

Unit 5 - You decide - an environmental issue and democracy



***Based on Unit 20: Local Traffic – an environmental Issue. Geography Year 5
Plus Unit 20: Local democracy for young citizens. Citizenship Key Stage 2.***

This geography unit is designed by QCA to deliver lessons on any real UK environmental issue. This unit lends itself well to looking at a proposal for a new quarry/cement works. This unit looks at the work of local councils and the importance of debate:

- Where am I? – use maps to identify issues around the extension of a cement works.
- Who will be affected? – presentations are created to demonstrate different points of view about a cement works extension.
- Public Inquiry – children role play a public inquiry. This allows them to listen to different points of view and see how local democracy works.
- Fieldtrip to local cement works applies all these ideas and can show children that environmental issues need to be resolved in the real world.

Lesson 1 - Where am I?

Learning objectives	<ul style="list-style-type: none">• Use maps, recognise land uses and features, use a key.• Identify areas of conflict in land use if a quarry/cement works extends.
Relevance	To identify an issue and extent of possible impacts of industry on our environment (what and why).
Vocabulary	Land use: forestry, farming, settlement. Map Key Cement Concrete Extension Quarry/cement works
Preparation/resources	<ul style="list-style-type: none">• Research uses of cement using British Cement Association website (www.cementindustry.co.uk), plus other cement manufacturers' websites.• Copies of worksheet 1, plus large copy for front of class.• Coloured pencils.

Lesson 1 - Where am I?

Lesson plan

Introduction

Use large copy of worksheet 1 on board and introduce map to children. Maps tell us what is on the ground without us actually being there. You can use symbols to tell us what the land is being used for. For example, where you are now sitting, the land is being used for a school. All maps use the same symbols. The symbol on a map for a school is a box with school written beside it.

Look at map on worksheet 1. See how many land uses can be identified. Get children to point out: woodland, farmland, quarry/cement works, village. Give children their own copy of worksheet 1. Point out key – this is where a map indicates what each symbol means. Ask children to use coloured pencils to shade different land uses and complete symbols for features on map.

Development

Tell children that a local town, called Newtown, is building lots of new houses. Cement is vital for this because each house needs 18 tonnes of cement to be built. Cement is used for the foundations, floors, concrete blocks, lintels, mortar to glue bricks together and roof tiles. Then it is also used for pavements, kerbs, roads, pipes to carry services etc (see website to illustrate uses of cement). There are so many ways that cement is used in our world, we even need it for sewage treatment! An average family uses 1 tonne of cement each year, this is similar to the weight of an average family car.

Back to worksheet map - Whitewell Cement works needs to get bigger, or extend, in order to produce enough cement for all these new houses in Newtown. To make cement, rock needs to be dug out of the ground. So the quarry needs to get bigger (point out quarry on map). Plus, the cement works needs bigger machines to make extra cement (point out works on map).

The whole cement works needs 2 squares of land for this extension, for a bigger quarry and build a bigger factory. The land must be next to the existing quarry and works. This will enable Newtown to get its cement and build all its new homes for people to move into.

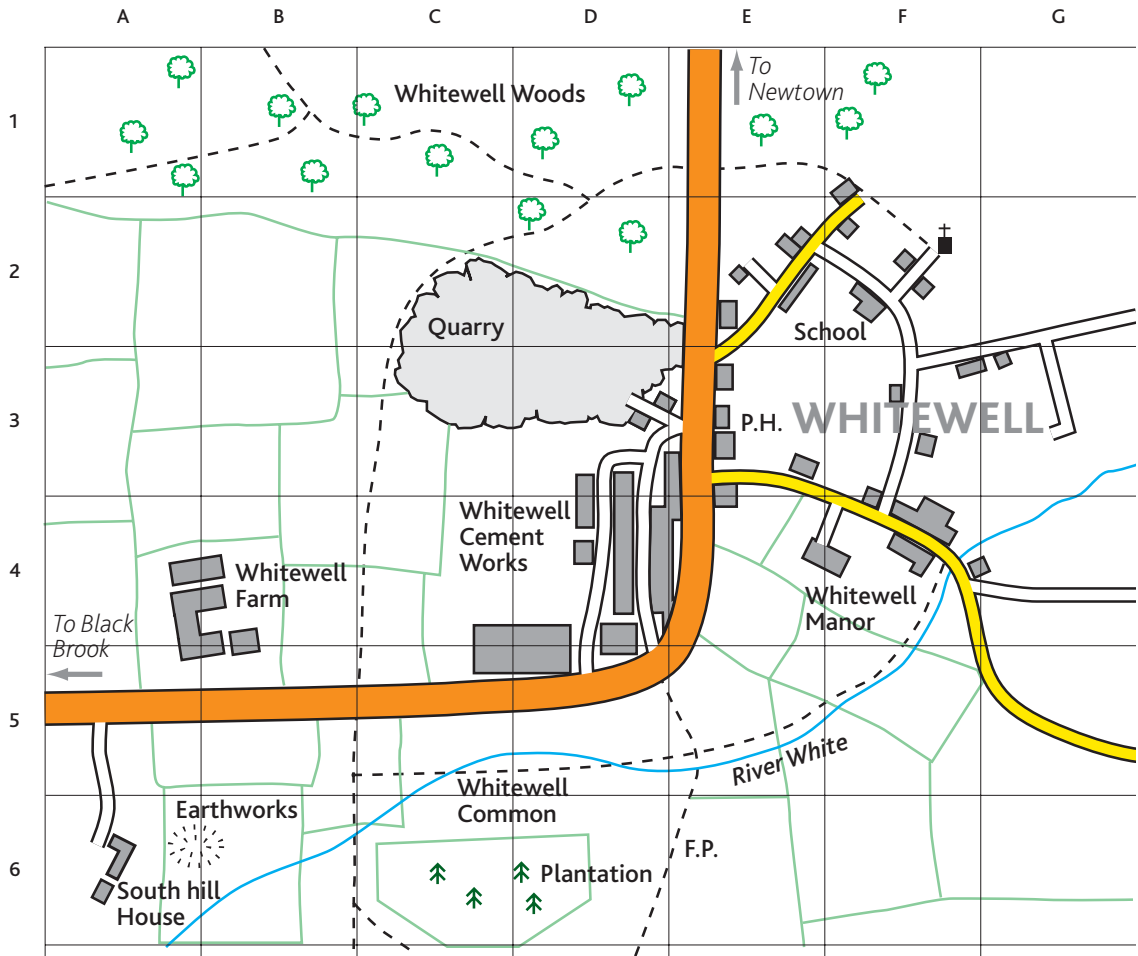
Go back to main map and see what effects this will have on the area around Home Cement Works. It could affect all types of land use. What features might be affected?

Plenary

Ask children how they would feel if they were a villager in Whitewell, a farmer, a forest ranger, a builder in Newtown..... see if children can begin to see that lots of people and the natural environment could be affected in different ways.

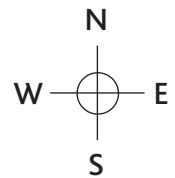
Lesson 1 - Where am I?

Map



KEY

 Woodland	 Farmland
 Quarry	 Church
 Buildings	 Footpath



Lesson 2 - Who will be affected? Opinions

Learning objectives	<ul style="list-style-type: none">• Analyse evidence to identify different opinions.• Create presentations to express these opinions.
Relevance	To explore different opinions concerning an environmental issue (who and what).
Vocabulary	Conflict Opinions/points of view Habitat Presentation Public Inquiry Council Planning Evidence Expert
Preparation/resources	<ul style="list-style-type: none">• Worksheet 1 from previous lesson.• Worksheet 2:• Cement company etc• Main large map from previous lesson.• Access for use of IT for presentations.• A3 paper and paints.

Lesson 2 - Who will be affected? Opinions

Lesson plan

Introduction

Remind children about map from last lesson and scenario about Whitewell cement works extension. Point out different land uses and remind them that the cement works wants to get bigger by 2 squares to supply cement to Newtown for new houses, pavements, pipes etc.

On board, need to have 2 lists:

1 Who would want Whitewell cement works to get bigger?

- Cement company – more business
- Builders – more work
- Cement workers – jobs for longer
- Newtown (people moving into town and planners) – want more homes

2 Who might not want Whitewell cement works to get bigger?

- Whitewell villagers – afraid of it getting bigger
- Local wildlife experts – loss of habitats
- Farmer – loss of land
- Historians – loss of artefacts

Development

Put children in groups of mixed attainment. Give each group one of roles above. Give each group of children a page from worksheet 2. This will give them evidence that they need in order to put together their presentations. Each page contains evidence to be used and questions which will help them understand the point of view that they are presenting. They can then prepare a 3-5 minute presentation. The presentation must be suitable to deliver to the whole class in the next lesson.

Suggestions for presentations:

- IT to show graphs of evidence.
- Visual aids
- Expert statements/interviews

These presentations will be made to the rest of the class, next lesson, in the format of a Public Inquiry.

Plenary

Each group spends 10 minutes to create a banner, showing the opinion they are representing. Use at least A3 size paper and colourful paints to make banners look effective. Catchy slogans help to make an immediate impact and express point of view. These banners will be used next lesson when children carry out their Public Inquiry.

Worksheet 1 - Whitewell Cement Company

You work for the public relations team at Whitewell Cement Works. Your jobs are to make sure that people see that your company looks after people who live near your cement works and wildlife around your cement works.

WE ALL NEED CEMENT (you might want to look at www.cementindustry.co.uk for uses of cement).

We use it for:

Roof tiles	Drives	Patios
Mortar to glue bricks together	Pavements	Stairs
Kerbs	Floors	Roads
Concrete blocks that the insides of houses are built from		

Cement is key to all buildings like our homes, hospitals and schools. Each family uses 1 tonne of cement each year, this is similar to the weight of an average family car.

ORDER

Speedy Homes Ltd

To: Whitewell Cement Works

Newtown

To build 200 new homes we need 3,600 tonnes of cement. Plus 1,000 tonnes for other building works (e.g. pavements, roads, pipes etc.).

CLEMENTS SURVEYS LTD, NEWTOWN

We have looked at Whitewell Cement Works. To make 4,600 tonnes more cement your quarry will need to get bigger by 1 square on map. The cement works will need to get bigger by 1 square on map.

Signed,
H.Smith, Chief surveyor

*Mrs Jenny Smith
Personnel Officer
Whitewell Cement Works
Whitewell*

Dear Cement Works Manager,

In order to produce an extra 4,600 tonnes of cement, we will need 25 more people to work for us here at Whitewell Cement Works. People have applied for these jobs and I am now waiting to be allowed to hire them. They all live close by in either Newtown or Whitewell. I will wait until we get permission to extend the cement works before I send them the letters to tell them that they have the jobs. I just hope we get permission to extend the cement works quickly, it is not fair to keep these people waiting.

Yours sincerely,
Jenny

Questions:

Why does the cement works need to get bigger?

How much extra land does it need?

How many more people would the new bigger cement works need?

Where do most of these people live?

Worksheet 1 - Whitewell Wildlife Trust

You are people who live in Whitewell village. You are all volunteer members of the Whitewell Wildlife Trust, who look after Whitewell Wood. You look after the trees and wildlife in the wood.

Whitewell Wood – Visitors Leaflet



Whitewell Woods

Do come and visit our ancient wood. It has been here for 400 years. Most trees are Hazel, with a few very old Oak trees. There are lots of climbing plants, like honeysuckle and clematis. On the ground, we have lots of ancient woodland favourites, like snowdrops and bluebells. There are a few clearings where you can find some very rare orchids.

We are very lucky to have Dormice living in the woods. So look out for signs like hollowed out Hazel nut shells where the Dormice have been eating them.

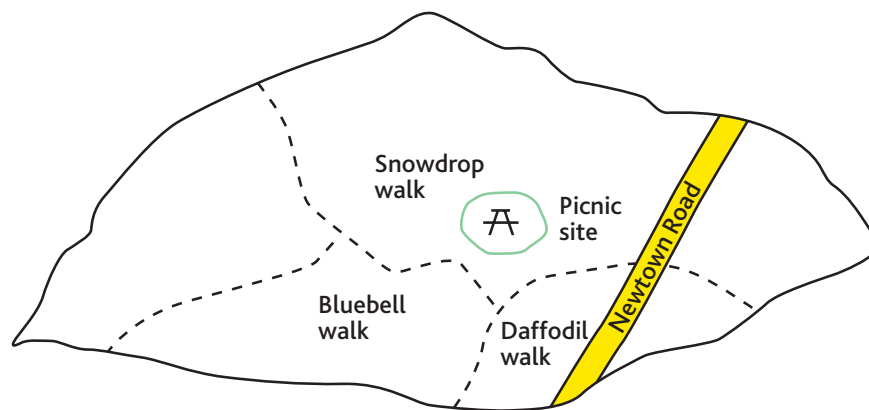
There are many footpaths through the woods and a picnic site if you wish to stay longer.

If you want to learn how to make a fire or shelter using things you find in the woods, contact Jack Hazelnut for our Forest School.

If you would like to help us look after the wood, contact Mrs H.Woodpecker.

If you want to join our junior wildlife group who meet monthly at the woods, contact Jill Mouse.

Written by Whitewell Wildlife Trust



Dormouse Survey – carried out by Whitewell Wildlife Trust

We carried out this survey by checking Dormouse boxes in Whitewell Wood. This is the number of Dormice we found each year:

Year	2000	2001	2002	2003	2004	2005
Number of Dormice	20	32	41	78	98	123

Worksheet 1 - Whitewell Wildlife Trust (cont'd)

THE DORMOUSE

– section from UK wildlife guide

Life span: up to 5 years.

Size: 65 – 85 mm

Description: mouse sized animal with bushy tail. Brown fur on back and lighter fur on front.

Habitat: live in old woodland and hedges. Need hazel trees to feed on nuts and honeysuckle for making their nests.

Dormice are protected by law and cannot be killed, trapped, injured or have their nests disturbed without prosecution.

Lots of their habitat has been destroyed over the last 10 years. This means the Dormouse is getting rarer. They must be protected and their habitats cared for.



Questions:

Why is a wood special if it has Dormice in it?

Is Home Wood a good habitat for Dormice? Why?

Is this a new or old wood?

Why are old woods special?

What people use this wood?

Worksheet 1 - Whitewell Parish Council

You are all members of Whitewell Parish Council. You all live in the village and are volunteers. Your job is to listen to Whitewell residents and sort out any problems they may have. There have been a few people come to you and said that they are not happy about the idea of Whitewell Cement Works getting bigger. You need to find out what the whole village thinks. Then you need to make sure that these comments are passed onto people who are deciding what to do about the cement works extension.

Results of survey sent by Whitewell Parish Council to all people living in village. There are 100 people in Whitewell village and all replied.

Does Whitewell Cement Works affect your life at the moment?

10 said yes.

60 said never.

30 said sometimes.

Would you be happy if Whitewell Cement Works got bigger?

58 said no.

40 said yes.

2 did not know.

Comments that people made to Whitewell Parish Council:

"I walk my dog over the field next to Whitewell Cement Works. Where will I go if I can't walk there any more?"

"I work at Whitewell Cement Works, I want to keep my job."

"The cement works is loud and messy enough, we don't want it to get any bigger."

" I live just close to Whitewell Cement Works, does this mean my house has to be knocked down?"

"I guess I use cement every day, so I suppose the cement works has to go somewhere."

Questions:

Does the cement works affect most people who live in the village?

Are most of the people in the village happy or unhappy about the cement works getting bigger?

Why are some villagers unhappy?

Why are some happy, or do not mind?

Worksheet 1 - Mr Jones, Farmer at Whitewell Farm

You are a firm of lawyers that Mr. Jones has asked to work for him. Your task is to go to the public inquiry and explain what he thinks about Whitewell Cement Works getting bigger over some of his land at Whitewell Farm. Mr Jones farms and lives on another farm in the next village of Blackbrook.

Fieldway Land Survey

Newtown

Dear Sir,

I have done a survey of at Whitewell Farm, near Newtown. This farm is worked by Mr. Jones.

Whitewell Farm is 8 squares on map.

There is a mixture of corn and wheat grown in the fields.

A wildlife survey shows that there are no rare or important plants or animals on Whitewell Farm. All trees and hedges are less than 20 years old, so not important for wildlife.

Yours faithfully,

G.Fieldway

Chief Land Surveyor

Statements collected from Mr. Jones:

"I've farmed in this area all my life, I don't want to lose some of my land."

"If I did, I could lose a few fields I suppose. But I would want the right price for my land. This is how I earn enough money to live on. If I were to sell it would have to be for lots of money, it would not be cheap. I'd have to think very carefully."

Questions:

Why does the farmer not want to lose the land?

Look at the fields that could be used by the new cement works extension. What is the farmer using those fields for?

Would it be easy for the quarry to buy these fields?

Is there any special wildlife in these fields?

Worksheet 1 - Speedy Homes & mayor of Newtown

You are the builders (company called Speedy Homes) that have been employed to build the new houses in Newtown. One of you is also the mayor of Newtown (Mrs Hilda Star, who is very enthusiastic to get these new homes into Newtown).

Extract from Newtown Chronicle:

. . . A new Industrial Estate has just been built in our town. There are a couple of factories, one packing cheese and one which makes wooden furniture. There is also a DIY shop and a new supermarket. This will create 100's of new jobs and bring lots of people into Newtown to work here. Many people are already trying to move into Newtown so they can take advantage of these new jobs, but they are finding that there are not enough houses in Newtown. One person said, "I'm moving to Hometown to work in the

cheese packers, but I can't find a home to buy. At the moment, we have to all live in a caravan until we can find a house. There are lots of other people in this caravan park doing the same. Please build us some new homes!"

We will need to build at least 200 new homes for all these new people. There will also need to be new roads and we might even have a new school for all the new children moving into Newtown. This will help our overcrowded schools in Newtown.

Our mayor, Hilda Star, said, "If we cannot get these new houses built, these new workers will go and live somewhere else. This will mean that they will not be using all the shops and businesses in Newtown. Newtown desperately needs all this new business to survive. We have great ideas for a new and better Newtown. Many lovely new homes will bring in lots of new people into the town. This will bring new life into Hometown. I can't wait"

Neither can the people of Newtown . . .

ORDER

To: Whitewell Cement Works

*Speedy Homes Ltd
Newtown*

To build 200 new homes we need 3,600 tonnes of cement. Plus 1,000 tonnes for other building works (e.g. pavements, roads, pipes etc.).

Speedy Builders, Newtown

Dear Hilda Star, Mayor of Newtown,

Thank you for asking us to build your new houses in Newtown. It should be a very exciting project.

We will need to buy our cement from Whitewell Cement Works because it is close to Newtown.

This will make it cheap and easy to get the cement delivered to the building site. They will be getting an order for 4,600 tonnes of cement.

However, I have been told that Whitewell Cement Works might not be able to produce this extra amount of cement if they cannot get permission to make their cement works bigger. If they cannot supply this cement, then the whole project will not be able to go ahead. If we cannot get our cement locally, the whole project will be too expensive. I hope to see you at the public inquiry and hope Whitewell Cement Works is allowed an extension.

If we go ahead, we will need to employ 50 builders on site for at least 10 months. We will also need to hire local experts, like architects and surveyors. Can you please recommend some local companies that might be interested?

Yours sincerely,

Bill Smart

Project Manager – Speedy Homes

Worksheet 1 - Speedy Homes & mayor of Newtown

(cont'd)

Questions:

Why does Hometown need lots of new homes?

Why does Hometown need more cement?

Where will this cement come from?

Why do the builders need Whitewell Cement Works to get bigger?

Lesson 3 - The Public Enquiry

Learning objectives	<ul style="list-style-type: none">• To see democratic process involved in a Public Inquiry for a planning issue.• To hear different opinions on an issue.• To see how conflict can be resolved.
Relevance	To explore how conflicts are resolved at a local community level. Listening to other peoples' opinions about an issue. Learning to have their own opinions on an issue.
Vocabulary	Public Inquiry Local Community Council Chairperson Planning authority Conflict Resolution
Preparation/resources	<ul style="list-style-type: none">• Children's presentations and any props they want to use.• Children's' banners.• Voting slips.• Worksheet 1 for front of class

Lesson 3 - The Public Enquiry

Lesson plan

Introduction

When a cement works wants to extend, it has to get permission to do so from its local planning authority (normally local district council). What is the name of your local council? It is not possible for a cement works to take any piece of land it wants to just as it likes.

If there are objections to a planning proposal to extend a cement works, there has to be a Public Inquiry. Anyone can give evidence at an inquiry. Usually, each group of people gets a representative to present their evidence at the inquiry. A chairperson listens to all evidence and then writes it up in a report. This report sums up evidence and gives chairperson's ideas on how the issues should be resolved. The report is sent to the District Council to put into action.

Development

I suggest that the teacher is Chairperson (to keep whole Public Inquiry in order!). A chief representative for each group of children needs to be elected to give their presentation to the rest of the class. Any other children that are going to talk in presentation (e.g. expert witnesses giving evidence) need to be decided on. Children may need 5 minutes to rehearse presentation.

Each group gives their presentation. As they give presentation, put their banners up at front of class, so everyone knows what opinion each group is representing. Others must listen – no boo's or heckling (important that they learn to listen to other opinions). Chairperson can summarise each group's opinion on board. It might also be helpful to put up large map on board too.

Plenary

Leave all banners at front. Ask children to come out of role and put themselves in role of Chairperson. They have to resolve this problem. Lots of different opinions. How can they solve this problem?

Give each child a voting slip and 30 seconds. Remind them that this is a private vote.

Collect in voting slips and read out result. You may want to discuss this result and why it was the most popular way of solving this problem. You may want to discuss why it so important that there is this process where everyone can have their say. Perhaps relate it back to children's own lives. Are there any conflicts over land in your area? at school? You could hold another Public Inquiry on this issue.....

Lesson 3 - The Public Enquiry

Voting slip

1 Should Whitewell Cement Works be allowed to extend?

YES

NO

2 What two squares on map can Whitewell Cement Works use for their extension?

dog cartoon?

Lesson 3 - The Public Enquiry

Fieldtrip to a cement works

Learning objectives	<ul style="list-style-type: none">• See process involved in quarrying raw materials and cement manufacture.• Discuss environmental issues encountered by works e.g. when built, extended, conflicts over using alternative fuels.
Relevance	To see how industry can affect the local environment, what conflicts can arise and how they can be resolved. To explore this in a real life setting in children's own local community.
Vocabulary	Conflict Planning Solution Restoration
Preparation/resources	<ul style="list-style-type: none">• See if cement works has any photographs showing before and after the works existed.
	<ul style="list-style-type: none">• Any restoration plans.• Discuss any planning issues that could be highlighted on the visit.• Collect examples of cement works newsletters on visit. These can be used later back at school when children do own.

Lesson plan

Introduction

Tour of the cement works and quarry to look at the main process of cement production.

Development

Ask your guide to show/tell the children about an issue affecting the works. What was the problem? What was the issue? What were the different opinions? How was it resolved?

If a room is available at the cement works, or back at school, you could carry out a debate on this real problem. How would the children resolve it? What would they do if it was up to them?

Plenary

Back at school, the children could put together their own information newsletter to send to all local people around your cement works. This newsletter would explore any issues affecting the local community and tell people how these problems will be resolved.

Lesson 3 - The Public Enquiry

Lesson plan

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Tour of the cement works and quarry to look at the main process of cement production.

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