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Science Focus:	Animals, including humans	Year 1	
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What? (Key Knowledge)

Humans

Human beings	<ul style="list-style-type: none"> We are called humans We are from the family of animals called mammals
Basic parts of the human body	Hair, head, ears, eyebrows, eyes, nose, mouth, chin, neck, shoulder, chest, elbow, arm, wrist, hand, tummy, knee, leg, ankle and foot
There are 5 basic human senses	Touch, taste, smell, sight and hearing
How do we touch?	We touch using our skin (usually our hands)
How do we taste?	We taste by putting something in our mouth
How do we smell?	We smell by using our nose
How do we see?	We see by using our eyes
How do we hear?	We hear by using our ears

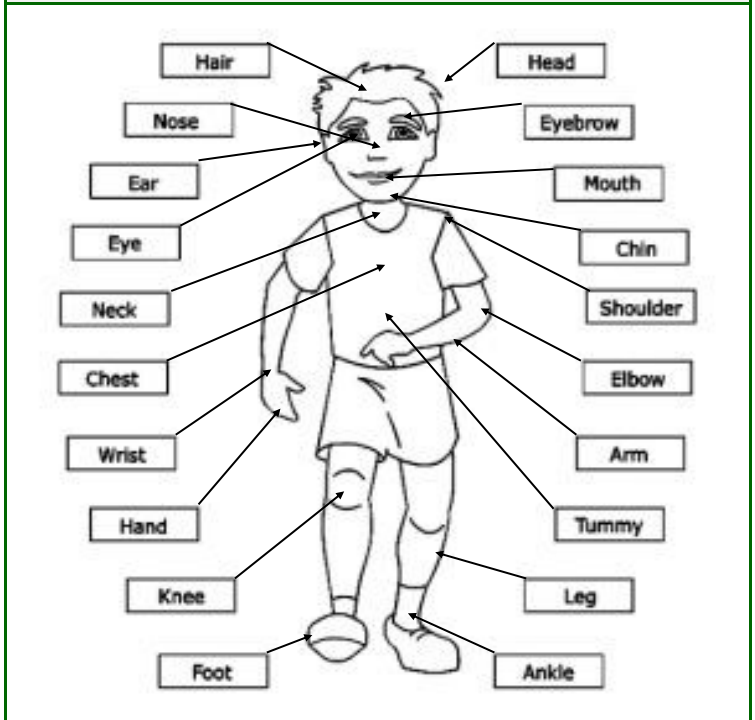
Animals

6 types of animals	<ul style="list-style-type: none"> Invertebrates Fish Amphibians Reptiles Birds Mammals
Some common invertebrates	<ul style="list-style-type: none"> Crab, jellyfish, worm
Some common fish	<ul style="list-style-type: none"> Goldfish, cod, shark
Some common amphibians	<ul style="list-style-type: none"> Frog, toad, newt
Some common reptiles	<ul style="list-style-type: none"> Snake, crocodile, lizard
Some common birds	<ul style="list-style-type: none"> Sparrow, chicken, owl
Some common mammals	<ul style="list-style-type: none"> Human, dog, lion
Animals that eat meat	<ul style="list-style-type: none"> Animals that eat other animals are called carnivores
Animals that eat plants	<ul style="list-style-type: none"> Animals that eat plants are called herbivores
Animals that eat meat and plants	<ul style="list-style-type: none"> Animals that eat both plants and other animals are called omnivores
Some common carnivores	<ul style="list-style-type: none"> Lion, tiger, brown bear
Some common herbivores	<ul style="list-style-type: none"> Cow, sheep, rabbit
Some common omnivores	<ul style="list-style-type: none"> Human, pig, rat

What? (Key Vocabulary)

Spelling	Definition/Sentence
Invertebrates	Animals with no back bone
Fish	An animal with gills and fins that lives in water
Amphibians	An animal which can live on land or in water
Reptiles	An animal which has dry, scaly skin and lays eggs on land
Birds	An animal with feathers, wings and a beak that is usually able to fly
Mammals	An animal that feeds its young with milk from the mother and has skin usually more or less covered with hair
Pet	A friendly animal trained to live with humans

Diagrams and Symbols



Possible Experiences

- Finding and classifying animals in the school environment
- Looking closely at the features of animals using magnifying glasses
- Learning songs to recall the main parts of the body
- Loan a class pet and learn to look after it
- Visit from the 'animal person' to introduce less common animals
- Testing senses through taste tests, feely bags, colour blindness tests etc.

Science Focus:

Animals, including humans

Year 2

What? (Key Knowledge)

Growth

Growth in animals

- Animals become older and change as time passes

3 examples of animal growth

Egg > chick > chicken
 Egg > caterpillar > pupa > butterfly
 Spawn > tadpole > frog

Example of Human growth

Baby > toddler > child > teenager > adult

Survival

Things animals need to survive

Water
 Food
 Air
 Shelter

Human Survival

Things humans need to survive

Water
 Food
 Air
 Shelter

Things humans need to be healthy

- To have a balanced diet of the right amount of different types of food and drink.
- To exercise regularly.
- To be hygienic.

What is a balanced diet?

- See the Eatwell Guide (<http://www.nhs.uk/Livewell/Goodfood/Documents/The-Eatwell-Guide-2016.pdf>)
- Drink 6-8 cups/glasses of fluids each day

What is regular exercise?

- Adults need to be active for at least 150 minutes each week
- Children aged 5 to 16 need to be active for at least 60 minutes each day
- Children under 5 need 3 hours of activity a day

What is good hygiene?

- To maintain daily personal hygiene, you should make sure:
- your hands are washed after you've used the toilet
 - your private parts are washed every day
 - your face is washed daily
 - you're fully bathed or showered at least twice a week
 - your teeth are brushed twice a day

What? (Key Vocabulary)

Spelling

Definition/Sentence

Offspring

A person or animal's child or children

Growth

The process of getting bigger

Pupa

An insect that is about to turn into an adult

Baby

A very young child

Toddler

A young child that is just beginning to walk

Child

A young person below the age of 13

Teenager

A person aged between 13 and 19

Adult

A grown up

Fluids

A liquid

Diagrams and Symbols



Butterfly Life Cycle



Possible Experiences

- Having caterpillar eggs in class and taking time lapse photography of their cycle of life
- Finding out what happens to a tooth left in various types of drinks
- Investigating the effects of exercise on the body.
- Trying new foods
- Making healthy foods

What? (Key Knowledge)

Nutrition

Things animals need to survive	Water Food Air Shelter
Things humans need to survive	Water Food Air Shelter
Things humans need to be healthy	<ul style="list-style-type: none"> To have a balanced diet of the right amount of different types of food and drink To exercise regularly To be hygienic
What is Nutrition?	Nutrition means animals getting the food they need to grow and be healthy
Can we make our own food?	<p>No.</p> <ul style="list-style-type: none"> Humans and animals can't make their own food They get food by either growing it, hunting it or gathering it
What is meant by growing food?	<ul style="list-style-type: none"> Humans can grow their own food by planting seeds that they later harvest
What is meant by hunting food?	<ul style="list-style-type: none"> Humans can hunt other animals to eat
What is meant by gathering food?	<ul style="list-style-type: none"> Humans can find foods grown in the wild to eat

Skeletons and Muscles

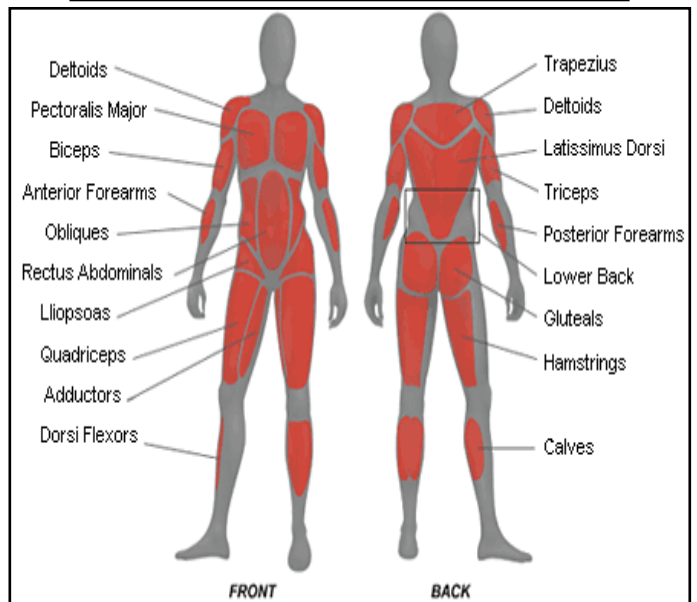
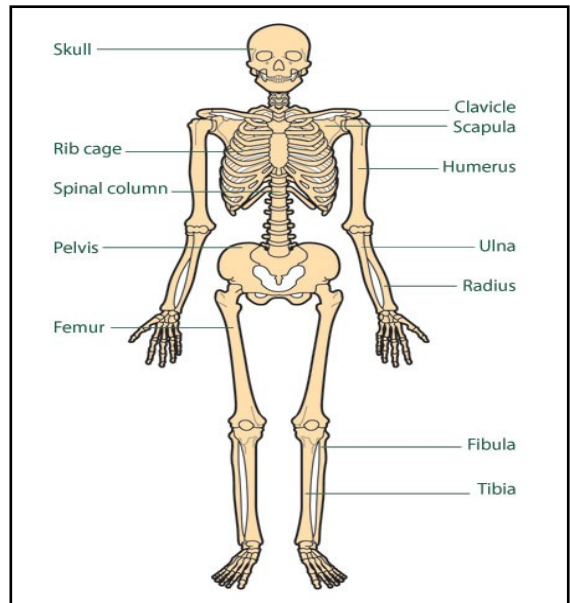
What is a skeleton?	<ul style="list-style-type: none"> A skeleton is a structure of bones that supports the body of a person or animal
12 common parts of the skeleton we should know	<ul style="list-style-type: none"> Skull, clavicle, scapula, rib cage, humerus, spinal column, pelvis, ulna, radius, femur, fibula and tibia <p>(See diagram)</p>
What is a muscle?	<ul style="list-style-type: none"> A soft tissue in the body that contracts and relaxes to cause movement of the skeleton

19 common muscles we should know	<p>Front:</p> <p>Deltoids, pectoralis major, biceps, anterior forearms, obliques, rectus abdominals, liopsoas, quadriceps, adductors and dorsi flexors</p> <p>Back:</p> <p>Trapezius, deltoids, latissimus dorsi, triceps, posterior forearms, lower back, gluteals, hamstrings and calves</p>
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What? (Key Vocabulary)

Spelling	Definition/Sentence
Tissue	Tissue is part of the body of that is made of similar cells
Contract	When a muscle becomes smaller, shorter and tighter

Diagrams and Symbols



Possible Experiences

- Grouping animals with or without skeletons
- Classify food by how the human 'gets' them
- Use blue-tac to show the need for warming up muscles
- Experiments to find out which is the strongest muscle group
- Test relationships in the body, e.g. *does wingspan = height?*

Science Focus:

Animals, including humans

Year 4

What? (Key Knowledge)

The Human Digestive System

What is digestion?	Digestion is the way the body breaks down the food we eat into smaller parts that can be used to give the body energy
The Main Parts of the digestive system	Mouth, tongue, pharynx, oesophagus, liver, stomach, gallbladder, pancreas, large intestine, small intestine
The digestive journey of food.	<ul style="list-style-type: none"> Humans put food into their mouth Food is chewed by the teeth Food is swallowed and passed through the pharynx and oesophagus to the stomach In the stomach, it is mashed into a mixture like soup and mixed with acid The mixture passes into the small intestine, where tiny bits of food pass into the bloodstream The food that is still left goes into the large intestine Finally, waste products leave the body

Human Teeth

Teeth Facts	<ul style="list-style-type: none"> Teeth grow in babies when they are about 6 months old 20 teeth grow by the time you are about 2.5 years old From about age 6 you start to lose teeth till about the age 12 These teeth are replaced by 32 permanent teeth
Types of teeth	Incisors, Canines, Pre-Molars, Molars
What are Molars and Pre-Molars?	• Back teeth for crushing and grinding food
What are Canines?	• Long pointed teeth for grabbing food
What are Incisors?	• Front teeth for snipping and cutting food

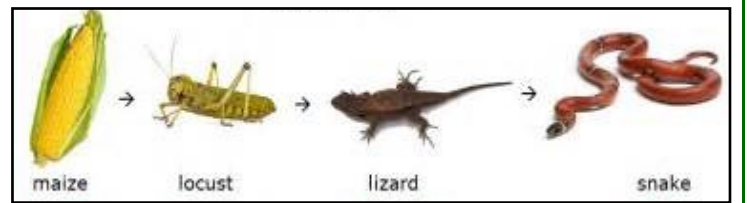
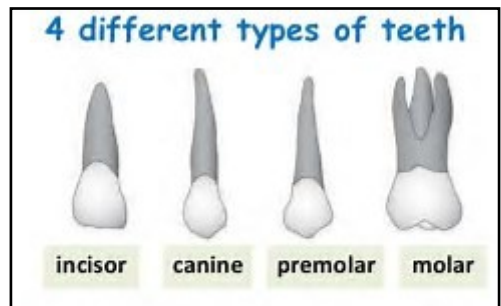
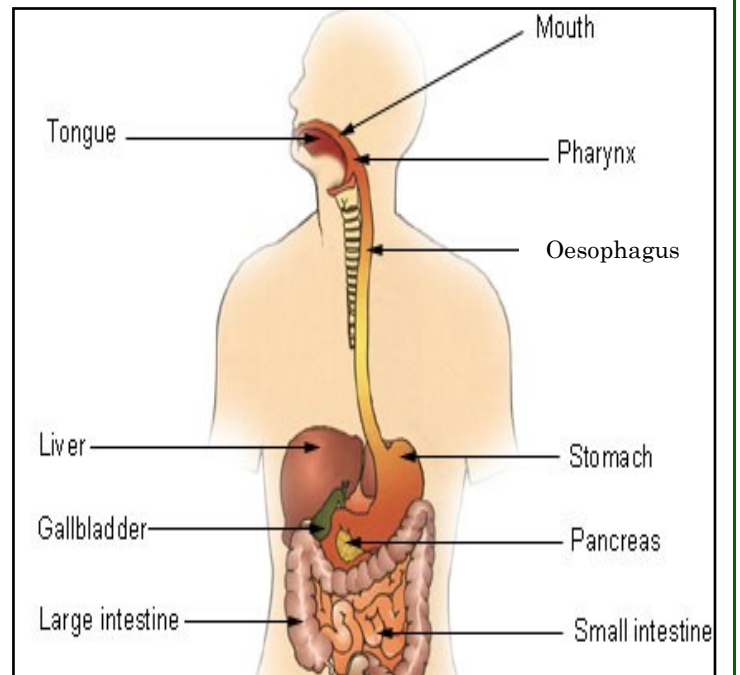
Food Chains

What is a food chain?	<ul style="list-style-type: none"> A food chain is a diagram that shows a producer and consumers A consumer can be a predator, prey or both The arrow means - 'is food for'
What is a producer?	Food chains start with a producer (usually a green plant or algae)
What is a consumer?	Consumers get their food by eating plants or other animals
What is a predator?	Animals which eat other animals are called predators
What is prey?	Animals that are eaten by other animals

What? (Key Vocabulary)

Spelling	Definition/Sentence
Energy	The property that gives humans strength
Waste	Unwanted substances in the body

Diagrams and Symbols



Possible Experiences

- Compare the teeth of animals and predict if they are carnivores or herbivores
- Experiments with what can go wrong with the digestive system such as: hiccups and vomiting
- Making the longest food chain possible

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Science Focus:	Animals, including humans	Year 5		
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What? (Key Knowledge)

Human Growth

The stages of human life	<ul style="list-style-type: none"> • Fertilised egg • Foetus • Baby • Toddler • Child • Teenager • Adult • Old age • Death
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Average UK life expectancy	Men: 79 Women: 82
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Puberty

What is puberty?	<ul style="list-style-type: none"> • Puberty is when the body develops. • Puberty usually happens between the ages of 10 and 18 • During puberty, the bodies of boys and girls begin to change
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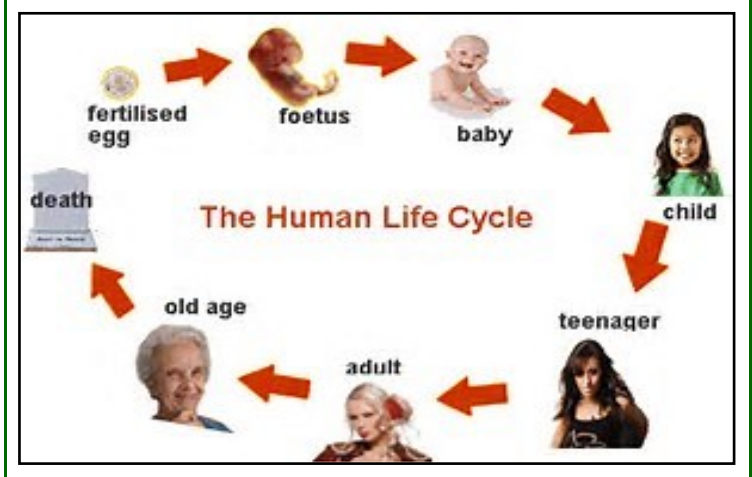
Changes for girls	<ul style="list-style-type: none"> • Hair starts to grow on their bodies • Breasts develop and hips widen • Periods start
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Changes for boys	<ul style="list-style-type: none"> • Hair starts to grow on their bodies • Hair starts to grow on their faces • Testicles start to produce sperm
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What? (Key Vocabulary)

Spelling	Definition/Sentence
Testicles	The part of the body in men where sperm is produced
Sperm	The fluid that fertilises the egg

Diagrams and Symbols



Possible Experiences

- Compare the life cycles of different animals and humans
- Statistical analysis of average age/height of our school, parents... etc.

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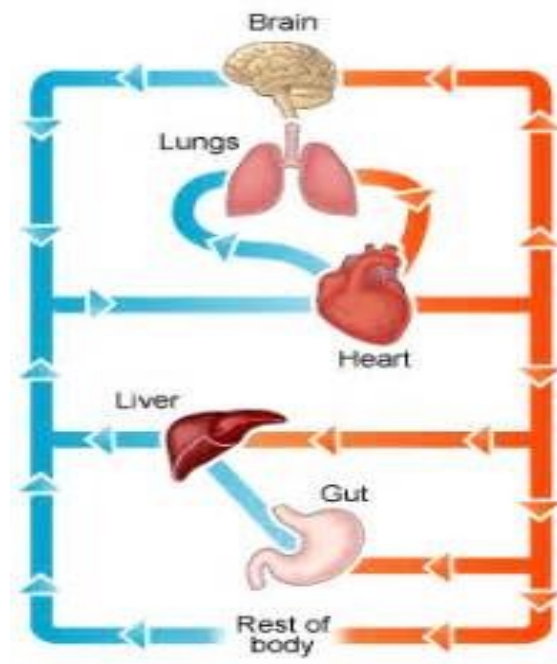
Science Focus:	Animals, including humans	Year 6	
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What? (Key Knowledge)	
The Human Circulatory System	
The main parts of the human circulatory system	Heart Blood vessels Blood
What does the heart do?	<ul style="list-style-type: none"> The heart pumps the blood through the blood vessels so that food and oxygen can get to all the parts of the body
What do the blood vessels do?	<ul style="list-style-type: none"> The blood vessels carry the blood around the body
There are three main types of blood vessels	<ul style="list-style-type: none"> The arteries, which carry the blood away from the heart The capillaries, which enable the actual exchange of energy between the blood and the tissues The veins, which carry blood from the capillaries back toward the heart
What does the blood do?	<ul style="list-style-type: none"> Blood moves food and oxygen around the body.

Healthy Lifestyle	
Things humans need to be healthy	<ul style="list-style-type: none"> To have a balanced diet of the right amount of different types of food and drink To exercise regularly To be hygienic
What is a balanced diet?	<ul style="list-style-type: none"> See the Eatwell guide: (http://www.nhs.uk/Livewell/Goodfood/Documents/The-Eatwell-Guide-2016.pdf) Drink 6-8 cups/glasses of fluids each day
Health risks that can damage the body	<ul style="list-style-type: none"> Smoking Drugs Alcohol Obesity
Dangers of smoking	<ul style="list-style-type: none"> Addictive Can cause heart disease and cancer
Dangers of drugs	<ul style="list-style-type: none"> Addictive Can damage the brain or cause death
Dangers of alcohol	<ul style="list-style-type: none"> Ok in small amounts for adults Can damage the liver, heart and stomach
Dangers of obesity	<ul style="list-style-type: none"> Can cause heart disease Can lead to cancer

What? (Key Vocabulary)	
Spelling	Definition/Sentence
Oxygen	The air we breathe in
Addictive	Substance that causes you to need more and more (out of control)

Diagrams and Symbols



Possible Experiences

- Carrying additional weight and discussing the effects
- Making a circulatory system with a pump
- Finding out what causes the heart to work harder/ maximum heart rates