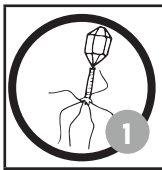
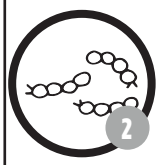
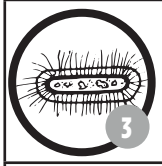
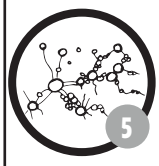
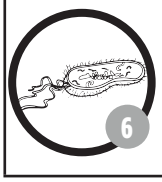
Index: Kingdom Monera

	Virus	Viruses are the simplest form of life, they are single-celled with a protein shell containing RNA/ DNA. Bacteriophages comprise a head, a core and tail plate with fibres and they infect bacteria.
	Strep throat	Bacteria are Prokaryotes,they don't have a distinct nucleus enclosed by a membrane. They are usually unicellular, many cause diseases. They fall into 3 shape types: spheres, rods and spirals. Streptococcus is spherical (Coccus).
	Anthrax	Anthrax is a rod shaped bacterium, common in livestock and can be transmitted to people (zoonosis). It is a serious disease in humans. It has been utilised as a biological weapon.
	Lyme disease spirochete	Borrelia bugdorferi is a spiral bacterium that is carried by ticks (for instance on deer) and causes Lyme disease.It can move by means of flagella, long thin whiplike appendages that lash to and fro.
	Blue-green algae	Cyanobacteria changed the world FOREVER. They contain chlorophyll, enabling photosynthesis which uses sunlight to convert carbon dioxide and water into glucose and OXYGEN, on which ALL ANIMAL LIFE DEPENDS!
	Archaea	Archaea derives from the Greek archaios meaning ancient. They are unicellular Prokaryotes, distinct from bacteria, differing in their RNA and thrive in extreme environments. Pyrolobus fumarii can exist at 113degrees C!

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	Amoeba	Shape shifter. Amoeba is a protist which lacks a definite shape, amoeba means change in Greek. It is a supergroup of Eukarotes (which have a nucleus enclosed in a membrane) and can have more than 2 nuclei. Some can cause entritis and hepatitis.
	Unicellular protists	Phaeodaria are zooplankton, single celled eukaryotes having hollow skeletons containing silica. Circostephanus has a beautiful, intricate structure with 6-fold symmetry.
	Unicellular protists	Circogonia are zooplankton and a genus of Radiolaria. They have an intricate skeleton made of silica showing radial symmetry (hence the name).
	Unicellular protists	The centre of the shell without the spines, shows 5-fold symmetry.
	Protista shell	Many of the marine protists have the most beautiful , intricate shells which can be viewed under the microscope.
	Protista shell	The creature feeds on bacteria and othr protozoa by extending long threads through the pores.
	Protista shell	The shells are amazing architectural structures.

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 14	Nematode	Nematodes were almost the first animal, appearing just after bacteria and protozoa and fungi. Poinar.
 15	glass sponge	Sea sponges were the first animals on earth. Here we see a cross section.
 16	glass sponge	Sponge reefs are formed by glass sponges .
 17	glass sponge	Hexactinllid (or glass) sponges have a skeleton with 4/6 pointed spicules.
 18	glass sponge	The glass sponges are rare and beautiful.
 19	glass sponge	Farrea Occa is one of only three species of glass sponge that can form reefs off the West coast of Canada.
 20	Bath sponge	Demospongiae is the largest class of sponges. It has been farmed for 4000 years. Boling removes the cells and the spongin skeleton is what we use in the bath.
 21	comb jelly	Medusa: from the Greek myth about a woman whose hair was changed into snakes. Jellyfish have stinging tentacles, the lion's mane is the largest with tentacles up to 30m long.
 22	Sea Pen	They look like quill pens. They are a type of octocoral with 8 tentacles to catch plankton which they feed on.
 23	Sea nettle	Chrysaora comes from Greek for 'he who has golden armour'. A group of jellyfish is called a smack. If you've ever been stung by one you'll agree it's well named!

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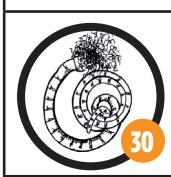
 24	stony coral	Reefs are built from coral polyps, translucent animlas containing tiny algae which give them their colour. They are important ecosystems, teeming with diverse life. They also protect coastlines.
 25	sea anemone	Named after the flower. It's formed a symbiotic relationship with clownfish who, immune to its sting,is protected by the tentacles,while the anemone eats scraps from the clownfish's meals.
 26	soft coral	Corals look like plants but they are actually animals! Soft corals have 8 tentacles (octocorals) and are very decorative, you see them in aquariums.
 27	flatworm	Flatworms are very simple creatures descended from corals and jellyfish.
 28	flatworm (La Valette)	Flatworms have eyespots. There are 3000 species, some of which, like tapeworms are parasitic.
 29	Earthworm	Major ecosystem engineers! they plough the earth. 'It may be doubted whether there are many other animals which have played so important a part in the history of the world'. Darwin
 30	bristle worm	Watch out! These segmented worms have stinging bristles.

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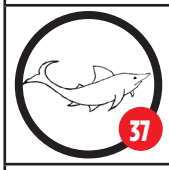
	star sea squirt	Do not disturb. They squirt water if you tread on them, like a water pistol, hence the name.
	colonial sea squirt	It is a colonial tunicate sometimes called sea vomit or carpet sea squirt because it forms a thick mat or hangs in thick strings coloured orange, pink, tan, yellow or off-white.
	lancelet	The lancelet is an extremely simple organism with muscles attached to a flexible rod in its back. They can contract making waves run down its body , pushing it forward, it can swim.
	lamprey	The lamprey is a jawless proto-fish. The head ends in a disc with a tongue covered in sharp spines. It clamps onto a fish and rasps the flesh off it, skinning it alive.
	Manta ray	CARTILAGENOUS FISH cartilage is softer, more elastic, lighter than bone. Mantas can weigh 2 tonnes and have a mouth a metre wide. Their minimalist shape inspired the Lilium Jet design.
	Hammer head shark	Sharks are cartilagenous but still heavy, and have to keep moving so they don't sink. A charging shark cannot stop or reverse. A group of sharks is called a shiver!
	Great white shark	The first ancestors of sharks occurred 450mya. The Great White shark starred in the film Jaws.
	john dory	The john dory is often called St Peter's fish as St Peter is alleged to be the origin of the dark 'thumbprint' or spot on its side.
	yellowfin tuna	BONY FISH shared a common ancestor with rays and sharks. The tuna is a high speed ocean going fish and can swim at up to 75km/h.

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 40	cod	Cod are a sea fish, which can home successfully over 1000 km, but we still don't know how they do it.
 41	Whiting	Whiting are active predators, the young eat mainly crustaceans and the adults feed on juvenile fish.
 42	coelacanth	A living fossil. The Coelacanth was thought to go extinct 400mya, until one was caught in 1938 off the S. African coast, causing a scientific sensation! Margaret Latymer spotted it in a fisherman's catch.
 43	tiktaalik	The Missing Link? Tiktaalik was discovered in 2004. With the skull, neck and ribs of an animal, and jaws, gills and scales of a fish, it had long hind fins which could have helped it out of the water onto the land.
 44	Queensland lungfish	AMPHIBIANS were the first insectivores, they are cold blooded The lungfish breathes with its gills like a normal fish, but it also has very simple lungs which enable it to breathe on land.
 45	great crested newt	Leading a double life. Newts spend half the year on land, living beneath stones or in undergrowth. Then in spring they migrate to ponds to breed and become truly aquatic.
 46	fire salamander	Though closely related to newts, the salamander spend most of its adult life on land. It prefers cold wet places. Medieval myths said that it had the ability to quench fire.
 47	axolotyl ' walking fish'	Super cute but a ruthless carnivore. This salamander relative can regrow lost limbs without any scarring. It's a 1000 times more resistant to cancer than other mammals.
 48	marsupial frog	FROGS The marsupial frog comes from Australia and, like Australian mammals, the female has a pouch to develop the young.

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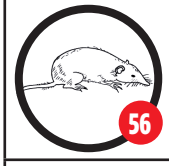
 49	blue poison dart frog	Dendrobates protect themselves with poison glands. This is so effective they can safely develop bright colours to warn predators and signal to each other.
 50	Common/Summer Frog	From tadpole to frog in 12 weeks! Tadpoles hatch from frogspawn. Initially vegetarian, they grow tiny teeth becoming carnivores. They develop their hind legs first, then front legs and lungs, slowly losing their tails.
 51	pelycosaur sail back	PELYCOSAUR Fossil. They controlled their body temperature by outside means, like basking in the sun. The sail would have acted to speed up heat transfer, like a large living radiator.
 52	probelesodon	CYNODONT Extinct. 'Missing link' between reptiles and mammals.Probelesodon was a later cynodont and looked very much like a mammal with hair, warm blood and probably whiskers.
 53	megazostrodon	MAMMALS Fur and Milk. Possibly the first mammal, but maybe the transitional animal between therapsids and mammals. It was tiny & fast, handy, as it was living with dinosaurs. Extinct.
 54	crusafontia	It was about 8 inches long and looked like a tree shrew. Fossils indicate it lived in trees and could leap from branch to branch, feeding on insects and fruit.
 55	pygmy shrew	INSECTOVORE The pygmy shrew lives life in the fast lane, eating every 2/3 hours to survive. It's heart beats at a unbelievable 1200 times/ minute and it takes 70 breaths/minute.
 56	white toothed shrew	Shrews have very long whiskers which help them to find their way around by touch. Insectivores are the earliest known ancestors of placental animals.
 57	common shrew	They do not hibernate but are less active in winter. Remarkably they shrink in winter, so they need less effort to move and therefore need less food. Clever!

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	water shrew	The largest of Britain's shrews, up to 96mm. It is most unusual amongst mammals as it has venomous saliva, to stun it's prey. It likes shrimps, newts & small fish.
	mole	Moles spend nearly all their time underground, their hands are like spades, almost as broad as they are long. They may dig 500 yards of tunnels which they regularly patrol.
	nine banded armadillo	Armadillos can hold their breath for 6 minutes. This is useful as they dig for food (insects & other invertebrates) eating at the same time. They are protected by armour.
	hedgehog	Gardener's Friend. A`Prickle' of hedgehogs, each can have 7000 quills. They are small nocturnal creatures with big appetites, liking snails, slugs and worms in anticipation of winter hibernation.
	anteater	Its toothless jaws form a tube with which to eat tree-living ants & termites. It lives mainly up in the trees away from predators.
	slender loris	PRIMATES Prosimians The nocturnal slender loris marks its territory in the trees by urinating on its hands and feet, rubbing them together, and leaving smelly handprints everywhere!
	bush baby	Bush-babies are undeniably monkey-like.They are superb jumpers and have a long tail which acts as a rudder when they jump from branch to branch.
	sifaka	The sifaka is a specialist jumper, with legs very much longer than its arms, meaning it cannot run on all fours, but it stands upright and hops with its feet together.
	ring tailed lemur	It's spectacular black and white ringed tail is amost twice as long as its body. It spends most of its time on the ground and is strictly vegetarian.

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 67	uakari	New World monkeys called Platyrrhines (flat noses)- have a prehensile tail, flat nose, colour vision, & stereoscopic sight. Red in the face: It's extraordinary colour is an indicator of health.
 68	capuchin	Clever monkeys.They love clams, but can't open them. They have found that by knocking them on a branch they can get a finger inside to scoop out the flesh.
 69	spider monkey	It's muscled tail is longer even than its arms, and is so mobile, that when when the monkey is eating it appear to have 5 arms!
 70	owl monkey douroucouli	It is nocturnal, the huge eyes, which make it owl-like, give it great night vision.
 71	pygmy marmoset	It is the smallest monkey in the world, only 13.6cm long, you could hold it in the palm of your hand.
 72	colubus	Old World Monkeys, Catarrhines (hooked noses)- don't have prehensile tails, they have thin noses & downward pointing nostrils. Colubus' balancing tail help it navigate branches, then free fall to another branch.
 73	golden guenon	Endangered. Golden monkeys are studied by the Dian Fossey Gorilla Fund and are found in Rwanda, in only 2 places. They are the only other primates in the gorilla's habitat.
 74	rhesus monkey	They were first in space. Rhesus macaques have aided a lot of medical and scientific research. Rhesus antigens found in their blood helped doctors identify different blood groups.
 75	baboon	Colour coded. All baby baboons are black with bright pink faces, so they can be identified as needing special care. Baboons legs are the same length so they can move easily on the ground.

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	mandrill	The biggest monkey of all, the male weighs 36 kilos stands 50 cm high at the shoulder
	gibbon	APES The only primates apart from humans to form permanent monogamous families. Gibbons are known as a 'lesser apes'. They have no tails, but elongated arms so they can swing through trees.
	orangutan	HOMINIDS -Great Apes. Oragutans are very intelligent.They build nests by bending branches to make a platform and even construct a roof if it rains. They use twigs to excavate ants' nests.
	Western gorilla	An adult silverback can weigh 400 pounds. Dian Fossey lived for 20 years among the mountain gorillas in Rwanda, promoting conservation. The film 'Gorillas in The Mist' tells her story.
	chimpanzee	The chimpanzee is the closest of our animal relatives,.
	Lucy's species	Named for the Beatles song 'Lucy in the Sky with Diamonds'. Discovered in Ethiopia in 1974 by Donald Johanson, she was the earliest known hominin, she could walk upright on 2 legs.
	homo erectus	Homo erectus our ancient ancestor. His is the oldest known species to have a human-like body, elongated legs and short arms and an upright posture.
	neanderthal man	Neanderthals have a bad press, but they were actually very sociable and intelligent and our closest human relative. About 200,000 years ago they discovered how to MAKE FIRE, which was world changing.
	modern man	The human race. We characterise modern humans as having small slender faces, a protruding chin and a rounded skull. Where did our species come from? We still don't have the answer.

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 85	Woodmouse	The UK's commonest mouse, it is prey for cats, foxes, owls. Tawny owls may not breed if woodmouse numbers are low. It can squeeze through the tiniest space 6mm across!
 86	House mouse	It is extremely adaptable, it can survive everywhere, even Antartic. Long haired glossy-coated mice have been found living in refrigerated cold stores!
 87	Short-tailed vole	One of UK's most common mammals, population 75m.Fiercely defends its territory.
 88	Dormouse	The doormouse takes long periods of hibernation, up tp 6 months or more. Dormeus means 'sleepy one'.
 89	Black (house) rat	It's an urban myth that you are never less than 2 metres from a rat. But rats live virtually everwhere humans have settled.They have spread disease, including bubonic plague.
 90	Red squirrel	The red squirrel's nest is called a drey. They were almost wiped out in the UK by pox introduced by American grey squirrels, but are now slowly being reintroduced in the north of Britain.
 91	American Beaver	Beavers build dams to slow streams down (also hinders soil erosion). Their large flat tail is used for swimming, and flaps water to scare predators. Their home (lodge) has 2 dens, one for drying off, one for family use!
 92	Lesser horseshoe bat	Horseshoe bats have unusually shaped noses. They have a bad press as a species found in China is the source of Corona virus. However bats eat insects and pollinate plants, promoting biodiversity.
 93	Banana bat	BATS pollinate the banana plant. Horizontal rows of white flowers each covered by a bract grow on a stalk, their perfume attracts bats. As they sip nectar pollen sticks to their fur.

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	Pipistrelle	Bats are the only mammal that can fly. They use echo-location (like radar). A group of bats is called a cloud.This pipistrelle is so small it can fit in a matchbox.
	Hyracotherium Eohippus	UNGULATES Perissodactyls (odd toed). Mammals with hooves. Extinct. 'Dawn horse' first ancestral horse, a hoofed, browsing mammal with 4 toed forelimbs and 3 toed hind limbs, about the size of a dog.
	Mesohippus	Larger than Hyracotherium. 3 toes on front leg, 4th toe decreased & middle toe strengthened, with habitat change from swamp to soft ground.Toes ended in little hooves, but still had a pad behind them.
	Merychippus	Almost size of modern small pony. Central toe became larger with a well developed hoof.
	Pliohippus	Earliest 1 toed horse. Teeth indicate it had a greater dependence on grazing and lived on open plains.
	Horse	Highly social and live in herds. Domesticated and found throughout the world except Antarctica. They have 4 gaits (speeds) walk, trot, canter, gallop. Equus means 'quickness' in Ancient Greek.
	Zebra	They have a distinctive black-and-white striped coat. Each individual's stripes are unique. A group of zebras is called a dazzle.
	Donkey	They are able to carry up to twice their own body weight, so are often used in manual labour.
	Camel	Camels store food as fat in their humps. They can live 2 months without drinking, and can close their nostrils to keep out sand in a sandstorm.

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	Giraffe	The tallest living animal in the world. They only sleep about 20 minutes a day.The yellow-billed oxpecker bird cleans ticks from it's fur. A group of giraffes is called a tower.
	Bighorn sheep	Famous for large curled horns.They have balance-aiding split hooves & rough hoof bottoms for grip on mountainous terrain.
	Goat	One of the first animals to be domesticated. Kept for their milk, which is more easily digested than cows' milk.
	white tailed deer	Name refers to the white underside of the deer's tail which it displays when on the alert.
	Gazelle	It relies on speed to escape from predators, and can reach 60 mph in short bursts. It leaps when running (called pronking).
	Hippo	The hippo spends the day in the river and comes out at night to graze.
	Pig	UNGULATES Artiodactyls (even toed) Ruminants. Pigs are very intelligent. Piglets learn to run to their mother's voice and recognise their own names. Very social and playful. Subspecies of Eurasian boar.
	Auroch	All cattle in the UK are descended from Bos primigenius (wild auroch) and Bos longifrons. Aurochs are extinct but recreated by selective breeding.
	Holstein-Fresian	First ancestors appeared 2000 years ago and showed excellent dairy qualities.

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	Lion	Lions live in prides that can number over 20. The females, who are all related, greatly outnumber the males,and will look after each others cubs.
	Cheetah	The cheetah is the fastest of all land animals, it can reach 60mph.
	Domestic cat	Light reflecting eyes allow cats to hunt effectively at night. This inspired Percy Shaw to invent the Cat's Eye, the road safety device.
	Spotted Hyena	They are called Laughing Hyenas, but they don't laugh (& are not related to dogs). Each clan is ruled by an alpha female and they hunt in well coordinated packs.
	Wolf	The wolf is the ancestor of all dogs, and is almost twice as big as an Alsation. All the wolves in a pack take care of the pups,bringing food, playing,even babysitting. They hunt in packs.
	Black- backed Jackal	Jackals have one mate for life and both parents take care of their young.They are omnivores and will eat left overs from other animals' kills.
	Coyote	They are sometimes called prairie wolves. Not fussy! they are very adaptable and will eat almost anything. They hunt in packs and can run up to 40mph.
	Domestic dog	Man's best friend. Dogs diverged from grey wolves 32,000 years ago. They are highly intelligent and man domsticated them and selected certain wolf functions for breeding different working dogs.
	Dingo	The dingo is Australia's wild dog, introduced 4000 years ago by Asian seafarers. The standard is ginger with white feet. In the desert the fur is golden yellow, in forests it is dark tan to black.

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	Babesia	Babesia is an Apicomplexan, a group of single -celled parasites, carried by ticks, which infects animals and occasionally causes Babesiosis in humans.
	Plasmodium	Plasmodium is an Apicomplexan single-celled parasitic protozoan which can infect mosquitoes which causes malaria in humans. Over 1 million people die of malaria each year.
	Crypto	Cryptospiridium is an Apicomplexan parasitic alveolate which causes diarrhea, in animals and sometimes in humans. It is a waterborne disease.
	diatom	ALGAE 'Diatoms are single celled algae that live in houses made of glass'.The silica shell has 2 parts etched with intricate patterns. A thin filament extends through the cell wall enabling the diatom to move.
	diatom	The top view shows bilateral symmetry.
	single celled algae	Algae are the simplest of true plants and can manufacture their own food by photosynthesis. This top view shows multiples of 3 - fold symmetry.
	diatom	The top view shows bilateral symmetry.
	diatom	This shows 5-fold symmetry as the name shows, pent from the Greek penta meaning five.

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	green algae	Pediastrum are a species of green algae which live in fresh water. All the basic symmetries are demonstrated. All life depends on Plants and Fungi, notice at RBG KEW.
	green algae	This shows 8-fold symmetry, hence the name octo means 8 in Greek and Latin..
	green algae	This has 5 and 10 fold symmetry.
	green algae	This shows 4 fold symmetry, see the name cross shaped.
	green algae	This has 5 and 10 and 16-fold symmetry.
	green algae	This shows 5 and 10 fold symmetry.
	red marine algae	Red algae grow on coral reefs and strengthens them. Many red algae are a valuable source of complex sugars, Pectin used to make jams & Carragheen are obtained from them.
	red marine algae	Seaweed is a rich source of iodine.
	red marine algae	Laverbread is a traditional Welsh delicacy, made from laver a species of edible seaweed. It tastes rather salty!

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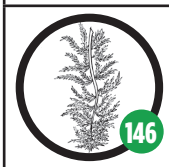
	red marine algae	Laurencia papillosa grows at depths of up to 65m.
	fresh water green algae	Multicellular green algae has clusters of branches which arise from the main filament.
	sea lettuce	Ulva lacta is a membranous bright green seaweed
	Liverworts	BRYOPHTES The first land plants, they reproduce by spores.LIVERWORTS Usually grows on the banks of shady streams and ditches. The rhizoids are unicellular.
	Liverworts	The thallus is split into irregular lobes which join onto the central mid-rib, which makes it look like a leaf.
	Hornwort	The top of the plant resembles horns. They are one of the earliest land plant ancestors, and are a bit of a puzzle for evolutionary biologists and taxonomists.
	black rock moss	Remarkable for its reddish-black colour. It grows on boulders in mountainous or arctic regions.
	common hair moss	MOSSES distinguishing features: The spores discharged from their capsules grow into thread-like structures which produce upright leafy shoots. The rhizoids are multicellular.
	sphagnum moss	Sphagnum moss forms peat bogs, the UK's most significant carbon stores.It has antibacterial properties and can absorb 20 times its weight in water, & was used for dressings in WW1.

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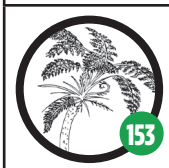
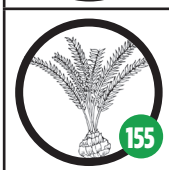
	maidenhair moss	The Nitinaht Indians of Vancouver Island used it to bandage wounds.
	common tamarisk moss	Changes colour in the autumn to various shades of yellow and red.
	bryum moss	Commonly found in gardens and on walls. Moss is often used in flower arrangements.
	staghorn clubmoss	PTERIDOPHYTES Lycopods It has stems closly covered in leaves and ending in cones.
	field horsetail	Horsetails are very primitive plants.
	Hart's tongue Fern	Gets its name because its thought to look like the tongue of a deer.
	Tree Fern	Australian tree ferns are very slow at growing, about 1-10cm a year.They do not reach maturity till 23 years old.
	Royal fern	The Royal ferns is the largest of the English ferns. Historically it was made into a balm by herbalists and today the powdered roots are used in an ointment for cuts and bruises.
	Japanese sago palm	Dinosaurs fed on them. Sago is made from starch from the pith, but has to be carefully washed as all untreated parts are poisonous.

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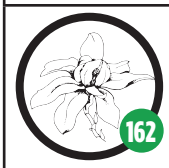
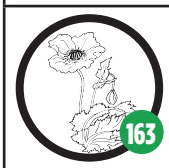
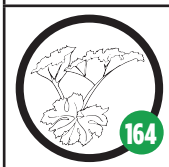
	Breadpalm	Living fossil. Today's cycads are very similar to their ancestors which were around at the time of the dinosaurs.They were pollinated by beetles and the wind.
	maidenhair tree	Indestructible! It is a living fossil, resistant to air pollution, pests and disease and it even survived the atom bomb. Ginkgo leaf extract is a popular herbal medicine to improve memory.
	Scots pine	Pine wood is used in furniture & floors, and the pulp for paper. Conifers excrete resin in which insects can get trapped. Amber is fossilised resin and is used in jewellery.
	Cedar	Rare, it was once harvested for its fragrant wood. Still used for cedar wood moth balls, the natural oils help kill clothes moth larvae.
	Norway Spruce	In 1841 Prince Albert introduced the Christmas tree, a German custom of decorating a spruce tree with lights.The Norway spruce is used throughout Europe. They can live 1000 years.
	Waterlily	Honey Trap! It is white so it shows up at night and emits a pefume to entice the pollinating beetles. It then closes trapping them inside, turns a dark pink and opens to release them the following night.
	Magnolia	It is pollinated by beetles. Magnolia leaves are used to feed silkworms.
	Opium poppy	Poppy seeds are used in breads. Opiate drugs including opium,morphine,codeine, & heroin are derived from the seeds and used for pain relief.
	Giant rhubarb	Big and dramatic. The huge leaves grow up to 6 feet across.

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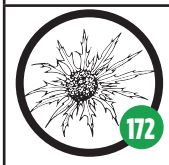
	Banksia	Fireproof. Australian and named for Joseph Banks. Some will only shed their seeds in a fire, the heat opens the capsules & the seeds fall onto ground fertilised with ash.
	Pitcher plant	A carnivorous plant! The pitcher has glands which attract insects & invertebrates.The rim is slippery and the pitcher is filled with water, so when an animal falls in it drowns.
	Peony	Name is from Paean, physician to the gods in Greek mythology. In China it is regarded as an anti-aging herb,the roots are used for a tonic and skin treatment.
	golden barrel cactus	Adapt to survive. Cacti have spines instead of leaves, to reduce moisture loss and deter predators, roots close to the surface,succulent stems to store water.Commonly known as mother-in-laws cushion!
	Holly	In medieval times holly was considerd to have powers. Planted by the house, it was said to keep away witchcraft. Holly branches bearing berries are used in Christmas decorations.
	Angelica	The stems of angelica can be candied and used in cakes.The strongly grooved stems are said to have inspired the classical Doric columns of Greek architecture.
	Hydrangea	Coffee turns it blue! Hydrangea's colour depends on the pH of the soil. Alkaline soil produces pink flowers, which can be turned blue by adding coffee to increase the acidity of the soil.
	Sea holly	It used to be candied in the UK 'kissing comfits' and was reputed to be an aphrodasiac.
	Common Foxglove	In 1775 Dr William Withering learned of the foxglove's medicinal properties from a herbalist and he reported it to the medical profession. It is commercially grown for digitalis for heart failure.

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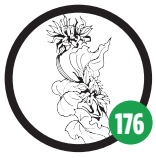
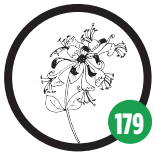
	Spring gentian	Ideal for rock gardens, it has ultramarine blue flowers. Gentian root grown in the Oxford Botanic Gardens is used in Oxford Gin, with ancient barley grains, distilled by Oxford Artisan Distillery.
	Primula	Name comes from the Latin - Primus, which means first, referring to the early spring flowering.
	Sunflower	Anti-pollution tool! (hyperaccumulators).They are planted on contaminated land to clean up toxic waste and are being trialled for absorbing nuclear radiation (after Chernobyl). The oil is used for cooking.
	Cocklebur	Velcro was designed by Swiss engineer George de Mestral after walking his dog in the countryside. Cockleburs catch onto the fur of passing animals, which is how it disperses its seeds.
	Cinchona	Malaria, which is transmitted by infected mosquitoes, is treated with quinine derived from Cinchona bark. Discovered in 1631 by a Jesuit priest in Peru. Malaria killed up to 300m people in the 20th Century.
	Honeysuckle	The beautiful scent is sometimes used in perfumes.
	Tea	Tea originated in China. Legend says that in 2737BC the emperor discovered the drink when a leaf fell into his pot of hot water.The British introducd tea production to India to compete with the Chinese monopoly.

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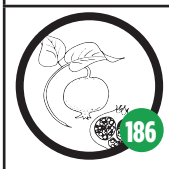
	Coffee	Coffee, made from roasted beans, is so popular because of its caffeine content, which is a stimulant. It originated in Ethiopia 1000BC and came to Yemen Arabia in the 7th C. Hence the name.
	Geranium	Geraniums are a very popular potting plant but it also has many medicinal properties, including antiseptic and antibacterial & can reduce stress and inflammation.
	Begonia	An ornamental plant used for bedding and as a house plant. The root juice is used to treat conjunctivitis.
	Rose	A symbol of love and romance since the time of the ancient Greeks and Romans. Essential oil of roses is used for perfumes, cosmetics,cooking, confectionary & medicines.
	Spring pea	It is a hardy perennial related to the sweet pea and looks good in a spring woodland setting.
	Pomegranate	Represents fertility and plenty in the Christian, Muslim and Jewish religions.In Greece it is served on feast days and weddings.High in antioxidants, vitamins C & K.
	Gum tree	Native to Australia.The scent defends the tree against predators. It is used as an antiseptic, decongestant, insect repellant and in Ayurvedic medicine. The eco-friendly fabric Tencel is often made from Eucalyptus.
	Fig	Dried figs are available all the year round and are very nutritious. Fig trees co-evolved with their unique pollinator a minute wasp.

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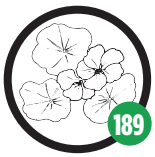
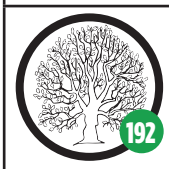
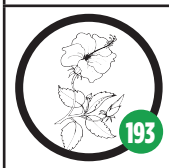
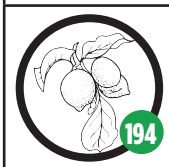
	Nasturtium	From the Latin nasturtium means 'nose twist' because of its effect on sinuses when eaten. Flowers and leaves can be eaten in salads, peppery taste and high in vitamins A,C and D.
	Passion flower	Spanish missionaries used them to teach Christ's passion. 10 petals=faithful apostles. Radial filaments=crown of thorns. Central cup=holy grail. 5 anthers= wounds. 3 stigma= nails.
	Creeping wood sorrel	Oxalis is sometimes harvested from the wild for food, medicine and other commodities. But the leaves contain oxalic acid and should not be eaten in quantity.
	Oak tree	Oak trees can live up to 1000 years. In England they are a symbol of strength and the hardwood was used for shipbuilding in Henry VIII's time. The leaf and acorn form the National Trust's logo.
	Hibiscus	The hibiscus is pollinated by hummingbirds which hover right in front of the flower, to sup nectar, coating themselves with pollen as they flap their wings. A symbiotic relationship.
	Lemon	High in vitamin C, from 1795 British sailors were given juice, with their rum, to relieve scurvey. Citrus greening disease is threatening the global citrus industry, urgent research is seeking a cure.
	Grapevine	Vineyards have been cultivated for thousands of years in Europe, to produce grapes to be fermented into wine. Climate change has meant that vineyards are now flourishing in Britain too.
	Weeping willow	Cricket bats are made from English willow. Aspirin is derived from salicyn found in willow bark. It has been used by herbalists over the centuries as an astringic tonic and cure for recurriing diseases.

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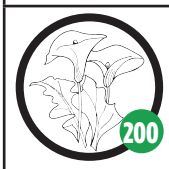
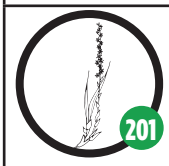
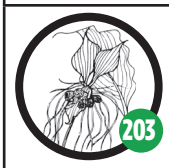
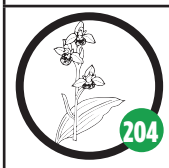
	Stinking Corpse Lily	Known as the Stinking Corpse Lily it smells and looks like rotting meat, to attract pollinating carrion flies. It 's the largest flower in the world, measuring up to 3 feet across.
	Cotton	Cotton is made from the seed fibres of the plants. Cotton plantations depended on the infamous slave trade. Clothmaking drove the Industrial Revolution and helped finance the British Empire.
	Chocolate	Delicious and good for you. Theobroma means 'Food of the Gods'. It was cultivated by the Olmecs in Mexico and Guatemala in 400BC and used in religious ceremonies by the Aztecs and Mayans.
	Arum lily	The arum lily is not in fact a lily! It's popular for weddings and funerals and in the Language of Flowers represents purity and sympathy. Beautiful, but poisonous to pets.
	Japonolirion	There is only one known species.
	Spider lily	It is grown as an ornamental garden and house plant. It is thought to be effective at removing pollutants from the air, improving indoor air quality.
	Bat flower	The bat flower has dramatic black flowers and is poisonous.It is grown as a house plant.
	Bee orchid	'The bee orchid is a sneaky mimic'! The flower looks like a female bee, which attracts the male bee to try and mate with it, so covering itself in pollen which it transfers to the next orchid it visits.

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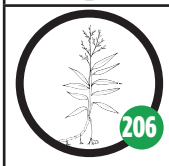
	Date palm	High in sugar.Egyptian date palms are sometimes hidden at dawn in a mist of pollen, looking like smoke. A young bird emerging from this cloud may have given rise to the phoenix legend.
	Creeping stalk grass	The original grasses grew on the edges of forests and in deep shade, characteristics retained in Pharus today. Grasses are vital for the dairy, meat and wool industries.
	Lily	Cultivated lilies were always white, Virgil first named them Lilium candidum. Renaissance artists painted them as symbols of spirituality and purity.
	Screw pine	It is an important component of food in the Maldives. The hollow stems are used in building. Male and female flowers grow on separate trees.
	Yucca	The yucca is a popular ornamental plant and can remove toxins from the air. It has a unique interdependent relationship with its pollinating moth. They can't live without each other.
	Prairie grass	Little Blue Stem. The spread of grasslands during the Miocene coincided with the radiation of large grazing animals (the ungulates). Grasslands are a carbon and water sink and led to global cooling in the long term.
	Banana	Bat and Banana . Nearly all wild banana are night pollinated by bats.The banana is the most important fruit crop in the world after citrus.
	Bamboo	Bamboo is one of the fastest growing plants in the world, growing 1mm every 90 seconds. It is an eco crop and great building material. Unlike cotton it doesn't need pesticides and can be made into clothing fabric.

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	Rice	Rice was first cultivated in China 10,000 years ago. It is the world's number 1 staple, followed by wheat and maize.
	Rye	The grasses are one of the largest plant families. Grains:wheat, barley, oats and rye were originally steppe grasses. Rye was firsts cultivated in Neolithic times 12000BC.
	Pineapple	Ananas means 'fragrant excellent fruit'. It originated in S. America and the Spanish conquistadores brought it to Europe. It was a status symbol in 18th century Britain.
	Maize	Maize was first cultivated in Mexico 8700 years ago. It is not only known for sweetcorn, popcorn and cornflour, but cornsyrup (glucose) is used as a sweetner in many foods. It is also used in medicines as a filler.
	Sugar cane	In sweet demand. Sugarcane is the world's largest crop. Not only is it popular in diets but is also increasingly used in biofuels and bioplastics.
	Darwin’s orchid	Famous example of co-evolution. Sesquipedale is Latin for 1 1/2 feet, referring to the length of the Madagascan orchid's spur. There is only one moth with a probiscus long enough to reach down it.
	Barley	Cheers! First cultivated in 12000 BC by Stone Age man. Lightly roasted malted barley makes a pale beer, and deeply roasted makes a dark or black beer.Whisky is a distilled from grain mash which includes rye.
	Wheat	One of the world's top food crops and one of the first to be cultivated, in 7000BC It's used in breads and breakfast cereals. Herbalists used the oil as an anti-inflammatory.

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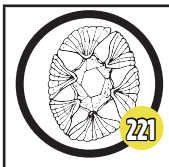
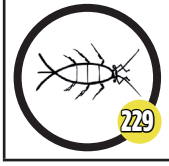
	Whale barnacle	Darwin 1854 barnacle shell from above showing 6-fold symmetry.
	barnacles	CRUSTACEANS Barnacles are related to lobsters & shrimps. There can be 1000 million along a mile of shoreline. This shows the shell from the side.
	acorn barnacle	Acorn barnacle from the side with limbs out searching for food . Darwin spent years studying barnacles which informed his theory of how species could evolve.
	barnacles	Barnacles are exclusively marine and are permanently attached. This is the shell from above, you can see the 6-fold symmetry.
	Barnacle	Darwin 1854 adult from above showing 6-fold symmetry. It is found in eastern and southern Australia.
	Pill millipede	A case of mistaken identity? Example of convergent evolution. Millipedes & woodlice are not related but look similar and roll up into a ball as a defence against predators.
	Millipede	Millipedes are amongst the earliest land animals. Milli meaning 1000 and pedi meaning foot in Latin, is clearly an exaggeration!
	Centipede	Wrong footed. Centipedes have lots of legs.' Centi' means 100 and 'pedi' means foot (from Latin). However all centipedes have an odd number of pairs of legs, so none has precisely 100!
	bristle tail	INSECTS.The body is in 3 parts: head, thorax with 3 pairs legs,abdomen.There are 1.4 billion insects for every person on earth. Bristle tails have a humped body for jumping to escape predators.

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	firebrat	Scientists estimate that insects make up to 90% of all species of animals. Firebrats are a group of silverfish. This name comes from their shiny scales and fish like shape.
	Silverfish	Their silvery-grey colour, tapered shape and slithery fish-like movements give them their name.
	common cockroach	'If all mankind were to disappear, the world would regenerate back to the rich state of equilibrium that existed 10,000 years ago. If insects were to vanish, the environment would collapse into chaos' E.O.Wilson.
	waterboatman	It has long oar like legs helping it swim on the water's surfacer, where it breathes, hanging upside down, then carries the air bubble on it's body to stay under water longer.
	german cockroach	Cockroaches are much maligned, in fact most are beneficial to the eco system, only about 5% are urban pests. They have 3 developmental stages, egg, nymph and adult.The adult has 2 black stripes down its body.
	lacebug	Looks pretty. The grey- brown lacebug is covered in fine white powdery deposits made of wax.
	praying mantis	It gets its name from the way the prominent front legs are held together which looks like its praying. It can swivel its head 180 degrees and is a formidable predator.
	Citrus mealybug	It's body is covered in sticky white powder which looking like cornmeal, which gives it its name. It is a serious pest for citrus orchards all over the world.

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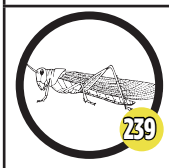
	Cicada	A group of singing cicadas is called a chorus.The nymphs live in the ground and all emerge at the same time (possibly due to temperature) and are a symbol of rebirth. A cloud of cicadas is not harmful like locusts.
	Desert locust	A plague. Jeykll and Hyde, Locusts are normally solitary insects, but under certain conditions they will collect into huge swarms (up to 10billion) in search of food, causing devastation of crops.
	emperor dragonfly	The dragonfly was the first winged insect. It has a green thorax and a blue abdomen. The Emperor is one of the largest in Europe, wingspan 105mm. It can fly up to 30kph.
	banded agrion damsel fly	The male is metallic blue with a dark band across its wings. It's 45mm long with a wingspan of 60-65mm. It is a weak flier and rests with it's wings upright.
	elisa skimmer	The wings are 1.5 inches long with black spots in the middle and ends and dark red area at the base. The black body has red patches. Canada and northern USA.
	green darner	It resembles a darning needle. It's common in North America and is known for its iconic nature of migration to Mexico and Texas. It is the official insect of the Washington State.
	black winged damsel	Ebony jewel wing. The abdomen is iridescent blue-green and the wings are black.It is 37-57mm long and is one of the most studied damselflies in N America.
	bloody nosed beetle	BEETLES:have hardened front wing cases and are the largest known order of insects up 400,000 species. The flightless bloody nosed beetle secretes red liquid from its mouth for defence.

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	two- spot ladybird	Adaptable. They are usually red with black spots. However, in the north, more are black with red spots as the black colouring helps absorb heat from the sun. They are a gardener's friend as they eat aphids.
	rose chaffer beetle	It is a beautiful irridescent green. Maybe a garden pest, but it's an important detritivore, feeding on dead matter, recycling the nutrients. A helpful addition to any compost heap!
	green tiger beetle	It is an iridescent metallic green colour and is one of the fastest UK insects.
	cockchafer (maybug)	It isn't actually a bug and it doesn't only fly in May! Cockchaffer means 'big beetle' in Old English.
	colarado beetle	This smart black & yellow striped bug is the most serious potato pest. It's usually imported as a 'hitchhiker' on plant produce, including salad leaves, from the Continent.
	scarab beetle	Honey Trap! The nocturnal beetle is the Amazon waterlily's unique pollinator. It is attracted in by the scent and the lily then closes and traps it inside for the night before releasing it, covered in pollen, next day.
	common worker wasp	DANGER! WASPS have warning black and yellow stripes showing they sting. They are important for insect control, eating aphids and caterpillars. They build hexagonal paper nests from chewed up wood.
	potter wasp	Wasps and bees 'velcro' their fore and hind wings together making a single surface, for more efficient flying. Potter wasps hunt caterpillars to feed their young and make pot shaped mud nests.

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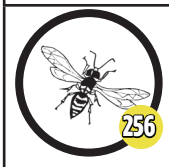
	ruby tailed wasp	Beautiful and lazy. They are a metallic blue-green with a ruby-red abdomen. Sometimes known as cuckoo wasps, they are solitary, and hijack the nests of mason wasps to lay their eggs.
	common female wasp	Female worker wasps are sterile. The caste system consists of several queens, a few drones and workers.
	common male wasp	Male wasps are called drones.
	ichneumon wasp	They are nocturnal, so are hard to photograph. They are parasitoids, and lay their eggs in caterpillars of noctuid moths, the larvae then live and feed inside them.
	hornet	The hornet is an impressively large insect and Britain's biggest social wasp 25-35mm long
	sand wasp	This large solitary wasp takes 10 hours to find a nest site, dig a burrow, lay the eggs and provision each with a caterpillar. The burrow is then closed and camouflaged.
	Fig wasp	A Sweet Nursery.The female wasp flies into the fig through a tiny hole to lay her eggs and gets covered in pollen as she exits, which she transfers to the next fig she visits. A great example of a symbiotic relationship.
	wood ant	ANTS are among the most abundant organisms on earth, possibly 10 quadrillion alive at any one time. Ants may measure distance by counting their steps. Red wood ants bite.

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	slave making ant	Slave trade. It raids nests of related ants and these slaves are used for foraging, brood rearing and nest maintenance and even assist with slave raids themselves (are they brain washed)?
	red worker ant	They are common all over Britain. Nests are in the ground and colonies average 15 queens and over 1000 workers. They drink nectar from flowers and honeydew from aphids.
	meadow ant	It builds an anthill to help regulate temperature and humidity. It spends most of its time underground and feeds on honeydew produced by aphids which it 'farms ' on the roots of grass.
	black ant queen	Long live the queen! Worker ants normally live for 1-2 years, but the queens are able to reach their 30's.
	wood ant queen	A colony can have 100 queen ants and up to 100,000 workers. The queen can live up to 15 years or more.
	parasite ant queen	It is a workerless parasite ant.
	ivy bee	The ivy bee is a solitary bee , arrived in UK in 2001. It can be seen in late Aug to early Nov when ivy is in flower.
	red mason bee	They get their name from their habit of nesting in cavities between brickwork
	European honey bee	It is a hive bee, a single hive can contain 50,000 bees.It has been semi-domesticated for 1000's of years to produce honey for humans. It takes 12 worker bees to produce a teaspoon of honey!

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	leaf cutter bee	The bee cuts neat ovals out of leavess to line her nest, a tunnel in rotten wood.It's very hairy and pollen is brushed off and caught on its underside , so it looks bright yellow.
	common carder bee	The common carder bee is an all ginger bumble bee.
	buff-tailed bumble bee	If the BEE disappeared off the face of the earth, man would have only 4 years left to live. (attributed to Einstein). Bumblebees are 'large, furry and charismatic'. They carry pollen in a basket on their hindlegs.
	garden bumble bee	Nests underground in colonies of up to 100 workers. It is known for its bumbling flight and loud buzz hence its name, Bombus means booming in Latin.
	red-tailed bumble bee	A social bee, nesting in old burrows or under stones.Bumblebees are one of the most important pollinators we have.
	Ancient moth	A startling discovery of fossils N. Germany show butterflies and moths lived as long ago as 200 my. They would have sucked plant sap, as this was millions of years before flowering plants evolved.
	death's head hawk moth	The death's head hawkmoth is large, with a wingspan 80-120mm. It is the fastest flying insect at 50kph
	mother of pearl moth	The mother of pearl moth is one of the largest of the UK's macro-moths, despite being classified as a micro- moth!? The wings have a pretty, pearly lustre.

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	yucca moth	Made for each other! Crucial to the Yucca plant, this moth is its only pollinator. An excellent example of obligate mutualism. The moth's larva depend on its seeds for food.
	green oak roller moth	LEPIDOPTERA.Moths and butterflies have fragile, dustlike scales on their wings. Micro-moths fly at a constant angle to light, spiraling inwards to a central light. Green oak roller larvae can defoliate an oak tree.
	Darwin's moth	Darwin predicted that there would be a moth with a proboscis long enough to pollinate the Angraecum sesquipedale orchid. It was discovered 20 years after he died and named accordingly.
	peppered moth	The peppered moth is normally white with black speckles to be camouflaged on trees.
	black peppered moth	In 1848 black forms were found in industrialised Manchester. This is one of the best known examples of evolution by natural selection.
	long-tailed blue	Dramatic Metamorphosis! Butterflies (and moths) have a life cycle of 4 stages: egg, caterpillar, chrysalis, adult. Their wings overlap to make a single surface. The long tailed blue butterfly is a rare migrant to the UK.
	brimstone butterfly	The word butterfly may have originated from the Brimstone's distictive colour. The male is yellow, female greenish white. Underside wings are veined like a leaf.
	peacock butterfly	Beware! The spectacular 'eyes', which give this butterfly its name, deter predators, especially mice. It can also make a hissing sound, by rubbing its wings together.

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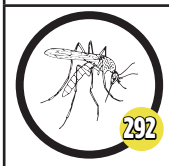
	heath fritillary butterfly	The Heath fritillary is one of the UK's rarest butterflies and has been the focus of conservation efforts since the 1970s.
	large tortoiseshell butterfly	It is considered extinct in UK, any sightings will be migrants or from captive bred-stock
	comma butterfly	Play dead.The Comma's wings have a jagged outline, so, when closed it resembles a withered leaf. Good camouflage!
	Glass wing butterfly	Transparent and invisible.This extraordinary butterfly lacks the scales which are charactersitic of other butterflies and moths and which give them colour. The toxic plants the caterpillers eat render it poisonous.
	cranefly/ daddy longlegs	True FLIES have only one pair of wings, and they are therefore the most efficient and best flying insects of all. Wings beat an astonishing 1000 times/sec. The cranefly is the most ancient of primitive flies.
	Mosquito	'Mosquitoes are one of nature's most hated insects... due to their tendency to snack on humans'. More seriously, they can carry malaria. They breed in stagnant water and are eaten by dragonflies and damsel flies.
	soldierfly	Farmed and kept in controlled conditions. The most ambitious projects feed the maggots on tons of waste food, then use the larva as main source of protein for fish farms.
	housefly	An amazing acrobat. The common housefly can walk on vertical panes or upside down on a ceiling.

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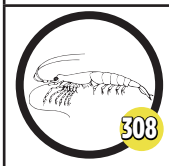
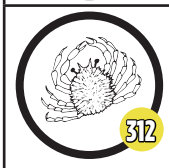
	hoverfly	Hoverflies looks like bees or wasps, for protection against predators. They eat aphids, so they are good news, a gardener's friend.
	bluebottle	It's abdomen is light blue with a metallic glaze. It's found worldwide and is a nuisance, but it breeds on decaying animal matter which helps nature's recycling. It is used in forensic science.
	dronefly	The dronefly mimics bee drones
	Fruitfly	The fruit fly is widely studied as it's easy to breed in laboratories for research. 75% of the genes that cause disease in people are also found in fruit flies.
	Indian red scorpion	A scorpion has large claws and a segmented tail curving over its back ending in a poisonous sting.
	common garden spider	Spiders have 8 legs, which have a non-stick coating, so they don't get stuck to their webs! There are 7 types of web found in the UK: Orb (which takes 2 hour to make), Sheet, Tangle ,Funnel, Lace, Radial and Purse.
	crab spider	Clever camouflage. Mature females can match the background, varying from white to yellow to green. Spiders emerged in the Devonian, the same time as insects. There's a surprise!
	golden orb spider	They build large semi-permanent orb shaped webs.The strong silk has a golden sheen.The V&A exhibited a shawl woven from the silk of more than I million spiders from Madagascar.

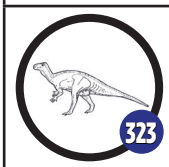
Index: Phylum Arthropoda

	tarantula	The tarantula is the world's largest and scariest spider. It has very hairy legs and body and is venemous.
	Tick	Ticks are arachnids,belonging to the same group as spiders. Hard ticks carry diseases, notably Lyme disease.They originally fed off lizards, then switched diet when mammals and birds came along!
	shrimp	Decapoda are 10-legged crustaceans that are great to eat! Evolved about 450mya. The shrimps first pair of legs end in pincers, the remaining 4 pairs are used for walking.
	Common prawn	Prawns are crustaceans belonging to the order Decapoda meaning 10 feet (from Latin). They have claws on 3 pairs of legs and the second pincers are larger than their front ones. Prawns are very nutritious.
	Chameleon prawn	The chameleon prawn, only 3.2cm long, can change colour to blend with its background, from red, brown, green to almost transparent with blotches. Very cunning!
	Northern krill	Food chains. Krill feed on diatoms and phytoplankton, and in turn provide food for whales, fish and birds.
	Lobster	Lobsters are large crustaceans and a very popular delicacy. Cod like to eat them too, they are their main predator. They have poor eyesight but an excellent sense of taste and smell.
	velvet crab	It has red eyes and is sometimes called the Devil Crab. It's a fast moving swimming crab, blue but with a brown pubescence with red prominences.

Index: Phylum Arthropoda

	spider crab	Clever Camouflage.They stick bits of algae, shell & seaweed onto fine sticky hairs covering their bodies.
	spiny spider crab	Hippy crab. Large orange crab, spindly legs & spiny shell, often covered in algae making it look green & hairy.
	hermit crab	Squatters. They lack a hard protecting carapace & are vulnerable. So they cunningly move into empty snail shells to protect their body.
	pill woodlouse	Often called roly poly, or pill bugs, because they roll up into a ball when they feel threatened. They are crustaceans, not insects, and have 14 legs,

Index: Class Reptilia

	archosaur	True archosaurs divide into two branches 1) Pseudosuchia includes crocodiles & other archosaurs closely related to them 2) Ornithosuchia includes dinosaurs & birds.
	early crocodile	The early crocodile spent most of its time in the water.
	Parker's good animal	Onto land . Euparkeria walked on all-fours.
	bird crocodile	Ornithosuchus walked on 2 legs and was a cousin of the first dinosaur.
	southern cross lizard	Staurikosaurus was one of the earliest dinosaurs. It was 2 m long and a meat eater.
	roof lizard	Stegosaurus was armoured and had a powerful spiked tail. It was vegetarian and 9 m long, but not that bright, its brain was roughly the size of a plum.
	double beam	Diplodocus was a whopping 26m in length and herbivorous. It had a long neck to reach high and low vegetation and water.
	ancient wing	Archaeopteryx is the earliest known bird, it walked on 2 legs & flew. The first fossil found is at the Natural History Museum London & is the most valuable in its collection.
	iguana tooth	Iguanodon was one of the most successful dinosaurs and was found in many parts of the world. It had a horny beak and could walk on 2 or 4 legs.

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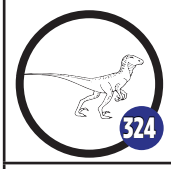
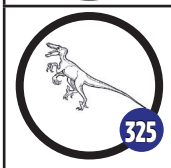
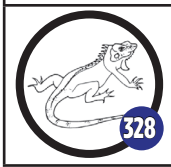
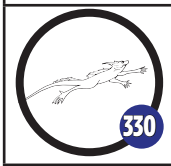
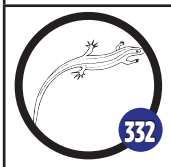
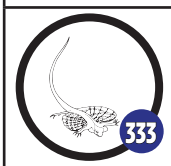
	Terrible Claw	It's ferocious front claws hold its prey, while a kick rips it apart. Both hind feet have a huge claw, which it can swivel out of the way when not in use to keep it super sharp.
	quick plunderer	The vicious Velociraptor featured in the Jurassic Park film. It was feathered but flightless, 1.8m long and carnivorous with sharp pointed teeth.
	three horned face	Triceratops, a vegetarian, was 9m long and had 3 horns, a parrot-like beak and a large frill, possibly to defend itself from attack by Tyrannasaurus.
	tyrant lizard	Tyrannasaurus, 12m long and carnivorous, was one of the most ferocious animals ever. It had 60 teeth, each up to 20cm long, with a fearsome bite 3 x stronger than a lion.
	green iguana	The iguana is unusual among lizards as it is primarily a leaf eater
	American anole	The anole is quite extraordinary. It can lose its tail as a defence mechanism, to distract a predator, then grow it back (called autotomy).
	basilisk	Walking on water. The basilisk is so swift it can run across water.
	Sea Dragon	Ichthyosaur means fish lizard in Ancient Greek. It was a marine reptile, living at the time of the dinosaurs. Its dsicovery by Mary Anning in Lyme Regis in 1823 caused a sensation.
	five lined skink	Five lined skinks are found in Georgia and South Carolina. The young have a bright blue tail.When threatened they break off their tails to escape predators.
	flying dragon	The flying dragon is a lizard which can glide through the branches of trees.It has elongated ribs supporting folds of skin, which when extended act as wings.

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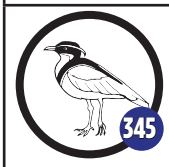
	leaf litter gecko	A leaf-litter gecko is small and secretive.They disguise and hide themselves in thick leaf litter, and eat very small prey:termites,insect lava and spiders.
	common house gecko	Geckos can run up walls and walk upside down on a ceiling, they can detach and regrow their tail to escape a predator, and they can see colour in the dark. They are spectacularly vocal, and make appealing pets.
	European chameleon	The chameleon is famous for changing colour. It conceals itself by matching the colour of its surroundings and literally blending into the background.
	veiled chameleon	Chameleons can coil their tail downwards to use as a fifth grasping limb
	crocodile	The crocodile is the biggest reptile alive, up to 6m long. Difficult to spot, it lurks underwater only showing its eyes and the tip of its snout.
	European grass snake	The European grass snake is not venemous.It lives near water and is an excellent swimmer
	coral snake	The coral snake is small, vibrantly coloured and highly venemous. It is 45-50cm long and slender.
	S. Pacific rattle snake	The rattle snake is very dangerous. The thick body ends in a short blunt tail with jointed rattles which are a series of nested modified scales.
	Egyptian cobra	Cleopatra's snake. The cobra has deadly venom and is fast and intelligent. It can climb trees & swim.

Index: Class Aves

	mallard duck	The Drake (male) has a smart green head and yellow bill, whereas the female is mainly brown with an orange bill. It is a surface feeding or dabbling duck, familiar on ponds.
	mute swan	The beautifull white swan is one of the heaviest of flying birds, and can weigh up to 13.5 kilos. Unusually for birds, it mates for life. The young are called cygnets.
	Crocodile bird	Fake news from long ago, but it's a charming story. The Egyptian plover gets it's name from a Greek historian Herodotus. He claimed that the bird cleans the Nile crocodile's teeth, a personal hygenist!
	arctic tern	Flies 15000 miles a year, from Arctic to Antarctic and back for their summer migration.
	chinstrap penguin	Their feathers are better than fur to insulate them. The Antarctic is the coldest place on earth <40 degrees. They are flightless and the best swimmers among birds, and have been known to hit 30mph.
	white pelican	As it puts its head underwater, the lower bill inflates forming a pouch to catch fish. As it lifts its head it contracts the pouch draining out the water. It anoints itself with oil from a gland at the base of the tail, to preen.
	little egret	Small white heron with long legs for wading after fish.
	kingfisher	The Japanese bullet train has a streamlined front inspired by the kingfisher's long dagger like beak. It can dive up to a metre in water after fish.
	kiwi	Within 10 my of K-T extinction all orders of birds had appeared except small perching birds. Kiwis live in burrows & have feathers like fur.They have a good sense smell to find food in the sand.

Index: Class Aves

	rail	A quarter have become flightless, as it was safe to live on the ground on its remote island.
	cassowary	Giant flightless Australian bird
	ostrich	Giant African bird. Feathers have become soft and fluffy. Long legs, can run 70km/h
	flightless cormorant	Over succeeding generations its wings dwindled. Living on an island and not being preyed on by mammals, it didn't need to fly. It's not waterproof, and has to spread out its wings to dry after fishing.
	peacock	The iridescent eyes are a result of a particular modificationof the filaments. A group of peacocks is called an ostentation!
	red grouse	A gamebird. Spreads his tail in a sunburst to attract a mate.
	chicken	Chickens, descended from red jungle fowl, are the most widely domesticated animal, valued for their eggs and their meat.
	merlin	The UK's smallest bird of prey, conservation status Red
	barn owl	An owl can turn his head 3/4 of the way around to see behind him! A group of owls is called a parliament.

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	Harris hawk	Harris hawks are very intelligent and easy to train. They are used as a non-poison pest control for pigeons and sea gulls in cities. Pigeons collect near outdoor cafes and carry and spread disease.
	bald eagle	The eagle has a wingspan of 2m and can dive at 160kph. It mates for life. It has been a symbol of power since the Romans and it is the national symbol of USA. A group of eagles is called a convocation.
	Robin	A 52 million year old fossil found in Germany might be the earliest Passerine (perching bird), like our familiar Robin.
	raven	The raven is the largest in the crow family and is very intelligent. A legend says that "If the ravens leave the Tower the City of London will fall."
	Oxpecker	The oxpeckers have formed a symbiotic relationship with big game (antelope, giraffe, buffalo and rhino). They comb the animals for ticks and lice. They get food and the animal gets groomed. Everyone's happy!
	Greater bird of paradise	The beautiful birds of paradise have long golden plumes beneath their wings, and are famed for their glorious communal display.
	vegetarian finch	Darwin observed several species of finches on the Galapagos Islands, with widely differing beaks adapted to the food they ate, leading him to his theory of natural selection. The beak is short and thick.
	cactus finch	The cactus finch feeds on the pollen and nectar of the Opuntia cactus flower. The beak is like a spike, thick at the base and tapering to a point.
	small tree finch	It has the smallest broad beak to find tiny insects in cracks of wood and rock.

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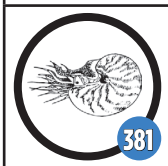
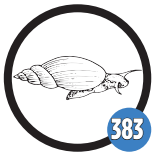
	Woodstar hummingbird	This enchanting bird can beat its wings 80 times/ second (making the humming sound for which it is named). This enables it to hover in front of a flower to sup nectar, pollinating it at the same time.
	hoatzin	The smelliest bird in the world, the Hoatzin is known as the Australian Stink Bird! The young hoatzin have 2 claws on each wing so they can climb trees, a reminder of reptile ancestors.
	Dodo	Flightless and vulnerable, the dodo lived on the island of Mauritius, undiscovered until the 16th century. It was hunted to extinction by passing sailors. It famously appeared in Alice in Wonderland.

Index: Phylum Mollusca

	great scallop	SHELLS. BIVALVES. All shells are made of lime-based materials & are built in 3 layers
	common mussel	They have a horny outer layer, a chalky middle layer, and a glossy inner one.
	warty venus	Bivalves have a pair of shells, with a foot protrusion to burrow down into the seabed.
	Oriental lampshell	Unlike bivalves whose shells are a mirror image of each other, Brachiopods' dorsal and ventral shells do not match.They have a stalk (peduncle) protruding from the shell.
	common limpet	GASTROPODS. Single shells.The shape is determined by how the shell is secreted from the top cover. Limpets produce shell at an equal rate round the edge making a pyramid.
	common whelk	Shell with a drill.They have a radula extending beyond the shell used to bore into other molluscs and so they can suck out the flesh.
	painted top shell	Maximum shell is secreted from one side, so the shell develpes a twist becoming a turret. It looks like an old fashioned spinning top.It eats the algae on the rocks.
	flat periwinkle	Shell is secreted at the front faster than the rear, creating a shell in a flat spiral. It can seal itself by closing the 'door', a round operculum.It comes in many colours.
	pearly nautilus	CEPHALOPODS. The Golden Spiral. A cross section of the shell shows the inner chambers have grown in a logarithmic spiral which is derived from the Golden Ratio Phi 1.618

Index: Phylum Mollusca

	river snail	The river snail is just 1- 1 1/2 inches long.
	great pond snail	The Great Pond Snail eats dead beetle larvae, small newts and sticklebacks.
	Roman land snail	SNAILS. Escargot is the snail that the French love to eat.The earliest land snail appeared in the Carboniferous, they diversified in the Cretaceous alongside flowering plants.
	Common/garden snail	A snail's slimy trail acts like glue when pressure is applied, enabling it to defy gravity and climb up a wall. When pressure is lifted the slime acts as a lubricant so it can glide along.
	octopus	The octopus is soft bodied, has 8 arms, It changes colour and even texture for camouflage. It has blue blood and 3 hearts.
	Caribbean reef squid	It has 8 arms and 2 tentacles and can swim up to 25m/h. Like the octopus, it distracts predators by squirting ink.

Index: Phylum Echinodermata

 388	Stalked sea lily	Sea lilies are crinoids and amongst the most ancient echinoderms.They are anchored to the sea bottom by a stalk. They have 5-fold symmetry.
 389	Brittle star	Look, but don't touch! Sea stars are very brittle. After the Deepwater Horizon oil spill in 2010, scientists found corals with brittle stars were much less affected by pollution.
 390	Feather star	The rosy featherstar is a primitive relative of starfish. It is mostly anchored to the seabed but can swim using its 10 arms,alternately beating 5 up and 5 down.
 391	starlet	ECHINODERMS have radial symmetry, with arms radiating out from a body which is divided into 5 segments.
 392	starfish	Starfish larva viewed from above.
 393	sandstar	Shy. These are quite common, but rarely seen, due to their habit of burrowing under sand and mud. They are up to 12 cm across.
 394	common starfish	Starfish have been renamed sea stars, as they are not actually fish, but echinoderms. They have one eye on the tip of each arm and, amazingly, can regenerate broken limbs.
 395	spiny starfish	A large starfish up to 70 cm across, with 5 narrow tapering arms