plastic mesh bags, which are laid on top of steel frames, called trestles, and these are placed on the shoreline at the low water mark. There, oysters feed on the plankton-rich water that flows through the mesh bag.

How do you stop the oyster bags from floating away?

Oyster bags are held on the trestle bars with hooks and rubber bands. The tops of the bags are closed by weaving a long, narrow plastic rod, called a "jonc", through the mesh. Trestles are generally long enough to carry ten bags side by side.

Do all oysters grow at the same rate?

Some oysters grow faster than others. After one year's growth the oysters are taken out and graded on a machine. This separates them into different sizes before they are put back onto the trestles on the shore. After another year's growth, the biggest oysters are taken out first and graded again for selling. Some customers prefer large oysters, while others prefer smaller ones.

What do you do when you're not grading oysters?

All the grading of half grown and fully grown oysters takes place between October and April. For the other months, May to September, our work involves turning the oyster bags on the trestles during very low tides (spring tides). Each bag is turned once a month and it takes a whole month for both of us to turn all the bags. Green seaweed (*Enteromorpha* spp) tends to grow on the part of the bag that faces the light. This seaweed clogs the mesh, stopping the flow of water and food through the bags. Turning them causes the seaweed to fall off naturally and exposes clear mesh underneath.

On each turn we also shake them. This encourages the oysters to grow into the desired teardrop shape and stops them from growing into each other, or into the sides of the mesh bag, and becoming mis-shapen.

Where do you sell the oysters?

The oysters are generally sold in bulk to France and Germany, with a small percentage sold to a local distributor. When selling, the oysters are placed into bags, similar to onion bags and stacked on pallets, with each pallet carrying 1 tonne of oysters. We transport them by tractor to the main pier on Sherkin where we load them onto the pallets. After wrapping them with plastic to keep them secure, a forklift loads them onto a roll-on roll-off ferry, which brings them to Baltimore. From there a refrigerated lorry transports them to their final destination. The temperature in the lorry must be between 5-10°C and this will keep the oysters fresh, until they are placed back into water in 2-3 days time.

What do you like and dislike about your job?

I like my job because it is so varied and I'm working outdoors most of the time, surrounded by nature.

In the grading season, work can be very intensive and you need to work very long days, with very little time off.

Have you always wanted to be an oyster farmer?

When I was at school I wasn't sure what I wanted to do. I started oyster farming with my brother when I left secondary school and have been at it ever since. If I didn't farm oysters I think I would like to pursue my hobby, which is nature photography.

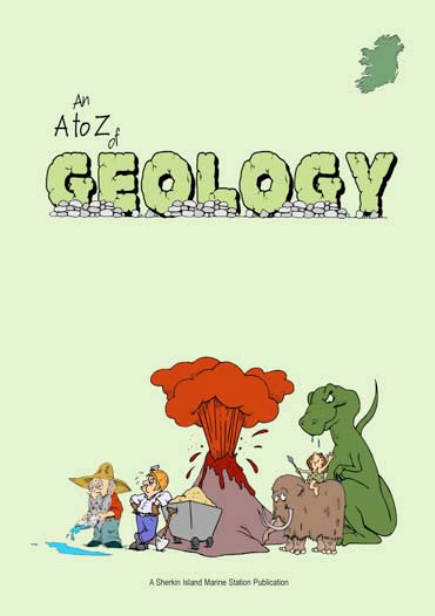
Right: Oysters in mesh bags on trestles.

Bottom right: Pallets of oysters waiting to be transported to Baltimore.

Bottom left: Michael grading oysters in the shed.

Photos © Robbie Murphy

An A-Z of Geology Quiz



"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.

A4 size, 24 page, softback.
ISBN: 978-1-870492-33-1

Ordering details on page 10.

Below (left) are the title pages in "An A to Z of Geology". Can you match the descriptions on the right, with the titles?

Age of the Earth
Bogs
Caves
Diamonds
Earthquakes
Fossils
Gold
Heritage
Ice Age
Jurassic
Know Your Geology
Landslides
Maps
Navigating Ireland
Oil, Gas & Coal
Pangea
Quarries & Mines
Rocks
Seabed
Tsunami
Under Your Feet
Volcanoes
Water
eXplain Your Job
Zinc

_____ 1. Drawings that show where places are.
_____ 2. Places where rocks and minerals are extracted.
_____ 3. Something handed down from the past.
_____ 4. How old the planet is.
_____ 5. Violent shaking or moving of the ground.
_____ 6. Letting us know what you work at.
_____ 7. Soil is beneath these.
_____ 8. A mineral that is used to galvanise gates.
_____ 9. Having knowledge about Earth science.
_____ 10. Fossil fuels.
_____ 11. The movement of rock and mud down a slope.
_____ 12. Vents in the Earth's crust from which lava erupts.
_____ 13. A type of wetland.
_____ 14. The time of the dinosaurs.
_____ 15. The area at the bottom of the ocean.
_____ 16. A liquid which is essential for humans.
_____ 17. Moving around our country.
_____ 18. Destructive sea waves.
_____ 19. A yellow metal of great value.
_____ 20. Natural underground openings.
_____ 21. A period of time when glaciers covered the land.
_____ 22. Substances which make up the Earth's crust.
_____ 23. Remains of a plant or animals left in rock.
_____ 24. A time when there was only one super-continent.
_____ 25. A very hard clear mineral.

Answers on page 13

Nature's Web Wordsearch

Nature's Web Spring 2009 Wordsearch

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

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

beaks

bills

buttercups

Charles Darwin

European Flat Oyster

insect-friendly

Kerrs Pink

Mount Erebus

Pacific Oyster

pearl

potato

Robbie Murphy

salmon burgers

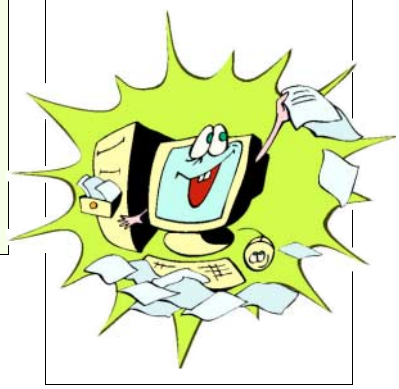
Striped Skunk

Titanboa

trestles

water pressure

woodpecker



SOLUTIONS: *(Over,Down,Direction)* Beaks (2,7,N); Bills (13,5,NE); Buttercups (7,3,SE); Charlies Darwin (16,1,SW); European Flat Oyster (1,18,NE); Insect friendly (1,2,E); Kerr's Pink (1,5,S); Mount Erebus (2,13,NE); Pacific Oyster (18,2,S); Pearl (9,14,E); Potato (7,15,NW); Robbie Murphy (17,14,N); Salmon burgers (5,3,SE); Striped Skunk (12,12,NW); Titanboa (14,13,W); Trestles (10,3,SW); Water pressure (14,16,W); Woodpecker (2,18,E).

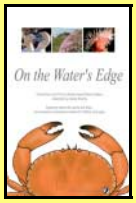
Learn More

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"*



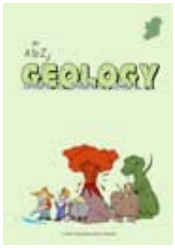
Sherkin Island Marine Station has launched a dvd called *'On the Water's Edge'*. It is made up of a short film on life beside the sea and is presented by Audrey Murphy. It includes 6-10 hours of interactive material for children of all ages. *Available from: Sherkin Island Marine Station, Sherkin Island,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



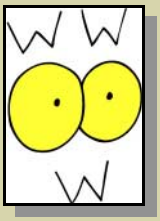
"An A to Z of Geology" explores the fascinating world of rocks and geology – a world of volcanoes, tsunamis, earthquakes, diamonds, gold and even dinosaurs! Produced by Sherkin Island Marine Station, in association with the Geological Survey of Ireland, the book aims to highlight the importance of geology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

Beaks & Bills: http://fsc.fernbank.edu/birding/classroom.htm

Oysters: http://www.bim.ie/templates/text_content.asp?node_id=253
http://www.bim.ie/templates/aquaculture_oysters.asp?node_id=422

Skunks: http://dnr.state.il.us/orc/wildlife/furbearers/striped_skunk.htm

Potato: http://www.internationalyearofthepotato.ie/

Charles Darwin: http://www.darwin200.org/

Dublin Zoo Rhinos: http://www.dublinzoo.ie/latest-news.asp

Great Spotted Woodpecker: http://www.birdwatchireland.ie/News/GreatSpottedWoodpeckersNewtoIreland/tabid/568/Default.aspx

Giant Snake: http://news.ufl.edu/2009/02/04/giant-snake/

Mt. Erebus, Antarctica: http://earthobservatory.nasa.gov/IOTD/view.php?id=37043

Buttercups: http://www.floralimages.co.uk/ranunculaceae.htm

Insect Friendly Garden: http://www.liverpoolmuseums.org.uk/wml/naturalworld/bughouse/garden.aspx
http://www.nationalinsectweek.co.uk/garden.php

Pressure Underwater: http://www.seagrant.wisc.edu/madisonjason11/

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.

Charles Darwin's 200th Birthday!

The British scientist Charles Darwin was born 200 years ago, on 12th February 1809. He was always very interested in natural history and at the age of 22, instead of becoming a doctor or a clergyman, he abandoned his studies and joined a 5-year round-the-world voyage onboard a ship called the "Beagle". During the trip the ship visited the Galapagos Islands, off the coast of Ecuador, South America. There Darwin observed a remarkable population of animals and plants living in isolation from their relatives on the mainland. He saw that the animals and plants species differed from those relatives and even from island to island having adapted to the local conditions. He was particularly interested in how certain bird species had adapted. Darwin began to understand the way living things evolve and adapt to their environment. From his observations, Darwin concluded that organisms best suited to their environment are more likely to survive and their adaptations would be passed down to their future generations. Those organisms that do not adapt to their environment, die out. After spending many years studying these adaptations and fossils of very old organisms, he wrote his famous book "On The Origin of Species", explaining his theory of evolution and the idea of "survival of the fittest".

Neema, the new baby giraffe in Dublin Zoo

Dublin Zoo celebrated the birth of a baby giraffe calf on 4th January. Following a nationwide competition, "Neema", a Swahili word meaning "prosperous" was chosen as the calf's name. It was submitted by six-year-old Lucy Blacker from Swords in Co. Dublin. Neema is thriving and in the middle of February already measured 2 metres high and weighed 50 kilograms. Neema is one of the seven members of the giraffe herd at the zoo.

Are Great-spotted Woodpeckers breeding in Ireland?

Though found in the UK and in the rest of Europe, one bird that is not resident in Ireland is the woodpecker. A small number of Great-spotted Woodpeckers have been seen here, when the lack of winter food sources in Northern Europe drives them south. However, in recent years sightings have increased in many parts of Ireland and those that are visiting seem to be staying for longer periods. Following the discovery of some juvenile birds in south Co Dublin, it is believed that they may even be breeding in Ireland as well.

World's biggest snake was longer than a bus!

In a mine in Columbia, South America, paelontologists Carolos Jaramillo and Jonathan Bloch discovered the partial skeletal remains of the largest snake ever known. The boa contrictor-like snake, named "Titanoboa" lived 60 million years ago. It measured 13 metres (42 feet) in length - longer than a city bus - and at 1,135kg (2,500 lbs), heavier than a car!

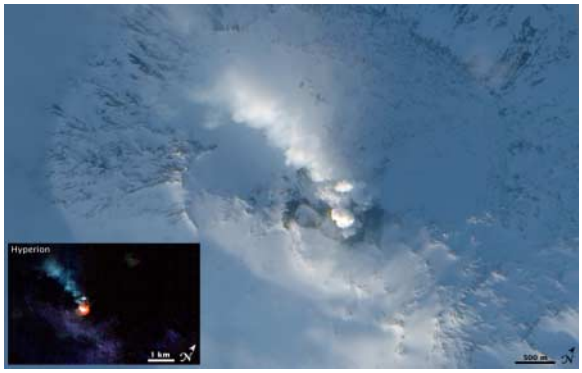


Photo courtesy of NASA

Volcanic activity on Antarctica

When we think of Antarctica, we think of ice but did you know that underneath the glaciers there is an active volcano, known as Mount Erebus. It was erupting when the British explorer Captain James Ross visited the continent in 1841 (naming the volcano after one of his ships) and since 1972 it has had continuous lava lake activity. Recent thermal imaging from NASA highlights the volcano's activity.

Buttercup Family

Most members of the family in Ireland are yellow-flowered buttercups or closely related white-flowered water-crowfoots. They are perennials or sometimes annuals. The flowers usually have 5 petals and the leaves are often deeply cut into narrow lobes. The flowers have whorls of un-joined parts, including many small, and generally 1-seeded fruits. Fossil evidence suggests that these were also features of the first flowers, millions of years ago, and so botanists regard the family as likely to be primitive. Note that it is often difficult to tell coloured sepals from petals. The Buttercup family occurs mostly in the cooler parts of the northern hemisphere.

Photos © Robbie Murphy

Creeping Buttercup *Ranunculus repens* Fearbán reatha

Creeping Buttercup is as much a garden weed as a wild flower of the countryside. This rather hairy perennial, with creeping runners or stolons, typically grows in ditches, damper places in grassland and on disturbed ground, but can occur almost anywhere, from sand-dunes to clearings in woods. Similar, but up to 100 cm tall and more erect, with leaves deeply cut into long lobes, Meadow Buttercup (*Ranunculus acris*, Fearban féir) is locally common in meadows and other grassy places.

Lesser Celandine *Ranunculus ficaria* Grán arcáin

Lesser Celandine is one of the first wild flowers of the year. On a sunny March day, the yellow starry flowers of this small hairless perennial, which spreads to form large patches, are a fine sight. The flowers have 3 sepals and 7–12 petals, unlike those of the closely related buttercups, which have five of each. By midsummer, all the plants have withered, but survive below ground as a cluster of small sausage-like tubers. These will sprout again in late winter to produce, first, clusters of leaves, and then the flowers.

Stream Water-crowfoot *Ranunculus penicillatus* Néal uisce bréige

For a few weeks in early summer, Stream Water-crowfoot is one of the showiest and most beautiful wild flowers of Ireland's rivers and streams. The long, limp stems and finely-cut leaves flow and wave like drowned green tresses in the current. The floating leaves and air-filled, spongy stems help to keep the plant afloat. This allows the buttercup-like flowers to emerge and attract pollinating insects. Several closely related water-crowfoots occur in rivers,

Lesser Spearwort *Ranunculus flammula* Glasair léana bheag

The flowers of Lesser Spearwort are similar to those of the closely related Creeping Buttercup (above), and of other yellow buttercups. It is a common wild flower of damp, marshy and boggy places in summer. The hollow, slightly zig-zag, often reddish stems sometimes creep and root to form new plants. The oval, spear- or strap-shaped, toothed or untoothed leaves are quite different from those of the other widespread Irish buttercups. The flowers are smaller, and the whole plant is almost hairless.

Text by John Akeroyd from "A Beginner's Guide to Ireland's Wild Flowers"

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 In what year did the Irish Famine begin?

2 What bird may have started breeding in Ireland for the first time?

3 How many petals has the creeping buttercup flower?

4 What does SCUBA stand for?

5 Does the Striped Skunk prefer to eat during the day or during the night?

6 What length was the longest snake ever known?

7 What type of burgers are featured in the BIM recipe?

8 Pacific Oysters are native to Irish Waters. True or false?

9 Name the active volcano in Antarctica.

10 What would Robbie Murphy like to be if he wasn't an oyster farmer?

11 Which bird has the longest beak relative to its body size?

12 Nettles in the garden will attract butterflies. True or false?

13 What was the name of the ship on which Charles Darwin travelled around the world?

14 What name was given to the baby giraffe born in Dublin Zoo this January?

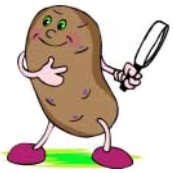
15 Does the toucan have a big or small beak?

16 Is the Lesser Celandine flower seen in spring or autumn?

17 What are Sweet Potatoes often called in South America?

Answers to quiz on page 8: 1=M; 2=Q; 3=H; 4=A; 5=E; 6=XY; 7=U; 8=Z; 9=K; 10=O; 11=L; 12=V; 13=B; 14=J; 15=S; 16=W; 17=N; 18=T; 19=G; 20=C; 21=I; 22=R; 23=F; 24=P; 25=D. **Answers to "How much did you learn":** (1) 1845; (2) Greater-spotted Woodpecker; (3) Five; (4) Self-Contained Underwater Breathing Apparatus; (5) During the night; (6) 13 metres (42 feet); (7) Salmon; (8) False; (9) Mt. Erebus; (10) A wildlife photographer; (11) Sword-billed Hummingbird; (12)

Nature Jokes



Why do potatoes make good detectives?
Because they keep their eyes peeled.

What insect lives on nothing?
A moth, because it eats holes!

What do skunks do when they get angry?
They raise a stink.

What's a snake's favourite subject?
Hiss-tory!

What do you call a crate of ducks?
A box of quakers.

If Ireland sank into the sea, which county won't sink?
Cork.

What did the sardine call the submarine?
A can of people.

What am I saying?

Can you think up a caption for this photograph of a pair Red Crossbills?

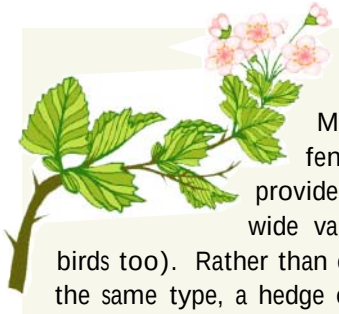
Photo courtesy of www.pdphoto.org

Spot the five differences!

How to create an insect-friendly garden

By Stuart Munro

Many people know the value of garden plants to one group of insects – butterflies, and there are several very good books on gardening for these beautiful and graceful insects. Other insects do not fare so well and are often labelled creepy-crawlies and 'pests' but in fact can be quite amazing in their own way; acting as pollinators of garden plants and even as a natural form of pest control.
Here are a few ideas on how you can encourage more of these fascinating creatures into your garden; giving you hours of pleasure watching them go about their "buzziness".



Hedges

Much better than fences, hedges can provide food & shelter for a wide variety of insects (and birds too). Rather than one long hedge all of the same type, a hedge of a variety of native shrubs will allow for a greater variety of different types of insect; providing flowers for pollen and nectar-feeding insects, leaves & shoots for plant-feeding insects as well as berries for birds.
Blackthorn, hawthorn & privet species are ideal, though all require plenty space to grow to flowering size and must not be clipped too heavily to allow flowering. Bramble, though not normally planted as a hedge but will grow around hedgerows and walls naturally, is an excellent source of nectar in July & August if space can be allowed for it. Ivy will also encourage butterflies, moths & other insects into your garden.

Dead Wood

This provides a habitat for many insects (and may also be used as a hibernation site by small mammals such as Hedgehogs). Several beetles lay eggs and have larvae which live inside dead wood, sometimes for many years. Solitary wasps & bees may also nest in dead wood.
To encourage the largest variety of insect life some dead wood should be located in a shaded part of the garden and stacked tightly to avoid being dried out by the wind & sun, but others can be placed in sunny spots.

Plants

The most well known plant to attract butterflies is Buddleia, and most brightly coloured cultivated plants favoured by most gardeners will attract various butterflies, bees and other pollinating insects. A far greater range of insects can be attracted, however, by planting some of our native wild flowers (most garden centres stock wild flower seeds – please do not pick wild flowers as this may hurt the natural environment). Many of these wild flowers are considered "weeds" by gardeners and include buttercups, dandelions, clovers, thistles, heather and scabious.
A small patch of nettles is another favourite; no less than four different species of butterfly rely on this plant for egg-laying (Small Tortoiseshell, Peacock, Red Admiral & Coma).

Ponds

Most people will think that ponds are only for frogs/toads & fish but not so; a small pond can attract water beetles, caddis-flies and even brightly coloured and active dragonflies and damselflies.
A wildlife pond is different from an ornamental fish pond however; a sloping side and shallow shelf to simulate a marshy area and allow those animals which crawl out of the water when they are turning into adults.

Stones & Rocks

Flat stones or bricks lying on the soil surface can provide sites for hibernation or refuge for nocturnal and moisture-loving insects. One such group which particularly require such a place are the ground beetles which are very useful as natural pest controllers as they hunt and feed on other small insects. Ants will also build their nests under flat stones.

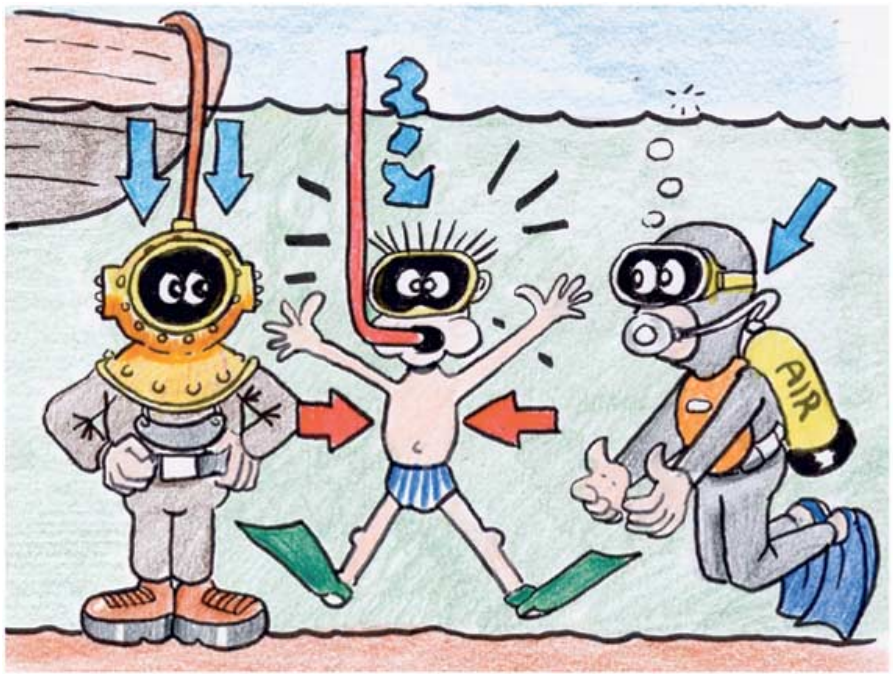
And finally... It is not necessary to try ALL of these projects (some gardens will not be large enough to allow this) but even if you just manage to let a small area of "weeds" grow in one corner or place a few stones or bits of deadwood where there is a space then you will have made your garden much more attractive to a whole host of insects.

Putting yourself under PRESSURE

One of the first problems people faced in undersea exploration was water pressure, due to the weight of water pressing in on any body immersed in it. Even a few feet below the surface, water pressure will squeeze a diver's lungs so tightly that he cannot breathe air directly from the surface. This is why divers must be supplied with air equal in pressure to the surrounding water in order to breathe.

Up until the Second World War, this air was usually supplied under pressure from a pump on the surface directly into the diver's helmet. In 1943 however, the famous French underwater explorer Jacques Cousteau and his partner Emil Gagnan invented the "aqualung" or SCUBA – the Self Contained Underwater Breathing Apparatus – that supplied compressed air from a tank at the same pressure as the water outside.

This invention freed divers from cumbersome air tubes and led to the exploration of the underwater world.



Captain Cockle's Log

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

Words & pictures by John Joyce

For more adventures from Captain Cockle, visit his website at

www.captaincockle.com

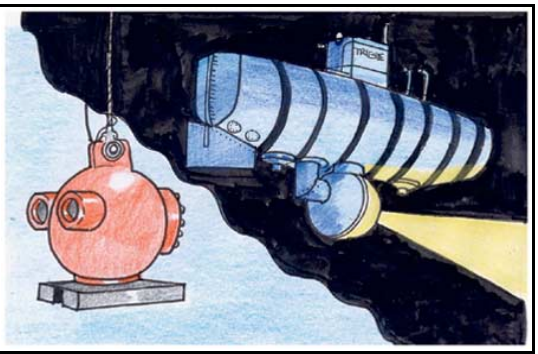
See for yourself . . .

Wrap your hand in a plastic bag and pushing it into a bucket of water. Water pressure will "shrink wrap" the bag around your hand! Or, punch holes down the side of a soft-drink bottle and fill it with water. Water at the bottom is under more pressure from the weight of water above it and will flow out faster.

Deeper and Deeper . . .

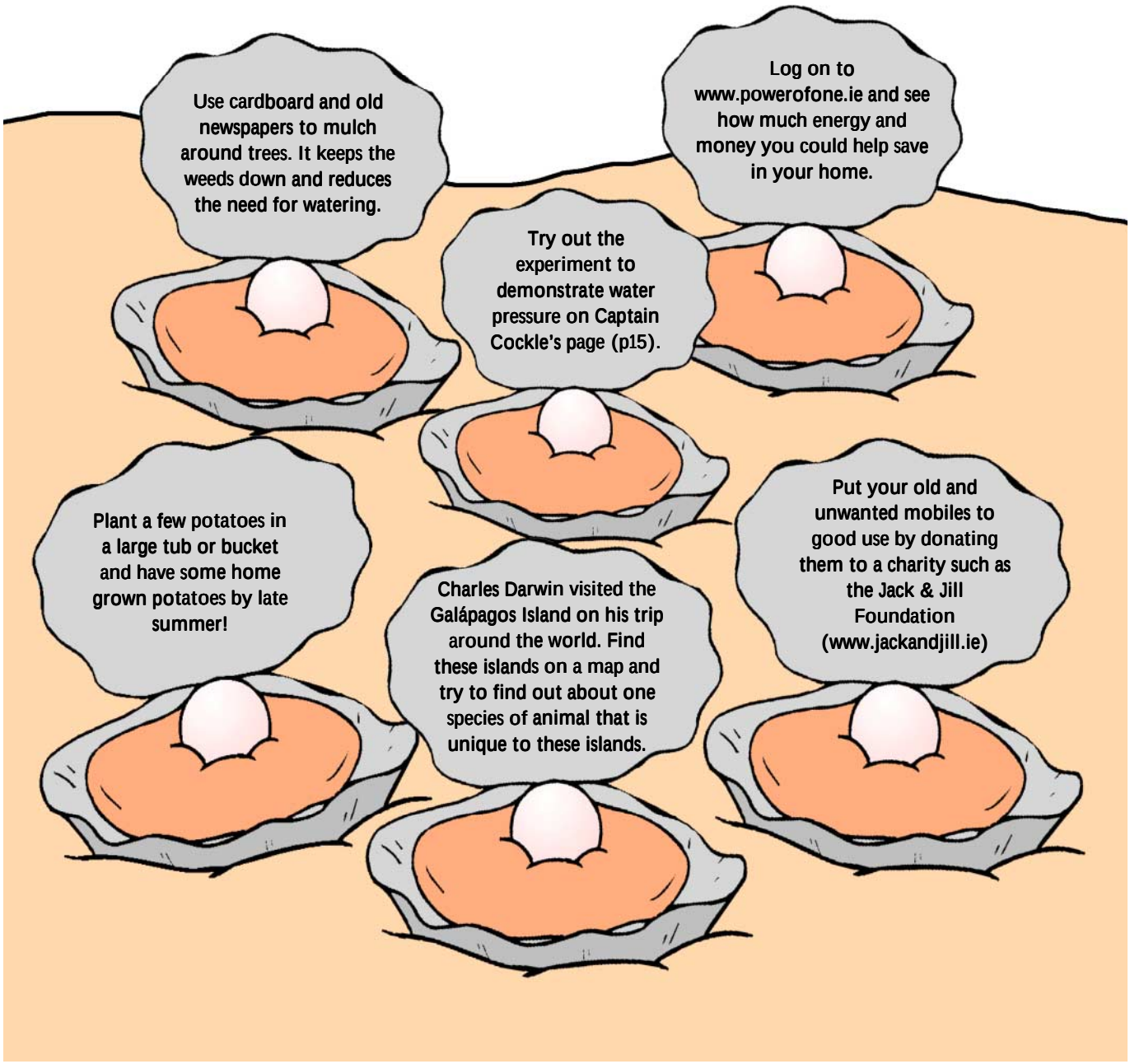
The best shape to resist the enormous pressures of the deep sea is a simple sphere. In 1930 William Beebe dived to over 400 metres in a steel sphere 6 cm thick.

In 1963 the bathyscaphe "Trieste" - consisting of a steel sphere below a gasoline filled steel float – dived over eleven KILOMETRES to the deepest part of the ocean, the "Challenger Deep" of the Marianas Trench in the Pacific.



Nature's Noticeboard!

Spring 2009



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