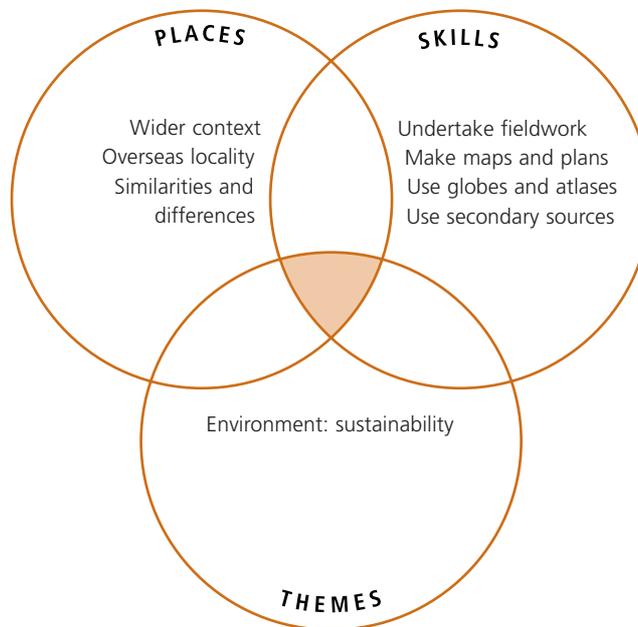


## Unit 17 Global eye

### ABOUT THE UNIT

This is a 'medium' unit, which was developed specifically for more able children. It brings together investigations and ideas in geography and science. Children learn about the workings of the eye and find out how young people are fitted with spectacles in their local area and in other parts of the globe, in particular in Africa. This work could be linked with work on other aspects of less economically developed countries so that children form a balanced view of life in these countries.

The unit offers links to literacy, design and technology, IT, religious education, science, environmental education and the world of work.



### VOCABULARY

In this unit, children are likely to use:

- experiment, eyes, lens, camera, iris, pupil, eyelash, picture, recycle, spectacles, glasses, binoculars, optician, Africa

They may also use:

- blind, partner, retina, long sighted, short sighted, colour blind

### RESOURCES

- blindfolds
- bean bags and obstacles
- model of the eye
- story and information books about the eye
- a selection of glasses
- graphing software
- a local optician
- a video on charity eye projects

## PRIOR LEARNING

It is helpful if the children have:

- learned about the senses
- carried out simple surveys and analysed the results
- experienced local visits and used a questionnaire
- undertaken investigations of their locality, which provide a basis for comparison with contrasting places
- been introduced to the jobs people do

## EXPECTATIONS

**at the end of this unit**

*most children will:*

understand how their eyes work and why sight is so important;  
 know about the work of an optician and have a good understanding of the different ways of obtaining spectacles in two contrasting countries;  
 realise how obtaining spectacles is much harder in some countries;  
 realise how they as individuals can play their part in helping others

*some children will not have made so much progress and will:*

have a more limited idea of how an eye works;  
 gain a good idea of how and why they can recycle spectacles as part of an environmental programme in their school

*some children will have progressed further and will also:*

show a greater understanding of a more distant place and carry out more individual research on the country;  
 carry out further experiments to test their own eyes and their performance

## FUTURE LEARNING

This work provides a foundation for a more detailed study of a locality in a less economically developed country in key stage 2.

Environmental education, *eg recycling and sustainability*, may be developed as a continuous theme throughout this key stage and into key stage 2.

LEARNING OBJECTIVES	POSSIBLE TEACHING ACTIVITIES	LEARNING OUTCOMES	POINTS TO NOTE
CHILDREN SHOULD LEARN		CHILDREN	
<b>Why are eyes important? What is it like not to be able to see?</b>			
<ul style="list-style-type: none"> <li>to look at the importance of the eye as one of the senses</li> </ul>	<ul style="list-style-type: none"> <li>Review what children know about the senses.</li> <li>Ask the children to carry out an experiment to experience blindness by blindfolding a partner and giving instructions to guide him or her around a series of obstacles such as bean bags and hoops.</li> <li>Discuss with the children the feelings and difficulties they experienced.</li> </ul>	<ul style="list-style-type: none"> <li>have some understanding of sight loss and some of the problems linked to it</li> </ul>	<p>Science: these activities can link to work on ourselves, eyes and the senses.</p>
<b>What is the eye like?</b>			
<ul style="list-style-type: none"> <li>to recognise that the eye is made up of different parts</li> </ul>	<ul style="list-style-type: none"> <li>Ask children to investigate the basic structure of the eye, using a variety of resources, <i>eg a model, pictures, library books, CD-ROMs</i>, focusing on questions like: <i>What is special about an eye? How does it work? Is everyone's sight the same?</i></li> </ul>	<ul style="list-style-type: none"> <li>have a simple understanding of the parts of the eye and how they work</li> </ul>	<p>Literacy: through this work, children can revise researching information, <i>eg posing questions before starting an investigation</i>, using these questions to guide the use of contents pages and indexes.</p>
<b>How can sight be changed?</b>			
<ul style="list-style-type: none"> <li>to look at and investigate a variety of different glasses, <i>eg magnifying glasses, binoculars, telescopes</i></li> </ul>	<ul style="list-style-type: none"> <li>Conduct a number of small-scale experiments with the children to see how much or how little can be seen with a variety of glasses, focusing on questions like: <i>Which is most useful for seeing small objects? Which is most useful for long distance? Can everyone see the same thing?</i> Ask them to record the findings on a chart and discuss the findings with the children.</li> </ul>	<ul style="list-style-type: none"> <li>carry out some simple experiments to analyse the merits of different types of glasses</li> <li>record their findings on a chart</li> <li>talk about their findings</li> </ul>	
<b>What do we recycle at home?</b>			
<ul style="list-style-type: none"> <li>how the quality of the environment can be sustained and improved</li> <li>to collect and analyse evidence</li> <li>to use ICT to handle and present data</li> </ul>	<ul style="list-style-type: none"> <li>With the children's help, design a simple form that children can use to conduct a survey of what is recycled in their homes.</li> <li>Ask the children to graph the class survey results (ie how many recycle different things) using computer software, to find out the extent to which spectacles are recycled.</li> <li>Discuss the results with the children.</li> </ul>	<ul style="list-style-type: none"> <li>identify examples of items that are recycled</li> <li>recognise opportunities for future recycling</li> <li>use ICT to create a graph of results</li> </ul>	<p>Environmental education: learning about recycling, conservation and waste avoidance.</p> <p>IT: these activities link with IT through the use of graphing software (Unit 4D).</p>
<b>What work does an optician do?</b>			
<ul style="list-style-type: none"> <li>to undertake investigative fieldwork in relation to a business in the local area</li> </ul>	<ul style="list-style-type: none"> <li>With the children's help, prepare a questionnaire for a visit to a local optician. Some of the questions might be about the type of work done, and others more geographical, <i>eg How far do your clients travel? Do you recycle spectacles? Which countries do they go to?</i></li> <li>Visit a local optician.</li> <li>Ask the children to write up their findings, including their own impressions.</li> <li>Other activities might include asking the children to make their own colour blindness charts and discussing the possibility of the school working with the optician to set up a recycling scheme.</li> </ul>	<ul style="list-style-type: none"> <li>understand the work of the optician and the process of obtaining a pair of spectacles</li> </ul>	<p>World of work: finding out what an optician does.</p> <p>Science: learning about eye tests provides opportunities to link to work on light and dark (Unit 3F).</p>
<b>What is the African countryside like? How do children in African countries get spectacles?</b>			
<ul style="list-style-type: none"> <li>about contrasting places</li> <li>about the problem of obtaining spectacles in a less economically developed country</li> <li>to use globes and atlases</li> </ul>	<ul style="list-style-type: none"> <li>Use a major stimulus like a visit from a charity aid worker or video provided by Vision Aid Overseas to look at eye projects in Africa.</li> <li>Ask the children to locate on a globe or on atlas maps the places where eye projects are being undertaken. Discuss with them the type of environment seen, and ask them to draw pictures to illustrate how their local area differs from the areas.</li> <li>With the children's help, create a frieze to show the landscape and the people.</li> <li>Ask the children to write an account of the visit or the video for a school newspaper or an assembly.</li> <li>After discussing the project with the children, ask them to design a persuasive poster to put up in the school and local community to ask people to recycle spectacles, and to design a recycling bin to set up in school.</li> </ul>	<ul style="list-style-type: none"> <li>show their understanding of the nature of a contrasting landscape</li> <li>show knowledge of how people in an African country can obtain spectacles</li> <li>establish a project in school for recycling spectacles</li> </ul>	<p>Religious education: finding out about the work of charity organisations abroad.</p> <p>Literacy: before writing an account about charity work, children could identify features of report writing in a variety of information texts and apply a model to their writing.</p> <p>Design and technology: the design of a recycling bin provides opportunities to link with design and technology.</p>
<p>It is important to ensure that children are offered opportunities to have first-hand experience, <i>eg trying on spectacles, using some of the optician's equipment, doing a sight test.</i></p> <p><b>SAFETY</b> – All off-site visits must be carried out in accordance with LEA and school guidelines.</p>			