




RSS Science Knowledge, Vocabulary & Skills Overview


Working Scientifically	YEAR 1 <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways (Year 1 focus) • Use simple equipment to observe closely (Year 1 focus) • Perform simple tests (Year 1 focus) • Identify and classify (Year 1 focus) • Use observations and ideas to suggest answers to questions (Year 1 focus) • Gather and record data to help in answering questions (Year 1 focus) 	YEAR 2 <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum (Year 2 focus) • Use simple equipment to observe closely including changes over time (Year 2 focus) • Perform simple comparative tests (Year 2 focus) □ Identify, group and classify (Year 2 focus) • Use observations and ideas to suggest answers to questions noticing similarities, differences and patterns (Year 2 focus) • Gather and record data to help in answering questions including from secondary sources of information (Year 2 focus)
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Humans and our bodies Books to be Read							
MATERIALS & THEIR PROPERTIES Books to be Read							
SEASONAL CHANGES Books to be Read							


<p>PLANTS</p> <p>Books to be Read</p>	
<p>ENVIRONMENT</p> <p>Books to be Read</p>	
<p>LIVING THINGS & THEIR HABITATS</p> <p>Books to be Read</p>	

Unit	National Curriculum POS	Knowledge	Vocabulary Year 1/ Year 2	Vocabulary Year 2	Progression of Skills
Humans and our Bodies	Year 1 <ul style="list-style-type: none"> identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense Year 2 <ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for survival (water, food and air) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene 	 <p>What are senses and why do we need them? What do humans and other animals need to survive? What do humans need to do to stay happy and healthy? How does exercise affect my body?</p> <p>Year 1</p> <ul style="list-style-type: none"> There are 5 main senses and those sense help us understand and learn about the world around us (sight, hearing, taste, touch, smell). Different parts of our body help us to use our senses. Our bodies can be different. We can be different heights, weights, have different colour eyes, hair or skin. However, we all have the same, recognisable features of key body parts. Our bodies change as we get older. We need to look after our bodies and keep good hygiene to stay happy and healthy. Washing our hands properly is part of this. 	<p>sight Your eyes let you see all the things around you. hearing Your ears let you listen to all the things around you. Your brain is able to tell what different sounds are. touch Your skin gives you the sense of touch. You can tell if something is warm, cold, smooth or rough without even looking at it! taste Your sense of taste comes from your tongue. You can tell if something tastes bitter or sweet. You might have some tastes you like and some you don't. smell You smell using your nose. Your nose can tell if things smell nice or not nice.</p> <p>Key parts of the body</p> <ul style="list-style-type: none"> Head Eye Ear Shoulder Elbow Neck Tongue Mouth Teeth Arm Hand Thumb 	<p>Adult A fully grown up animal or plant. Develop The changes living things go through to become an adult. Offspring The child of an animal. Reproduce When living things make a new living thing of the same kind. Young Offspring that has not reached adulthood live young Offspring that has not hatched from an egg. dehydrate To lose water (dry out). Diet The food and water that an animal needs. Disease Illness or sickness. Energy The power needed to carry out a task. Exercise A physical activity to keep your body fit. Germs Small living things that cause disease and illness. Virus Small living things that lives inside other living things, such as animals or plants. Sometimes, it can make us feel unwell and stop our body from working properly. Bacteria Small living things that are all around us. Our bodies need good bacteria</p>	<p>Year 1</p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>Observe how our own senses help us to understand and learn about the world around us.</p> <p>Explore how losing a sense might change our perception of the world around us.</p> <p>Observe how humans' bodies are different and similar.</p> <p>Year 2</p> <p>Observe and then, gather and record data on how human bodies are different and how humans change over time.</p> <p>Observe how humans change over time.</p> <p>Describe the importance for humans to exercise, eat the right amounts and different types of foods.</p>

		<p>Year 2</p> <ul style="list-style-type: none"> • All young animals change at different stages as they grow into adults. • Some animals give birth to live young. Their offspring normally look like them when they are born, such as mammals. • Other animals have offspring which do not look like them, e.g. fish and amphibians. • Some animals lay eggs which hatch into live young. This young then develops into an adult. • When these eggs hatch, some animals look like their adult, for example birds and reptiles. • To stay alive, animals have 3 basic needs (water, food, air). To stay happy and healthy, humans need more, for example exercise and shelter. • All animals have adapted to diets that make their bodies work at their best. Humans need a varied and balanced diet made up of vegetables, fruits, carbohydrates, protein and dairy. • We must drink to stay hydrated. 6-8 glasses of water a day. • High sugar and high fat foods 	<ul style="list-style-type: none"> • Knee • Leg • Toes • foot <p>Germs Small living things that can cause disease and illness.</p>	<p>and they work as a team. Sometimes, bad bacteria cause disease and illness by stopping our body from working properly.</p> <p>heart rate The number of times a heart beats in one minute.</p> <p>Hygiene How clean something is (to stay healthy and stop disease and illness spreading).</p> <p>Nutrition Food needed to live.</p> <p>Pulse The beating of the heart that can be felt in your neck and wrist.</p>	<p>Classify different foods into food groups.</p> <p>Predict the effect of different kinds of exercise on the body.</p> <p>Observe and record the effects of exercise of the body on a simple table or chart.</p> <p>Notice that animals, including humans, have offspring, which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Communicate how humans may have other needs beyond basic survival to stay happy and healthy.</p> <p>Communicate the importance of hygiene, for preventing disease and illness spreading.</p>
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		<p>we must eat in moderation.</p> <ul style="list-style-type: none"> Exercise changes our bodies, for example changes our temperature, breath and heart rate. 			
Unit	National Curriculum POS	Knowledge	Vocabulary Year 1/ Year 2	Vocabulary Year 2	Progression of Skills
Humans and other animals	<p>Year 1</p> <ul style="list-style-type: none"> identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) <p>Year 2</p> <ul style="list-style-type: none"> explore and compare the differences between things that are living, dead, and things that have never been alive identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds 	 <p>What is a habitat? What is the difference between fish, mammals, amphibians and birds? What does being alive mean? How do I know if something is alive, dead or has never been alive? Do all animals have the same needs? How can I identify different native trees and plants?</p> <p>Year 1 / 2</p> <ul style="list-style-type: none"> Animal species can be classified into groups based on similar characteristics. The main groups are birds, amphibians, mammals, reptiles and fish. Some animals are suitable for keeping as pets but some are not. Pets need food, water, space, shelter and medicine. Animals that are not pets are known as wild animals. Owning a pet is an important responsibility because pets 	<p>Reptiles- All reptiles breathe air. They have scales on their skin. They are cold blooded which means that they are as warm as the temperature around them. Reptiles lay eggs.</p> <p>Birds- All birds have a beak, two legs, feathers and wings. Birds lay eggs and are warm blooded.</p> <p>Mammals - Mammals are animals that breathe air, grow hair or fur and feed on their mother's milk as a baby. Mammals are warm blooded which means that they can regulate their own bodies' temperature.</p> <p>Amphibians-Amphibians live in the water as babies and on land as they grow older. They have smooth, slimy skin and are cold blooded</p> <p>Fish- Fish live and breathe under water. They have scaly skin, fins to help them swim and they breathe through gills. Fish lay eggs.</p>	<p>life processes These are the things that all living things do. They move, breathe, sense, grow, make babies, get rid of waste and get their energy from food.</p> <p>Living Things that are living have all the life processes.</p> <p>Dead Things that are dead were once living. They did have all the life processes but don't now never living</p> <p>Things made out of metal, plastic or rock were never living. They never had the life processes.</p> <p>food chain A food chain shows how each animal gets its food. Food chains are one of the ways that living things depend on each other to stay alive.</p> <p>food sources This is the place a living thing's food comes from.</p>	<p>Year 1 Communicate previous knowledge of different animals, including pets.</p> <p>Observe and classify different animals by identifying their features, for example amphibians, mammals, birds, fish and reptiles.</p> <p>Classify animals into groups according to what they eat. This includes identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>Year 2 Observe differences between things that are alive, dead or have never been alive.</p> <p>Classify into categories of alive, dead or never been alive using observations.</p> <p>Identify and communicate the differences in habitats around the world.</p>

	<p>of animals and plants, and how they depend on each other</p> <ul style="list-style-type: none"> identify and name a variety of plants and animals in their habitats, including microhabitats describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food 	<p>will not be happy, healthy or safe if we do not give them the things that they need.</p> <ul style="list-style-type: none"> Animals can also be classified based on similarities in their diets. They may need certain kinds of foods to survive, for example carnivores, herbivores and omnivores. <p>Year 2</p> <ul style="list-style-type: none"> Some things are alive, some things have been alive but are now dead and some things have never been alive. All living things are part of a food chain. This is the description of how different animals depend on each other for survival. A food chain is made up of producers and consumers. Minibeasts live in microhabitats. These creatures are a range of invertebrates. This means that they do not have a backbone, for example worms, spiders. All living things live in a habitat. This is the environment in which a living thing has adapted to survive. Living things support and depend each other in their respective habitats. 	<p>Carnivores- Animals that mostly eat other animals (meat) are carnivores.</p> <p>Herbivore- Animals that only eat plants are herbivores.</p> <p>Omnivore- Animals that eat both plants and other animals are omnivores.</p>	<p>Habitat A habitat is the natural place something lives. A habitat provides living things with everything they need to survive such as food, shelter and water.</p> <p>Microhabitat A microhabitat is a very small habitat in places like under a rock, under leaves or on a branch. Minibeasts live in microhabitats. The microhabitats have everything they need to survive.</p> <p>Depend Many living things in a habitat depend on each other. This means they need each other for different things.</p> <p>Survive This means to stay alive.</p>	<p>Observe microhabitats and how these can support a range of life, such as invertebrates, small mammals and birds.</p> <p>Observe and describe simple food chains, which show different animals and plants depend on each other to survive.</p>
Unit	National Curriculum POS	Knowledge	Vocabulary Year 1/ Year 2	Vocabulary Year 2	Progression of Skills

Materials & their Properties	<p>Year 1</p> <ul style="list-style-type: none"> Distinguish between an object and the material from which it is made Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock Describe the simple physical properties of a variety of everyday materials Compare and group together a variety of everyday materials on the basis of their simple physical properties. <p>Year 2</p> <ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	 <p>Why do we need different materials? Can materials be adapted for different purposes? What are different materials made from?</p> <p>Year 1 and 2 All objects are made from materials.</p> <ul style="list-style-type: none"> Different materials have different uses in and around school because of their different properties. Materials can be different, such as rough or smooth, bendy or stiff and soft or hard. Some materials can float and some sink in water. Some materials allow water to pass through them and some do not allow water to pass through them. Some materials allow light to pass through them and some do not. Wood/card/paper comes from trees Metal comes from rocks under the ground Plastic is made from oil Glass is made from sand Rock the hard solid material that forms part of the 	<p>Transparent – light passes through easily and objects are seen clearly Opaque – cannot be seen through Soft – not firm to the touch Hard – solid, firm, rigid Flexible – easy to bend Float – able to rest on the surface of water and liquids Sink – unable to rest on the surface of water and liquids Waterproof – repels water and liquids Non- waterproof – does not repel water and liquids Shiny - reflects light Dull – lacks shine or brightness Rough – uneven/irregular surface Smooth – an even and regular surface</p>	<p>Reflective – will bounce light off its surface Magnetic – is attracted to magnets Translucent – will let some light through, but not enough to see detailed shapes. Rigid – unable to be bent or forced out of shape Suitability - Suitability means having the properties, which are right for a specific purpose. Properties - This is what a material is like and how it behaves (soft, stretchy, waterproof). Durability - The property that a material can withstand damage or wear. Absorbent – The property that a material can take in and hold water. Strength - Strength is the ability to resist breaking. Recycle - Some materials have the property of being able to be recycled. This means that they can be processed and remade into something else to be used again. Elasticity – The property of a material to go back to its original shape after being stretched or squashed.</p>	<p>YEAR 1</p> <p>Distinguish between an object and the material from which it is made</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p>Predict the outcome of a test to see the suitability of different materials.</p> <p>Test to see the suitability of different materials.</p> <p>Observe how different materials can sink or float.</p> <p>YEAR 2</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>Describe how the shapes of solid objects made from some</p>
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		<p>surface of the earth and some other planets</p> <ul style="list-style-type: none"> • Water a liquid without colour, smell or taste that falls as rain, and can be found in lakes, rivers and seas • Ice is water in a different state. • The melting of ice can be sped up or slowed down by a number of factors, for example Ice melts more quickly as the temperature increases. • Wool comes from sheep YEAR 2 • Cotton comes from a plant • Rubber is made from the latex in a tree called the rubber tree (dandelions contain latex!) • Brick baked clay • Floating and sinking is related to buoyancy and density. • Some materials have the ability to take in and hold water. • Hard materials can also have the ability to absorb water. • Some materials are found naturally and some materials are manmade, for example plastic. 			<p>materials can be changed by squashing, bending, twisting and stretching.</p> <p>Classify different objects using materials as a criteria.</p> <p>Predict the outcome of a test to see how absorbent different materials are. Conduct a fair test and record data, which measures the absorbency of different materials.</p> <p>Test the strengths of different kinds of paper and record the results.</p>
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Unit	National Curriculum POS	Knowledge	Vocabulary Year 1/ Year 2	Vocabulary Year 2	Progression of Skills
Plants	<p>Year 1</p> <ul style="list-style-type: none"> identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy <p>Year 2</p> <ul style="list-style-type: none"> observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable 	 <p>What do plants need to grow? What is the difference between a vegetable and a fruit? Are all plants edible? Can I grow my own food? Why is it important to grow our own food? How can I identify different flowers and trees? What does native mean?</p> <p>Year 1 / 2 Dandelion, daisy, buttercup, nettles, ivy, dog rose, clover and brambles are all common wild plants.</p> <p>Pandy, sunflower, sweet pea, fuchsia, rose , lavender and iris are all common garden plants.</p> <p>Many types of plants can flower and grow more rapidly. at different times of the year.</p>	<p>wild plants A wild plant seed grows where it falls. It doesn't need to be planted or cared for as it grows.</p> <p>garden plants Garden plants are plants that people choose to grow in their gardens.</p> <p>weed Weeds are wild plants that grow in places where people don't want them.</p> <p>deciduous A deciduous tree loses its leaves each year.</p> <p>evergreen An evergreen tree keeps its green leaves all year round, even in the winter.</p> <p>roots Roots take in water and nutrients from the soil.</p> <p>stem The stem holds the plant up and carries the water and nutrients from the roots to the leaves and flowers.</p> <p>leaves Leaves catch sunlight to make energy.</p> <p>flowers Flowers attract insects and birds.</p> <p>petals Petals are the colourful part of the flower.</p> <p>fruit Fruit contains the plant's seeds. Sometimes humans try</p>	<p>germination When the conditions are right, the seed soaks up water and swells, and the tiny new plant bursts out of its shell. This is called germination.</p> <p>sprout When a plant sprouts, it grows new shoots.</p> <p>shoot A shoot grows upwards from the seed or plant to find sunlight.</p> <p>seed dispersal Seed dispersal is when the seeds move away from the parent plant. They can be moved by the wind or animals.</p> <p>sunlight All plants need light from the sun to grow well. Some plants need lots of sunlight. Some plants only need a little sunlight.</p> <p>water All plants need water to grow. Without water, seeds and bulbs will not germinate.</p> <p>temperature Temperature is how warm or cold something or somewhere is. Some</p>	<p>Year 1 Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees?</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Year 2 Observe and describe how seeds and bulbs grow into mature plants</p> <p>Observe and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>Conduct a test and record the results of growing plants from seed in different conditions.</p>

	<p>temperature to grow and stay healthy</p>	<p>Cedar, Horse Chestnut, Oak, Silver Birch, Willow and Holly trees are common.</p> <p>Some trees are deciduous which means that they shed their leaves in autumn and others are non-deciduous which means that they keep their leaves all year round.</p> <p>Plants need space and light to be healthy. Seeds need the right temperature and water to germinate. Soil is important to support root growth and for the uptake of nutrients and water.</p> <p>Gardens can be different and varied. They are spaces which are tended and cared for by people to help plants grow.</p> <p>A seeds and bulb and begin to grow in darkness but will need a source of light to grow on.</p> <p>Plants have a basic structure of roots, stem, leaves and flowers. Flowers may not be visible through the whole year.</p> <p>Bark grows around the trunk and branches of a tree to protect it and to help water and nutrients get to the crown of the tree.</p> <p>Year 2 Germination is the process from where a seed goes from being dormant to beginning to grow.</p>	<p>to grow fruit without seeds because it's easier to eat. seed Seeds grow into new plants.</p> <p>bulb Bulbs grow into new plants.</p>	<p>plants like cooler temperatures and some like warmer temperatures. nutrition Food or nourishment. Plants make their own food in their leaves using sunlight.</p>	
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		<p>All plants have a life cycle that culminates in creating and dispersing its own seeds.</p> <p>Plants require sunlight, water, suitable temperature, pace and nutrition to grow and be healthy.</p> <p>Compost can be used instead of soil as a growing medium and is broken down organic material, such as leaves and other dead plants. We can make our own compost to use on a compost heap.</p> <p>Potatoes are tubers and not 'seeds'. Potato plants need a lot of water.</p> <p>Insects are attracted to flowers, which pollinates them.</p> <p>Green potatoes are toxic. Potato plants can create seed heads which look like tomatoes- These are toxic.</p> <p>We can eat and need lots of plants and seeds as part of a healthy, balanced diet. However, many are toxic which means that they cannot be eaten.</p>			
Unit	National Curriculum POS	Knowledge	Vocabulary Year 1/ Year 2	Vocabulary Year 2	Progression of Skills

Seasonal Changes & Environment	<p>Year 1</p> <ul style="list-style-type: none"> Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies. <p>Year 2</p> <ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other 	 <p>Why do we have four seasons? Why do our shadows change shape and size? How are the seasons different?</p> <p>Can I make a difference to the environments? How can I reduce the waste that we make? Why is protecting our environment important?</p> <p>Year 1 /2 We can go outside and look at the weather. Temperature is measured in Celsius and records how hot or how cold something is. Different weather types require us to wear different clothing.</p> <p>Understand how the observed weather is typical (or not) of the weather for the season</p> <p>The day length changes each day and varies from season to season. Shadows can also change through the day and in different seasons.</p> <p>Different seasons can have more or less typical measures of rainfall.</p> <p>A wind sock can measure wind direction. Different times of day can affect the wind.</p>	<p>Seasons – Spring, Summer, Autumn, Winter</p> <p>Weather The weather includes the temperature outside, the wind direction and strength, as well as rain, cloud, snow and sun.</p> <p>Daylight is when it is light outside. The amount of daylight changes with each season.</p> <p>Forecast A forecast is a prediction of what the weather will be like.</p> <p>Temperature is a way to measure how hot or cold something is. Temperature is measured in degrees Celsius. The temperature can change during different seasons. Generally, it is colder in winter and warmer in summer.</p>	<p>Energy Energy makes everything work.</p> <p>Power Electricity, gas and oil are all sources of power. They give us energy to make things work.</p> <p>Non-renewable Non-renewable power sources such as coal, oil and gas can't be replaced once they have been used. Scientists think these are running out.</p> <p>Renewable Renewable power sources can be replaced. This means they will never run out. Solar power, wind power, geothermal power, biomass and wave power are all renewable power sources.</p> <p>Endangered Being endangered means that scientists think that a type of animal or plant is at risk.</p> <p>Extinct Extinct means that there are none of that type of animal or plant left alive.</p> <p>Climate Change Climate change is a change in the overall weather and temperature on Earth. (Not the day-to-day weather). The Earth is getting warmer due to some of the things humans are doing. This</p>	<p>Year 1</p> <p>Observe the weather and record findings.</p> <p>Observe and measure shadow length.</p> <p>Predict how much rainfall will be experienced, measure and record findings.</p> <p>Observe and record wind direction and strength.</p> <p>Year 2</p> <p>Observe how waste can impact on the local environment where we live and how we have means to dispose of that waste,</p> <p>Classify and sort materials that can and cannot be recycled. Communicate and follow instructions on how to create recycled paper.</p> <p>Observe and record how energy is used around school.</p> <p>Test how much water can be saved by turning off the tap while washing hands.</p>
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		<p>Year 2</p> <p>The environment is where we live. Our planet provides everything that we and all living things need. We call it our environment.</p> <p>Humans create waste that needs to be managed. Otherwise it can damage our environment and lifecycles that rely on it. We have a responsibility for reducing waste.</p> <p>There are ways to get rid of waste. All have some impact on our environment. Some can be burnt or incinerated; some is buried and some is recycled or reused.</p> <p>Humans are changing the world by affecting the climate. This can cause more floods, more droughts, more storms and can melt sea ice.</p> <p>Organic waste can be used to create compost.</p> <p>Some waste can be recycled but needs to be sorted into different materials first (paper, glass, metal, some plastics).</p> <p>Some products are a mixture of materials which cannot be recycled. Some products share</p>		<p>means it will be more difficult for living things to survive.</p>	
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		<p>logos or information about recycling.</p> <p>Energy makes everything work. Electricity, gas and oil are all sources of power. They give us energy to make things work.</p> <p>Non-renewable power sources such as coal, oil and gas can't be replaced once they have been used. Scientists think these are running out. Renewable power sources can be replaced. This means they will never run out. Solar power, wind power, geothermal power, biomass and wave power.</p> <p>Saving water is an important part of reducing climate change. We can reduce water by changing our everyday habits.</p>			
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