

Southern Water

WaterWise Teaching Resource



Down the drain

Teachers' notes

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Down the drain

teachers' notes

1

teachers' notes

Teachers' Notes

- Overview of project
- Curriculum areas supported
- Introductory Session: suggestions for managing the session
- The Debate: suggestions for managing the session
- OHP sheets to support the sessions
 - OHT1: Introductory Session *Wastewater - Whose problem is it?*
 - OHT2: Introductory Session *What is wastewater?*
 - OHT3: Introductory/ Debate Session *The new wastewater treatment works*
 - OHT4: Introductory Session *Interest Groups*
 - OHT5: Introductory Session *Group Tasks*
 - OHT6: The Debate *Chairperson's Speech*



Down the drain

teachers' notes

2

teachers' notes

Overview of the project

Introduction

Citizenship becomes a national curriculum subject for pupils in all year groups at key stage 3 and 4 from August 2002. It aims to raise young people's awareness of the world around them and provide them with opportunities to air their views and more importantly make their views count.

'Down the drain' provides pupils with a 'real-life scenario' based on factual information provided by Southern Water. More than 95% of pupils' homes in your area are serviced by Southern Water, so any changes Southern Water make to their services will have an impact on almost everyone.

Topic

Pupils are asked to prepare for and debate a topical issue - the building of a new wastewater treatments works and sludge recycling centre. The location is on the edge of a small town near the south coast. The area to be serviced by the proposed works includes a number of small towns and one relatively large town. Most of the surrounding land is agricultural with some areas of countryside. The scenario is fictitious but realistic. For the purpose of the debate, pupils are allocated to one of six Interest Groups and asked to represent the views of that group.

As they work through the wealth of material presented, they will, hopefully, learn about local services, residents' rights, environmental considerations and the need to become 'informed citizens' making 'informed choices.'¹

Length of project

The project is designed to run for six to eight weeks (depending on the length of each lesson), and may take place in citizenship lessons, tutorial time, or PSHE according to the timetable arrangements for your school.

An overview below is given for the sessions. These are not necessarily 'lesson units' but rather a chronological order for things to happen. The timing for each activity is at the discretion of the teacher. It will also be dependent on school timetable arrangements.

The debate itself will probably take a half-day. Time will restrict what pupils can present during the debate so pupils should have the opportunity to present all the materials they have prepared at an open 'visitors' session before or after the debate or in a separate session.

Pupils should be encouraged to develop their ideas and research out of school.²

¹ Pupils should be encouraged to develop skills of participation and responsible action (see NC PoS for Citizenship, 3a, 3b and 3c). Depending on the context and planning of the activities, they may also address aspects of Knowledge and understanding about becoming informed citizens (NC PoS for Citizenship 1a) and start to Develop skills of enquiry and communication (NC PoS for Citizenship 2a, 2b, and 2c)

² Some activities can be delivered as off-timetable events, and others will require the involvement and co-operation of members of communities outside the school. In all cases, pupils should have opportunities to reflect on their involvement, and to identify what they have learnt and how it can be applied. Ref: QCA (2001) Citizenship: A Scheme of Work for Key Stage 3



Individual sessions

1. **Introduction to the project by teacher.** Setting the scene and identifying the resources available. Pupils are allocated to one of six Interest Groups.
2. **Interest Groups** - Getting to grips with roles and responsibilities. Pupils debate the issue within their own groups, adding arguments/ suggestions to their profile sheet. They plan and decide on a course of action for their research and allocate jobs within the group.
3. **Research** - pupils use downloaded resources provided, library, web etc. to develop background facts, figures and opinions to support their case.
4. **Promotion** - pupils produce promotional literature, presentations, articles, posters, etc. to promote their cause.
5. **Preparation** - Interest Groups will work together to prepare a case for their debate and select a spokesperson or spokespersons. Sessions 3/4/5 are fluid, i.e. there may be an element of each activity within each lesson.
6. **Presentation** - Pupils present their materials to each other and possibly their peers within the school at an open exhibition. This can be done before or after the debate, whichever seems the most appropriate.
7. **Debate** - pupils will debate the issues and make recommendations for a solution. The teacher should act as 'Speaker of the House' to maintain 'order!'
8. **Pupils return to their Interest Groups to consider an action plan.** Each Interest Group writes down their solution to the problem and is prepared to report back to the whole group. Sessions 6/7/8 are closely linked. 6 and 7 have time implications for lesson management and timetable arrangements. All three could be managed within a school day.

The level of pupils' independence and teacher involvement in activities will vary according to pupils' ability and Key Stage.

Resources

Resources are downloadable for easy access and ease of use.

Teacher Notes

- Overview of project
- Curriculum areas supported
- Introductory Session: suggestions
- Managing the debate: suggestions

Interest Group profiles

Descriptions of the backgrounds arguments/ thoughts/ motivations of six Interest Groups. The profiles are starting points for pupils to develop and prepare their debating issues.

- Water company
- Local council
- Local residents
- Tourist board
- Environmental pressure group
- DEFRA (Dept of Environment, Food and Rural Affairs)



Down the drain

teachers' notes

4

teachers' notes

Fact Sheets

Each interest group receives a copy of these to back up their roles. The Fact Sheets centre on:

- Demographic information about the Southern Water area - e.g. population, water use and projected developments
- Maps and plans of the proposed site and the surrounding area
- Data on water supply and treatment, and water consumption, with projections for future consumption
- Environmental effects of treated and untreated water
- Illustrated explanations of water supply and treatment processes
- Historical information - how did we get to the current situation? Why is a new plant needed? Why here? Why now?

Subjective literature - to back up individual Interest Group cases and as a starting point for pupils to their own promotional literature, presentations, articles, posters, etc. to promote their cause e.g. Newspaper articles, newspaper headlines, slogans, correspondence, reports.

Web links - to external sources of information and opinion; e.g. Water companies, pressure groups, newspapers, government agencies.

Clip art - of related images for pupils to use in their reports and presentations.

Developing a citizenship portfolio

The following recommendations are adapted from advice given for the Citizenship Schemes of Work (<http://www.standards.dfes.gov.uk/schemes2/citizenship/>). They complement the work being carried out in this project.

Keeping a citizenship portfolio enables pupils to record their progress and achievements. It allows them to build on their experience at Key Stage 2, where some pupils may have started a citizenship logbook. The citizenship portfolio supports pupil self-assessment and provides evidence for both formative and summative assessment during and at the end of the key stage.

One approach could be to make entries in sections such as:

- *the school community*
- *the wider local community*
- *the national/global community*
- *personal targets.*

It is helpful if pupils form small groups to support each other in reviewing progress and establishing action plans. The citizenship portfolio should be given a high profile by using the evidence of achievement it provides as part of class/school awards and assessment. It can prepare pupils for the development of a progress file, link the key stages, and support the transfer to voluntary post-16 participation.



Down the drain

teachers' notes

5

teachers' notes

Curriculum areas supported

Introduction

The approach towards the teaching of Citizenship will vary from school to school. Some schools may opt for set lessons but it is more probable that the themes will be incorporated and developed across the curriculum, through a number of already established curriculum areas, such as PSHE, English, Geography or Science. **Down the drain** is a flexible set of resources that can meet the needs of either approach.

The topic has also been structured so that it can be developed over several sessions throughout a half term, or in longer sessions within a shorter time scale.

Curriculum areas supported

- Citizenship
- Geography
- Science
- ICT
- English
- PSHE

Citizenship

The activity encourages and promotes:

Social and moral responsibility: from the beginning, pupils develop self-confidence and learn the need for socially and morally responsible behaviour, both in and beyond the classroom, towards those in authority and towards each other.

Community involvement: pupils learn how to become helpfully involved in the life and concerns of their neighbourhood and communities, including the need to listen to others' points of view and arrive at a consensus of opinion.

Political literacy: pupils learn about the institutions, issues, problems and practices of our democracy and how citizens can make themselves effective in public life, locally, regionally, and nationally, through skills and actions as well as knowledge.

To achieve this, pupils:

- carry out research into a relevant social issue
- take account of the views of individuals and communities
- engage in informal and formal debate about the issues
- communicate their findings to others in their peer group
- formulate action plans to challenge peoples' attitudes and behaviours

The topic relates to the QCA Citizenship Schemes of Work Unit 14: *Developing skills of democratic participation*.

'Pupils work together to develop a democratic group decision-making process. Pupils explore democratic processes and systems, the qualities of leadership and responsibility, and how to ensure representation for diverse groups within society. They develop skills of communication, participation and responsible action.'



QCA Citizenship Schemes of Work Unit 07: *Local democracy*

'Pupils explore issues of concern within their local community and look at the role of local government in everyday life. They research policies, and find out which local government departments are responsible for dealing with particular issues. They investigate how local decisions are made and consulted upon. They present and discuss their findings in a public meeting. The unit also allows pupils to experience and participate in local democracy.'

The unit provides opportunities for group work, presentations, surveys, discussions, research and the analysis of information. Pupils will also be asked to imagine the views of others in different situations, and will learn to express opinions that are not necessarily their own.'

QCA Citizenship Schemes of Work Unit 03: *Human Rights*

'Pupils learn about human rights and responsibilities, relating their learning to their own experiences. They consider circumstances in which the rights of individuals could conflict with those of another individual or with the collective rights of a community, and learn that most human rights are not absolute. They develop an understanding of human rights within a local context.'

QCA Citizenship Schemes of Work Unit 05: *How the law protects animals - a local-to-global study*

'This unit uses issues surrounding the law on animal welfare to introduce pupils to the role and function of the law at a local, national and global level. The issues drawn on here represent just one possible example, and could be replaced in accordance with the interests of the teacher and the class and the availability of suitable resource material. Any topic chosen should be used to exemplify political issues and procedures, in order to develop pupils' understanding of the importance of parliamentary decisions and their relevance to their own lives.'

Geography

The topic relates to the QCA Geography Schemes of Work - Unit 23 - *Local action, global effects*.

'In this unit pupils investigate the conflict between increasing economic activity and conserving the environment and resources. They do this through four short case studies at different scales - a local river, the River Rhine, an English national park and Antarctica.'

Science

The topic relates to the QCA Science Schemes of Work - Unit 9G - *Environmental Chemistry*.

'In this unit pupils:

- *consider how the atmosphere and water resources are affected by natural processes*
 - *and the activity of humans*
 - *consider how environmental conditions are monitored and controlled*
- distinguish between different environmental issues '*



Down the drain

teachers' notes

7

teachers' notes

ICT

The topic relates to the QCA ICT Schemes of Work - Unit 10 - Information: reliability, validity and bias.

'In this unit pupils use the Internet to gather information on a particular topic, collate it and present it from a particular viewpoint.'

'Pupils are given a stance to take and select information to produce an argument that supports this view and challenges other views. This requires them to consider the usefulness, provenance, reliability, status and bias of the information they collect and use. The audience is used to evaluate how successfully the pupils have presented arguments to support their stance.'

'Areas for research could include any topical subject arousing controversy, e.g. genetically modified foods, growth-enhancing hormones, as long as it is one that allows for a variety of points of view.'

English

The topic relates to the National Literacy Strategy Framework for the areas of Speaking and Listening, Reading and Writing. These areas are identified as objectives for Year 7 and are developed in Year 8 and Year 9.

Speaking

'Pupils should be taught to use talk as a tool for clarifying ideas, e.g. by articulating problems or asking pertinent questions.'

'Tailor the structure, vocabulary and delivery of a talk or presentation so that listeners can follow it.'

'Give clear answers, instructions or explanations that are helpfully sequenced, linked and supported by gesture or other visual aid.'

'Promote, justify or defend a point of view using supporting evidence, example and illustration which are linked back to the main argument.'

Listening

'Answer questions pertinently, drawing on relevant evidence or reasons.'

'Identify the main methods used by presenters to explain, persuade, amuse or argue a case, e.g. emotive vocabulary, verbal humour.'



Group discussion and interaction

'Identify and report the main points emerging from discussion, e.g. to agree a course of action including responsibilities and deadlines.'

Adopt a range of roles in discussion, including acting as spokesperson, and contribute in different ways such as promoting, opposing, exploring and questioning.

Acknowledge other people's views, justifying or modifying their own views in the light of what others say.'

Writing

'Pupils should be taught to plan, draft, edit, revise, proof-read and present a text with readers and purpose in mind.'

Use writing to explore and develop ideas, e.g. journals, brainstorming techniques and mental mapping activities.

Select and present information using detail, example, diagram and illustration as appropriate.

Write to persuade, argue, and advise

Pupils should be taught to express a personal view, adding persuasive emphasis to key points.

Find and use different ways to validate an argument, e.g. statistical evidence, exemplification, testimony.'

Reading

Research and study skills

'Pupils should be taught to know how to locate resources for a given task, and find relevant information in them, e.g. skimming, use of index, glossary, key words, hotlinks.'

Make brief, clearly-organised notes of key points for later use.

Appraise the value and relevance of information found and acknowledge sources.'



Down the drain

teachers' notes

9

teachers' notes

Introductory Lesson: Setting the Scene - some suggestions

Your role

The Introductory lesson is vital in setting the scene. Your role as teacher is much more than the 'provider' of information. You need to stimulate and motivate pupils to encourage them to think and talk about the issues. At the same time, you need to encourage them to behave positively towards those in authority and towards each other.

Resources

There are five Overhead transparencies provided for this session.

Learning Objectives:

This simulation aims to involve pupils in local issues while raising awareness of wastewater services on the local community. Throughout the topic pupils will acquire knowledge of local services, residents' rights, and environmental considerations. Pupils develop listening and speaking skills and an understanding of the value of other people's opinions. To achieve this pupils may be involved in negotiation or compromise, as they become 'informed citizens making informed choices.'

Ideas Session

Whose problem is it? OHT 1

'Dealing with wastewater is not my problem. It's 'someone else's responsibility'.

I never think about wastewater unless I see a sewage works or until there is a problem. The only time it might affect me is if there is a broken sewer and I can't flush the loo.

But now they tell me they are planning to build a new works to treat wastewater near me!

Now it's my responsibility to find out what it's all about.'

What is wastewater? OHT2

Questions to consider:

What is wastewater? [Possible answers: Sewage and dirty water from homes, factories, shops and public places.....]

Who deals with wastewater? [Possible answers: Water Companies, Cleansing Departments, the Government, Local Council, The Sewage Works,]

How do they deal with it? Where does it all go?
[Possible answers: Take it in pipes to a sewage works, wastewater treatment works, dump it in the sea, dump it in rivers.....]

'But wastewater can't be just dumped in the sea or rivers, can it? Something must be done to it first!'



Down the drain

teachers' notes

10

teachers' notes

Questions to consider:

Why is it treated? [Possible answers: To make it safe; to protect our health; to keep where we live clean and healthy.]

What is wastewater treatment? [Possible answers: It's a method of making sure the wastewater is safe so that it can be put somewhere; it's a method that cleans dirty water; it's a process that deals with sewage produced by us]

'Who makes the decisions about wastewater and what happens to it?'

Questions to consider:

Who could make these decisions? [Possible answers: the local council, the government, water companies,]

'**Down the Drain** - can we have our say about where it's treated and where it goes?'

Simulation exercise OHT3

'We are going to imagine that there are plans to build a new multimillion-pound wastewater treatment works near you at a small town, Richardford. The chosen site is on the edge of an industrial estate but is next to agricultural land and open countryside.'

Here are comments from the groups who have some interest in the plans.' OHT4

The Water Company's Position:

'The old wastewater treatment works near the proposed new site dates from Victorian times and needs updating to meet with current treatment standards' Managing Director, Water Company

Local Residents' Position:

'Although there may be more jobs, we are worried about the effect on our children's health and about losing money on our houses.' Joe Moore, local resident

Environmental Group's Position:

'We want cleaner seas and a clean, safe environment for everyone. We need to safeguard the sea, the air and the land.' Susan Brookes, local environmental pressure group

The Tourist Board's Position:

'The area is popular with residents and visitors. We want to keep it that way.' Philip Mann, Tourist Officer, Darton

DEFRA's Position:

'European and UK law requires improved standards of wastewater treatment for major towns by 2001 so that the quality of wastewater entering the sea is improved. We must balance this against the environmental, economic and social costs of any new developments required.'

Sam Chapman, DEFRA Spokesperson

Local Council's Position:

'We will treat any planning application made to us as fairly as possible. It is our duty to encourage local businesses, take advice from Government bodies and listen to residents' views.' Councillor Barbara Mullins



Down the drain

teachers' notes

11

teachers' notes

Pupils' Tasks OHT5

Divide pupils into mixed ability groups to represent the six Interest Groups. Some groups may contain more pupils than others, reflecting the amount of work to do. Give each group member a copy of his or her Group Profile.

Group tasks:

1. You have to carry out some research to find out about your Group.
2. You have to prepare some information about your group such as newspaper items, leaflets or posters.
3. You have to prepare to attend a meeting. At the meeting you will tell the others about your Group's attitudes and feelings towards the building of the new wastewater treatment works at Richardford.
4. You have to prepare to answer questions about your Group's position in an open debate.
5. There are lots of resources to help you - *Profiles, Fact Sheets, Subjective Literature, Web Links, and Clip Art* - but you should start with your Group's profile sheet.



Down the drain

teachers' notes

12

teachers' notes

The Debate - some suggestions

Your role

This activity is set in the context of a meeting, where the whole class discusses the proposed building of a new wastewater treatment works at Richardford.

Your role is to chair the debate so that all groups have a fair hearing when presenting their ideas and opinions.

Resources

There are two Overhead Transparencies provided for this session.

Learning Objective:

This simulation aims to involve pupils in local issues while raising awareness of wastewater services on the local community.

Pupils work together to develop a democratic, group-decision making process. Pupils explore democratic processes and systems and how to ensure representation for diverse groups within society.

To achieve this, pupils present the views of six Interest Groups and discuss the issues surrounding the building of a new wastewater treatment works.

Expected Outcomes:

Pupils acquire knowledge of local services, residents' rights, and environmental considerations.

Pupils develop listening and speaking skills and an understanding of the value of other peoples' opinions.

Pupils develop skills of communication, participation and responsible action and, as they become 'informed citizens' make 'informed choices.'

Practical arrangements

Time

To allow time for each group to present their case, the debate will probably need a half-day session.

Each Interest Group presents its case (approx. 15 minutes each) followed by a short break. After the break, there is an open debate and 'question time' chaired by the teacher where individuals can question or discuss the points made by each group.



Resources

Resources

1. Chairperson's (teacher's) script outlining the structure of the debate and describing the development itself. OHT 6 and OHT 3

Example:

Ladies and Gentlemen,

Welcome to this meeting. We are here today to discuss the construction of a new wastewater treatment works at Richardford and the need for an updated wastewater system throughout the area. The old wastewater treatment works at Hartmouth, Darton and Filmore no longer meet current day treatment standards. They need to be updated and modernised. The proposed site of the new works is close to the industrial estate at Richardford. (See map OHT 3)

I know that you all feel very strongly about this issue. It will affect all of your lives. So, this meeting has been called to allow you to express your views.

There are a number of Interest Groups represented here today and a spokesperson/or persons will speak on behalf of each group. Then we will take a short break. After the break, there will be some time for you to ask questions and discuss the points that have been raised.

2. A video-recorder and someone to record the debate if possible.

Seating

The teacher should decide seating arrangements. The following is one suggestion:

Chairperson (teacher)

Group 1: Water Company, Local Council, DEFRA

Group 2: Local residents, Environmental Pressure groups, Tourist Board

The Debate

Suggested structure:

- Speech by the Chairperson outlining what is going to happen during the debate (See resources above).
 - The Chairperson invites spokespersons from each Interest Group in turn to speak.
 - There can be more than one person from each group. (Approx. 15 min.) They can use any of the material they have prepared to help them.
- Short break
- The Chairperson invites questions from anyone present and encourages any member of the Interest Groups to answer - not just the spokespersons.
 - The Chairperson summarises the main points made during the debate.
 - The Chairperson can decide to hold a vote on the proposal that the new wastewater treatment works should be sited at Richardford (optional).

Development and Pupils' Profiles

Pupils return to their Interest Groups to consider an action plan taking into account:

- The success of the debate for their group
- The most important points made overall

Each Interest Group writes down its solution to the problem and is prepared to report back to the whole group.