

## Year 4 Geography: Sustaining the World's Resources

Summer Term

### How can we reduce our carbon footprint?

#### Geographical Skills:

- To use appropriate geographical vocabulary, e.g. to extend use of geographical terms such as the eight compass points. Begin to use terms such as temperature, transport, industry.
- Ask geographical questions during research to further their understanding- e.g. what is this landscape like? What do I think about it?
- To understand how asking geographical questions can support their enquiries.
- To analyse evidence and draw conclusions, e.g. make comparisons between locations using temp/populations.
- To recognise some common OS symbols.
- To describe route and direction, linking N/S/E/W with degrees on the compass.
- To begin to use 8 compass points.
- To communicate in ways appropriate to the task and issue e.g. writing to a newspaper about a local issue, using email to communicate and share information, using appropriate geographical terms.
- To use large scale OS maps
- To begin to approximate distances using a scale
- To draw maps and plans (from above) at a range of scales during geographical enquiries
- To use more complex letter and number coordinates to locate features on a map confidently, and to use aerial and satellite images
- Begin to use charts, graphs and tables to record information
- To use appropriate fieldwork skills and instruments to measure and record
- To draw annotated sketches

#### Fieldwork:

A fieldtrip into Whickham and/or Watergate Forest Park to study the impact of littering and pollution.

#### Prior Learning:

My Country my school; Beside the seaside; My locality; Around the World; Comparing North East region to a European region; Rule Britannia; Mountains, volcanoes and earthquakes; Global warming discussed during Year 2's unit Around the World and in assemblies; Recycling is covered in Year 2's Everyday Materials Science unit; Discussion on renewable energy in Year 4's Electrical Energy Science unit

Curriculum Skill(s)	Learning Intention	Knowledge and Key Vocabulary
<p><b>Locational Knowledge:</b></p> <ul style="list-style-type: none"> <li>• To identify where places are (e.g. countries, towns, villages and more specific locations) through use of maps, atlases and globes.</li> <li>• To know the specific location and environments of places they study.</li> </ul>	<p><b>How do we deal with waste in our local area?</b></p> <ul style="list-style-type: none"> <li>• Recap what local means and identify Whickham and surrounding towns and Newcastle and Gateshead on a UK map</li> <li>• Look into what waste is. How does Whickham deal with waste? How does our school deal with waste?</li> <li>• What happens to recycled materials? What happens to materials that cannot be recycled?</li> </ul>	<p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>• Know the locations of Whickham and surrounding towns, Newcastle and Gateshead</li> <li>• Know that in the Tyne and Wear region there are different coloured bins for different purposes – household rubbish, recyclable materials and garden waste</li> <li>• Understand that some materials can be recycled</li> <li>• Waste that is not recycled end up in landfill.</li> </ul> <p><b>Vocabulary:</b> Names of materials, recycling, landfill, waste, pollution, household bins, public bins, recycling plants, refuse collections, bring banks, communal recycling facilities.</p>

<p><b><u>Place Knowledge:</u></b></p> <ul style="list-style-type: none"> <li>• To use secondary sources to further understand and compare localities.</li> <li>• To describe where these places are – e.g. region, county, proximity to rivers or hills etc.</li> </ul>	<p><b>How can we measure the impact of waste in our local area?</b></p> <ul style="list-style-type: none"> <li>• Use a range of maps of Whickham such as OS maps, street view, Google Earth etc. to look at the physical features of Whickham and green spaces – what could be the effects of waste on these?</li> <li>• Field trip into Whickham and possibly Watergate Forest Park</li> <li>• Use OS maps and street view maps to plan route(s)</li> <li>• Go on a litter pick on the devised routes and devise a table/chart to show how much litter has been found in which areas. Plot on maps if there are any public waste/recycling/dog waste bins.</li> </ul>	<p><b><u>Knowledge:</u></b></p> <ul style="list-style-type: none"> <li>• Be able to locate physical features and beauty spots on a map of Whickham that would be popular with local people for walking/exercising/dog walking etc.</li> <li>• Be able to give reasons why litter can be harmful to the local environment and wildlife</li> <li>• Devise a simple map and key to show a route into Whickham</li> <li>• Devise a table/chart to show which areas litter was found</li> </ul> <p><b><u>Vocabulary:</u></b> Physical features, beauty spots, litter, environment, wildlife, habitats, soil and air pollution, map, key, route, eight points of a compass, table/chart.</p>
<p><b><u>Human and physical geography</u></b></p> <ul style="list-style-type: none"> <li>• To identify and explain different views of people, including themselves.</li> <li>• To identify and describe what places are like, and how things change, through understanding of, and reference to, human and physical features- e.g. <i>in terms of weather and jobs</i>.</li> <li>• To recognise and explain patterns made by individual physical and human features in the environment- e.g. <i>where front forms in the playground, distribution of hotels along the seafront</i>.</li> <li>• To respond to questions about patterns in the landscape around them and make appropriate observations about the location of features relative to others.</li> </ul>	<p><b>Does the impact of waste and pollution differ depending on where you live?</b></p> <ul style="list-style-type: none"> <li>• Look at three locations: Whickham, London and an area in which waste poses huge problems (such as a slum area like Dharavi)</li> <li>• Look at size of population, production of waste, waste disposal, amount of pollution etc.</li> </ul> <p><b>How is waste and pollution effecting the wider world?</b></p> <ul style="list-style-type: none"> <li>• Look at plastic pollution in the world's oceans and its impact on the wildlife.</li> <li>• Look at impact of air pollution and CO<sup>2</sup> in big cities and the poles.</li> </ul>	<p><b><u>Knowledge:</u></b></p> <ul style="list-style-type: none"> <li>• Know that more heavily populated areas usually have higher levels of waste and pollution due to increased amounts of people and traffic</li> <li>• Know that a slum is a highly populated, overcrowded area with makeshift houses that usually offer little in the way of sanitation i.e. running water, sewerage pipes, waste collections etc.</li> <li>• Know that plastic poses a problem to the oceans because it can take thousands of years to degrade and can become ingested by marine life</li> <li>• Know that CO<sup>2</sup> is carbon dioxide which is mainly emitted into our atmosphere from burning of oil, coal and gas as well as deforestation.</li> <li>• Know that increased CO<sup>2</sup> emissions results in a greenhouse effect which traps heat in the atmosphere, warming the temperatures on earth and causing the poles to melt and weather patterns to change</li> </ul>

		<ul style="list-style-type: none"> <li>• Know that smog is a mixture of smoke and fog and normally effects large cities which have industry and high levels of traffic</li> </ul>
<p><b><u>Geographical Enquiry:</u></b></p> <ul style="list-style-type: none"> <li>• Using: maps, counts, photographs, graphs, measurements, films and reports</li> <li>• Researching secondary sources</li> <li>• Engaging with people, communities, views and opinions</li> <li>• Tackling issues and relevant events</li> <li>• Proposing outcomes and taking actions</li> <li>• Working at different scales of enquiry e.g. local, regional, global but in connected ways</li> </ul>	<p><b>How has the impact of waste in our local area changed over time?</b></p> <ul style="list-style-type: none"> <li>• Look at old OS maps of Whickham over the years and investigate changes in land use and how this may have impacted on the amount of waste and littering.</li> <li>• Is there any evidence of renewable energy being used in our local area e.g. solar panels, recycling plants, wind turbines?</li> <li>• How can we as a community/school/individual help save the planet and reduce our carbon footprint?</li> </ul>	<p><b><u>Vocabulary:</u></b> Population, slum, sanitation, sewerage, infrastructure, biodegradable, CO<sup>2</sup>, deforestation, greenhouse effect, climate, weather patterns, pollution, smog, industry, traffic</p> <p><b><u>Knowledge:</u></b></p> <ul style="list-style-type: none"> <li>• Whickham has become more populated over the years which means more houses, more waste and more pollution</li> <li>• Know that renewable energy can help save the amounts of oil, coal and gas (fossil fuels) burnt and reduce CO<sup>2</sup> emissions</li> <li>• Give some examples of renewable energy such as solar, wind, rain, tides</li> <li>• Give some examples of how the community/school/themselves can help reduce CO<sup>2</sup> levels e.g. recycling more, using less disposable plastic, walking instead of using a car etc.</li> </ul> <p><b><u>Vocabulary:</u></b> Population growth, pollution levels, land use, development, renewable energy, fossil fuels, carbon footprint.</p>
<p><b>Thinking Deeper:</b> How will the amount of waste and pollution change in the next 10-20 years?</p>		

- Thinking about how life in Whickham has changed in the past, what are our predictions for how it will change in the future? How will this impact the amount of waste and pollution?

How can we reduce the amount of pollution/littering that occurs in our local area?

- Write to the local council for permission to create anti-littering posters for Whickham or Water Forest Park

**Links to other subjects:**

- Subject Specific links – History – looking at how Whickham has changed over a period of time; Science – looking at pollution levels, temperature rises, sea levels; Maths – looking at data such as population levels, temperature differences over a period of time, CO<sup>2</sup> emissions over time and in different areas, comparing amounts of waste produced, collected and recycled over time and in different areas; English – Writing a letter to the council; ICT – Using Google Earth and Street view
- Personal Development – How their actions, however small, impact pollution and waste levels and all contributions for waste reductions are important
- SMSC – Appreciating that their local region and country are taking steps to reduce waste and that they need to make positive contributions also; many countries have high levels of litter and pollution and this affects their health and pollution levels of the world
- Cultural Capital – Being responsible global citizens; recognising the steps we are making in recycling and renewable energy
- Careers – Climatologist; geoscientist; environmental engineer/scientist; conservationist; environmental health careers; careers within renewable energy companies; careers within local councils e.g. refuse and recycling; gardeners and maintenance; water quality scientist
- British Values – Helping the community by litter picking and making positive changes to their local community; making changes in their own CO<sup>2</sup> emissions
- Equality – In comparing our local environment with that of a slum area, offers a valuable opportunity to discuss basic human rights and inequalities that are found around the world.