## Subject Progression Grid

| Animals, including humans | | | | | |
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| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| •Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals<br>• Identify and name a variety of common animals that are carnivores, herbivores and omnivores<br>• Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)<br>• Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. | • Notice that animals, including humans, have offspring which grow into adults<br>• Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)<br>• Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene | • Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat<br>• Identify that humans and some other animals have skeletons and muscles for support, protection and movement | • Describe the simple functions of the basic parts of the digestive system in humans<br>• Identify the different types of teeth in humans and their simple functions<br>• Construct and interpret a variety of food chains, identifying producers, predators and prey | • Describe the changes as humans develop to old age | • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood<br>• Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function<br>• Describe the ways in which nutrients and water are transported within animals, including |
| Unit:<br>Human body Autumn 1 | Unit:<br>Animals' needs for survival | Unit:<br>Skeletons | Unit:<br>The digestive system | Unit:<br>Animals including humans | Unit:<br>The circulatory system |

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| Animals<br>Spring 1 | Autumn 1,<br>Humans<br>Autumn 2<br>Growing up<br>Summer 1 and 2, | Autumn 1,<br>Movement Autumn1,<br>Nutrition and diet<br>Autumn 1/2, | Summer 1<br>Food chains<br>Summer 2 | Spring 2 | Spring 1 and 2<br>Diet, drugs and lifestyle<br>Spring 2 |
| Objectives<br>Step 1 Identify and name parts of the human body<br>Step 2 Draw and label parts of the human body<br>Step 3 Sight<br>Step 4 Sound<br>Step 5 Taste<br>Step 6 Touch<br>Step 7 Smell<br>Step 1 Mammals<br>Step 2 Birds<br>Step 3 Fish<br>Step 4 Amphibians<br>Step 5 Reptiles<br>Step 6 Compare and group animals<br>Step 7 Carnivores<br>Step 8 Herbivores<br>Step 9 Omnivores | Objectives<br>Step 1 Mammals<br>Step 2 Birds<br>Step 3 Fish<br>Step 4 Amphibians<br>Step 5 Reptiles<br>Step 6 Humans<br>Step 1 Exercise<br>Step 2 Food<br>Step 3 Hygiene<br>Step 4 Teeth<br>Step 1 Parent and offspring<br>Step 2 Life cycle of humans<br>Step 3 Life cycles of different mammals<br>Step 4 Life cycle of amphibians<br>Step 5 Life cycle of a butterfly<br>Step 6 Are there patterns between the life cycles of different animals? | Objectives<br>Step 1 Identify and name bones in the human body<br>Step 2 Functions of the skeleton<br>Step 3 Identify and name bones in a range of animals<br>Step 4 Animals with and without a spine<br>Step 5 Are all skeletons the same?<br>Step 1 Joints<br>Step 2 How we move<br>Step 1 Food groups<br>Step 2 Understand the five food groups<br>Step 3 Balanced diets<br>Step 4 Compare diets<br>Step 5 Animal diets | Objectives<br>Step 1 Teeth - carnivores, herbivores and omnivores<br>Step 2 Human teeth<br>Step 3 Layers of the teeth<br>Step 4 Plan - tooth decay experiment<br>Step 5 The digestive system<br>Step 6 The digestive system -<br>Step 7 Findings - tooth decay experiment<br>Step 1 What is a food chain?<br>Step 2 Interpret food chains<br>Step 3 Draw food chains<br>Step 4 What would happen if? | Objectives<br>Step 1 The human life cycle<br>Step 2 Babies and children<br>Step 3 Adolescence and puberty<br>Step 4 Adults and the elderly<br>Step 5 Gestation periods of mammals<br>Step 6 Gestation periods and lifespan | Objectives<br>Step 1 The circulatory system<br>Step 2 Blood<br>Step 3 The heart<br>Step 4 Blood flow in the heart<br>Step 5 Oxygenated and deoxygenated blood<br>Step 6 Dissection of the heart<br>Step 1 Diet<br>Step 2 Drugs<br>Step 3 Cigarettes<br>Step 4 Plan - heart rate experiment<br>Step 5 Investigate - heart rate experiment<br>Step 6 Evaluate - heart rate experiment |

| Living things and their habitats | | | |
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| Year 2 | Year 4 | Year 5 | Year 6 |
| • Explore and compare the differences between things that are living, dead, and things that have never been alive<br>• 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<br>• Identify and name a variety of plants and animals in their habitats, including microhabitats<br>• 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 | •Recognise that living things can be grouped in a variety of ways<br>• explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment<br>• Recognise that environments can change and that this can sometimes pose dangers to living things | • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird<br>• Describe the life process of reproduction in some plants and animals | • Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals<br>• Give reasons for classifying plants and animals based on specific characteristics |
| Unit<br>Living things and their habitats<br>Spring 1 and 2 | Unit<br>Group and classify living things<br>Autumn 1<br>Habitats summer 1 | Unit<br>Life cycles (Spring 2 )<br>Reproduction A and B( summer 1 and 2) | Unit<br>Living things and their habitats Autumn 1 |
| Objective:<br>Step 1 Habitats in my local area<br>Step 2 Polar habitats<br>Step 3 Desert habitats<br>Step 4 Ocean habitats<br>Step 5 Woodland habitats<br>Step 6 Microhabitats<br>Step 7 Habitats and diet<br>Step 8 Food chains<br>Step 9 Living, dead or never alive? | Objective:<br>Step 1 Group animals<br>Step 2 Vertebrates and invertebrates<br>Step 3 Classification keys (animals)<br>Step 4 Group plants<br>Step 5 Classification keys (plants)<br>Step 1 Living things and their habitats<br>Step 2 Classification keys (animals)<br>Step 3 Classification keys (plants)<br>Step 4 Human impact on habitats | Objective<br>Step 1 Life cycles of mammals<br>Step 2 Life cycles of amphibians (frogs)<br>Step 3 Life cycles of insects<br>Step 4 Life cycles of birds<br>Step 1 Sexual reproduction in mammals<br>Step 2 Reproductive parts in plants<br>Step 3 Pollination<br>Step 4 Asexual reproduction<br>Step 5 Plan - cloning plants<br>Step 6 Plant - cloning plants | Objective<br>Step 1 Conditions for life<br>Step 2 Group organisms<br>Step 3 Classify animals<br>Step 4 Classify plants<br>Step 5 Microorganisms<br>Step 6 Classify microorganisms<br>Step 7 Carl Linnaeus |

| Plants | | |
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| Year 1 | Year 2 | Year 3 |
| • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees<br>• 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<br>• Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy | • Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers<br>• Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant<br>• Investigate the way in which water is transported within plants<br>• Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal |
| Unit:<br>Planting A, B and C (autumn 1 and 2, summer 1)<br>Plants ( summer 1) | Unit:<br>Plants (light and dark) ( Spring 1)<br>Plants (bulbs and seeds) ( Summer 1) | Unit:<br>Plants A and B ( Summer 1 and 2) |
| Objective:<br>Step 1a: Plant – winter<br>Step 1b: Observe changes<br>Step 2b Plant – spring<br>Step 1c Observe changes<br>Step 2c Plant - summer<br>Step 1 Plant parts<br>Step 2 Tree parts<br>Step 3 Wild and garden plants<br>Step 4 Plants in my local area<br>Step 5 Deciduous trees | Objective:<br>Step 1 Explore plants<br>Step 2 Plant parts<br>Step 3 What do plants need to grow?<br>Step 4 Plan - light and dark<br>Step 5 Investigate - light and dark<br>Step 1b Findings - light and dark<br>Step 1 Bulb or seed?<br>Step 2 What do plants need to grow?<br>Step 3 Plan - bulbs and seeds<br>Step 4 Plant - bulbs and seeds | Objective:<br>Step 1 Parts of a plant and their functions<br>Step 2 Plant dissection<br>Step 3 Plan - plant growth<br>Step 4 Plant - plant growth<br>Step 5 The stem and water transportation<br>Step 6 Looking at seeds<br>Step 7 Reproductive parts in plants<br>Step 8 Pollination<br>Step 9 Seed dispersal<br>Step 10 Life cycle of plants |

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| Step 6 Evergreen trees<br>Step 7 Trees in my local area | Step 1b Findings - bulbs and seeds | |

| Material | | |
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| Year 1 | Year 2 | Year 5 |
| • Distinguish between an object and the material from which it is made<br>• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock<br>• Describe the simple physical properties of a variety of everyday materials<br>• Compare and group together a variety of everyday materials on the basis of their simple physical properties | • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses<br>• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching | • Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets<br>• know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution<br>• use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating<br>• Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic<br>• Demonstrate that dissolving, mixing and changes of state are reversible changes<br>• Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda |
| Unit:<br>Materials ( Autumn 2) | Unit:<br>Materials ( Autumn 2) | Unit:<br>Properties of materials ( spring 1)<br>Reversible and irreversible changes ( summer 1 and 2) |
| Objective:<br>Step 1 Explore materials - wood, plastic, glass and metal<br>Step 2 Explore materials - rock<br>Step 3 Objects and materials<br>Step 4 Melt and freeze<br>Step 5 Float or sink?<br>Step 6 Does it absorb water?<br>Step 7 Investigate materials | Objective:<br>Step 1 Explore materials<br>Step 2 Wood, paper and cardboard<br>Step 3 Brick and rock<br>Step 4 Glass and plastic<br>Step 5 Metal<br>Step 6 Fabrics<br>Step 7 Same object, different material | Objective:<br>Step 1 Test materials - magnetic, transparency and hardness<br>Step 2 Test materials - electrical conductivity<br>Step 3 Plan - insulating heat experiment<br>Step 4 Investigate - insulating heat experiment<br>Step 5 Evaluate - insulating heat experiment |

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| | Step 8 Test materials - bend, squash, twist and stretch<br>Step 9 Plan - waterproof experiment<br>Step 10 Investigate - waterproof experiment | Step 6 Uses of everyday materials - plastic, wood and metal<br>Step 1 Dissolving<br>Step 2 Separate materials - filtering and sieving<br>Step 3 Solutions and evaporating<br>Step 4 Reversible changes<br>Step 5 Irreversible changes - burning<br>Step 6 Irreversible changes - acid |

| Rocks |
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| Year 3 |
| • Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties<br>• Describe in simple terms how fossils are formed when things that have lived are trapped within rock<br>• Recognise that soils are made from rocks and organic matter |
| Unit:<br>Rocks ( Autumn 2)<br>Fossils (spring 1)<br>Soils ( spring 1) |
| Objective:<br>Step 1 Identify rocks<br>Step 2 Group rocks<br>Step 3 Test rocks<br>Step 4 Local rock survey<br>Step 1 Explore fossils<br>Step 2 Fossil formation<br>Step 1 Explore soil<br>Step 2 The importance of soil<br>Step 3 Plan - soil experiment<br>Step 4 Investigate - soil experiment<br>Step 5 Evaluate - soil experiment |

| States of matter |
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| Year 4 |
| • Compare and group materials together, according to whether they are solids, liquids or gases<br>• Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in<br>degrees Celsius (°C)<br>• Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature |
| Unit:<br>States of matter (autumn 1 and 2) |
| Objective:<br>Step 1 Explore solids, liquids and gases<br>Step 2 Think differently - solids, liquids and gases<br>Step 3 Change states<br>Step 4 Use equipment<br>Step 5 Plan - melting experiment<br>Step 6 Investigate - melting experiment<br>Step 7 The water cycle<br>Step 8 Plan - evaporation experiment<br>Step 9 Investigate - evaporation experiment |

| Electricity | |
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| Year 4 | Year 6 |
| • Identify common appliances that run on electricity | • Associate the brightness of a lamp or the volume of a buzzer with the |

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| • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers<br>• Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery<br>• Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit<br>• Recognise some common conductors and insulators, and associate metals with being good conductors | number and voltage of cells used in the circuit<br>• Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches<br>• Use recognised symbols when representing a simple circuit in a diagram |
| Unit:<br>Electricity (spring 2) | Unit:<br>Electricity (autumn 2) |
| Objective<br>Step 1 Common appliances that use electricity<br>Step 2 Build and draw series circuits<br>Step 3 What has gone wrong?<br>Step 4 Conductors and insulators<br>Step 5 Conductivity within a circuit | Objective:<br>Step 1 Construct and draw series circuits using symbols<br>Step 2 Complete and incomplete circuits<br>Step 3 Variations within circuits<br>Step 4 Plan - voltage experiment<br>Step 5 Investigate - voltage experiment<br>Step 6 Evaluate - voltage experiment |

| Earth and Space |
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| Year 5 |
| • Describe the movement of the Earth and other planets relative to the sun in the solar system<br>• Describe the movement of the moon relative to the Earth<br>• Describe the sun, Earth and moon as approximately spherical bodies<br>• Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky |
| Unit:<br>Space Autumn 2 |

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| Objective:<br>Step 1 The Solar System<br>Step 2 The planets<br>Step 3 Modelling<br>Step 4 Motion of the Earth and planets<br>Step 5 The Solar System - ideas over time<br>Step 6 Planet Earth<br>Step 7 Night and day<br>Step 8 The Moon |

| Seasonal change |
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| Year 1 |
| • Observe changes across the 4 seasons<br>• Observe and describe weather associated with the seasons and how day length varies |
| Unit:<br>Seasonal changes Autumn (a) autumn 1<br>Seasonal changes Winter (b) autumn 2<br>Seasonal changes Spring (c) spring 2<br>Seasonal changes Summer (d) summer 2 |
| Objective:<br>Step 1a Changes in autumn<br>Step 2a Collect and record data<br>Step 1b Changes in winter<br>Step 2b Gather and record data<br>Step 1c Changes in spring<br>Step 2c Collect and record data<br>Step 1d Changes in summer<br>Step 2d Collect and record data<br>Step 3d What are the main changes in each season? |

| Sound |
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| Year 4 |
| • Identify how sounds are made, associating some of them with something vibrating<br>• Recognise that vibrations from sounds travel through a medium to the ear<br>• Find patterns between the pitch of a sound and features of the object that produced it<br>• Find patterns between the volume of a sound and the strength of the vibrations that produced it<br>• Recognise that sounds get fainter as the distance from the sound source increases |
| Unit:<br>Sound ( Spring 1) |
| Objective:<br>Step 1 Vibrations<br>Step 2 The ear<br>Step 3 Investigate sounds<br>Step 4 Explore volume<br>Step 5 Explore pitch<br>Step 6 Plan - volume experiment<br>Step 7 Investigate - volume experiment<br>Step 8 Evaluate - volume experiment |

| Light | |
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| Year 3 | Year 6 |
| • Recognise that they need light in order to see things and that dark is the absence of light<br>• Notice that light is reflected from surfaces<br>• Recognise that light from the sun can be dangerous and that there are ways to protect their eyes<br>• Recognise that shadows are formed when the light from a light source is blocked by an opaque object<br>• Find patterns in the way that the size of shadows change | • Recognise that light travels in straight lines<br>• Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye<br>• Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes<br>• Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them |

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| Unit:<br>Light ( spring 1) | Unit:<br>Light ( summer 1) |
| Objective<br>Step 1 Light sources<br>Step 2 The Sun<br>Step 3 How we see<br>Step 4 Shadows<br>Step 5 Opaque, translucent or transparent?<br>Step 6 Plan - shadow experiment<br>Step 7 Investigate - shadow experiment<br>Step 8 Evaluate - shadow experiment | Objective:<br>Step 1 How we see<br>Step 2 Light and straight lines<br>Step 3 Shadow formation<br>Step 4 Plan - shadow experiment<br>Step 5 Investigate - shadow experiment<br>Step 6 Evaluate - shadow experiment<br>Step 7 Refraction<br>Step 8 Explore light |

| Evolution and inheritance |
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| Year 6 |
| • Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago<br>• Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents<br>• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution |
| Unit:<br>Variation ( summer 1)<br>Adaptations ( summer 1)<br>Fossils ( summer 2) |
| Objective:<br>Step 1 Variation<br>Step 2 Inheritance and characteristics<br>Step 1 Animal adaptations<br>Step 2 Plant adaptations |

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| Step 3 Evolution<br>Step 4 Charles Darwin<br>Step 5 Natural selection<br>Step 6 Darwin's finches<br>Step 1 Fossil formation<br>Step 2 Explore fossils<br>Step 3 Mary Anning |

| Forces and magnets | |
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| Year 3 | Year 5 |
| • Compare how things move on different surfaces<br>• Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance<br>• Observe how magnets attract or repel each other and attract some materials and not others<br>• Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials<br>• Describe magnets as having 2 poles<br>• predict whether 2 magnets will attract or repel each other, depending on which poles are facing | • Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object<br>• Identify the effects of air resistance, water resistance and friction, that act between moving surfaces<br>• Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect |
| Unit:<br>Forces (summer 2)<br>Magnets ( summer 2) | Unit:<br>Forces ( autumn 1) |
| Objective<br>Step 1 Explore forces<br>Step 2 Friction<br>Step 3 Plan - friction experiment<br>Step 4 Investigate - friction experiment<br>Step 1 Magnets<br>Step 2 Magnetic and non-magnetic materials<br>Step 3 Investigate metals<br>Step 4 North and South Poles - attract and repel | Objective:<br>Step 1 Friction<br>Step 2 Air resistance<br>Step 3 Plan - parachute experiment<br>Step 4 Investigate - parachute experiment<br>Step 5 Evaluate - parachute experiment<br>Step 6 Plan - water resistance<br>Step 7 Investigate - water resistance<br>Step 8 Explore gravity<br>Step 9 Use small forces for greater effects |

# Additional topics beyond the curriculum:

| Sustainability | | | | | |
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| Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Topic:<br>Caring for the planet<br>Growing and cooking | Topic:<br>Plastic<br>Wildlife | Topics:<br>Food waste<br>Biodiversity | Topics:<br>Energy<br>Deforestation | Topics:<br>Global warming<br>Plastic pollution | Topics:<br>Renewable energy<br>Light pollution |
| Objectives:<br>Step 1 Why is it important to care for our planet?<br>Step 2 How can we care for our planet?<br>Step 1 Where does my food come from?<br>Step 2 What have I planted and grown this year? | Objectives:<br>Step 1 How is plastic helpful and harmful?<br>Step 2 How can we reduce our plastic waste in school?<br>Step 1 What does wildlife do for us?<br>Step 2 What can we do for wildlife? | Objectives:<br>Step 1 What is food waste?<br>Step 2 How can we reduce our food waste?<br>Step 1 What is biodiversity?<br>Step 2 How can we increase biodiversity in our local area? | Objectives:<br>Step 1 What is energy?<br>Step 2 How can we reduce our energy usage?<br>Step 1 What is deforestation?<br>Step 2 What are the impacts in the UK and the rest of the world? | Objectives:<br>Step 1 What is global warming?<br>Step 2 What are the impacts of global warming on living things?<br>Step 1 What is plastic pollution?<br>Step 2 What are the impacts of plastic pollution on the planet? | Objectives:<br>Step 1 What is renewable energy?<br>Step 2 Using renewable energy<br>Step 1 What is light pollution?<br>Step 2 How can we reduce light pollution? |