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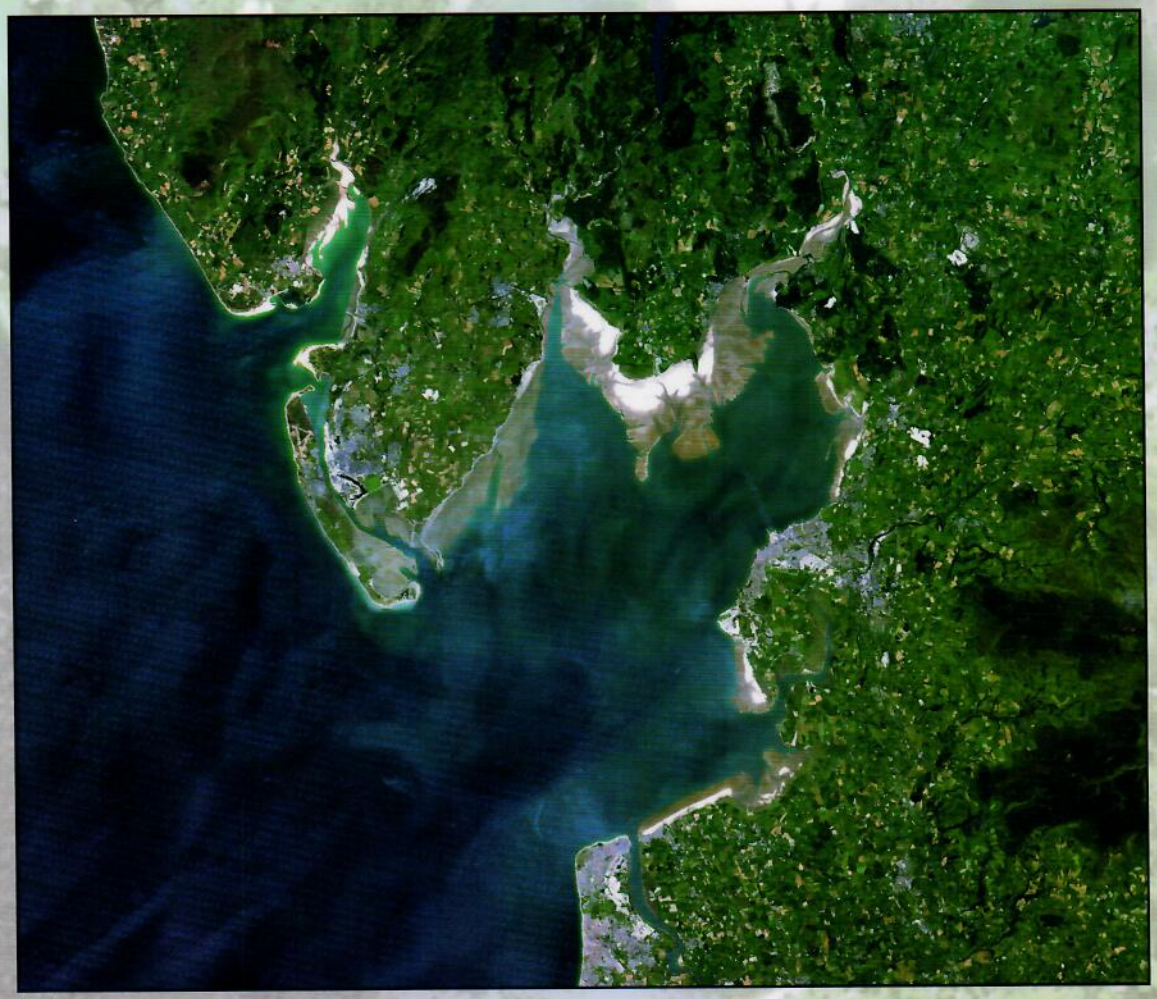
MORECAMBE BAY PARTNERSHIP

Thinking on the Edge

Thinking activities to develop citizenship and environmental awareness around Morecambe Bay



Satellite Image of Morecambe Bay PlanetObserver.com Tel+33.4.73.44.19.00-France
visit www.thinkingontheedge.org.uk for further support and forums

Supported by the

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Strategies used to select and focus the question

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Foreword

The purpose of this book is to identify what a philosophical perspective on certain concepts associated with coastal environments might be. These concepts form the structure of the book, and for each, examples are given of story, images or experiences, which might be used by a teacher to stimulate questions around those concepts. This is not an exact science.

Often children will ask questions well outside of the conceptual box that the teacher had expected. Teachers must recognise the challenge that this creates in trying to find strategies of stimulating questions which offer opportunities without constraining outcomes. In that sense this book is a starting point leading to the discovery of stories and other sources which effectively give children contexts in which to explore their thoughts with others. The associated website www.thinkingontheedge.org.uk is designed to support that development.

Published by Living Earth ©2003

ISBN: 0-9546370-0-3

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Printed by Badger Press Ltd., Longlands, Bowness-on-Windermere, Cumbria

Produced with financial support from Heritage Lottery Fund and Cumbria County Council Local Agenca 21

Project based with the Morecambe Bay Partnership 2003

Introduction

This is a publication predominantly for teachers and those working with young people. It uses a number of approaches to environmental education through the development of children's reflective thinking skills. Approaches such as critical thinking and philosophy for children are used alongside a variety of strategies to raise deeper level questions which underlie our relationship to the coastal environment. Further support, forums and the opportunity to contribute examples of the ways in which you have moved children towards discussion on the important issues raised in the book can be found at www.thinkingontheedge.org.uk We would be particularly keen to use this site to add short fictional stories introducing contexts for children to ask questions in these areas. Fiction, in which curiosity about philosophical questions that we face in our interaction with the environment, is a particularly useful way of discussing difficult issues in a context which is distanced from children's pre-conceptions.

The book does not make specific reference to the National Curriculum because there are so many ways in which that relationship might be made. Teachers have made curriculum links in diverse ways. A common strand has been the desire to consider our relationship to the environment through challenging the assumptions that we might make in defining ourselves as citizens, of both our local area and of the planet. In the examples used in this book subjects used as the forum for discussions have included literacy, geography, RE and art. It has become clear, however, that links can be made to a wide range of other National Curriculum subjects, and particularly through the citizenship curriculum.

There is sometimes a tension between the approaches used in this book. We see this as a creative tension. Critical skills as an approach to learning encourages problem solving and quick decision-making. In contrast philosophy for children emphasises reflection upon the very basis of what and how we think, the nature of the knowledge that we hold and the way in which we interpret the world. These approaches are fundamentally different, but in a strange way they can support each other in representing the diverse ways in which humans think about and interact with the environment at different times and in different places, for different purposes.

The Mermaids Purse Project, of which this book is a product, originated in a liaison between the Morecambe Bay Partnership and the Living Earth Foundation. By building partnerships with communities. Living Earth (www.livingearth.org.uk) believes that indigenous knowledge and local experience may be combined with educational activities, to help communities have a better understanding of their environment, develop their own projects and manage their own resources.

The definition of environmental education used by Living Earth is to stimulate discussion and debate.

- To promote positive change.
- To enable communities to consider their impact on the environment.
- To enable people to make informed decisions on issues concerning their environment.
- To help alter activities which deplete natural resources and threaten sustainable livelihoods.

The approaches used in this book are designed to do precisely that.

Chris Rowley and Lizzy Lewis

Who is the Publication for?

Those working with young people who are:

- interested in an approach to learning that is driven by children's questions.
- exploring and building on children's existing perceptions about the environment rather than teaching environmental certainties.

Children of Cambridge Primary School after outdoor work on Barrow Island, 2003

Helping the next generation to develop as:

- thinking and thoughtful individuals who are prepared to change and adapt their thoughts alongside those of others.
- skilful in identifying the key points in a discussion.
- able to appreciate varied viewpoints whilst recognising the value of their own.

It includes strategies to:

- recognise the underlying concepts beneath children's initial questions.
- link those concepts to the issues embodied in them.
- develop exercises to widen children's thoughts about those concepts.

1. The Approach

"Monument to a Sacred Structure"
A sculpture from objects found by children of Cambridge Primary School, Urswick 2003

Whilst this book offers examples and ideas for encouraging reflective thinking about the local coastal environment it should be used in conjunction with the training and resources on offer. Visit the following web sites for that support :

www.thinkingontheedge.org.uk
(The website of this publication)

www.sapere.net
(The website of the Society to Advance Philosophical Enquiry and Reflection in Education)

www.morecambebay.org.uk
(The website of the Morecambe Bay Partnership)

www.livingearth.org.uk
(The website of the environmental organization which promoted this project)

(See page 81 for further website links)

"There is no point . . . in learning the 'answers' for very soon there will be different 'answers'"

Paul Goodman

Morecambe Bay

This book is based on a spirit of enquiry, which raises a number of key questions. These questions may seem different to those which are typically asked. It is the purpose of the book to look at how we might encourage these deeper level questions from children and subsequently manage constructive discussion around them in the classroom. This page offers examples of some of the fundamental questions which our local bay might raise for us.

What is the Bay?

- If you were a basking shark would you visit this as a "bay" or just as another bit of the ocean?
- How is the Bay related to the Irish Sea?
- Do we tend to see the Bay in isolation and how does this influence our understanding of it?

Evelyn Sinclair - Hartley & Hartley

"Our environmental problems are the result of an old mind caught up in a new world." *Paul Ehrlich*

Some issues affecting the Bay

- How do we ensure that resources (such as fish) taken from the Bay do not reduce their availability for future generations?
- Are rare species as important to conserve as maintaining the numbers of relatively common species?
- Are small species as important to conserve as large species?

Questions we should ask when using the Bay as a focus for Environmental and Citizenship Education?

- To what extent is the Bay a microcosm of global environmental issues?
- Will understanding issues in a local context help or hinder our ability to understand them globally?
- How is the Bay going to change over the next 50 years and how will this affect the lives of those who live around it?

Explanatory or Exploratory Teaching?

The Curriculum easily leads us into explanatory teaching because of its knowledge base. In citizenship and environmental education it is both possible and important to focus on exploratory teaching.

Explanatory teaching

- Starts from a concept for which we believe we know the answer.
- Often relies on deductive thinking.
- Uses methods such as simplification, active learning or simulation to explain the concept.
- Often has a fixed outcome.

Exploratory teaching

- Develops from children's questions.
- Uses intuitive thoughts and ideas.
- Works best where the teacher is challenging the children to deepen their thoughts.
- Has a variety of different outcomes

Walney Secondary School, 2003

Whilst there are many excellent approaches to exploratory teaching, this book makes particular use of philosophical enquiry with children.

I am enough of an artist to draw freely upon my imagination. Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world. *Einstein*

Page 67 has an example of the difference between these modes of teaching.

Introduction to Philosophy for Children

Philosophy for children is more than just "talk." It has developed from the work of Dewey, Vygotsky and, later, of Matthew Lipman as a process to stimulate curiosity and facilitate reasoned and reflective dialogue in the classroom.

A philosophical enquiry with children begins with a stimulus, which will inspire questions. The stimulus can be a story, an image or an experience but whatever is chosen it needs to offer ideas which can lead to puzzling questions.

A typical Philosophy for Children Session

The teacher is faced with having to manage a verbal enquiry in such a way as to maintain a spread of views, and to move the children towards rigour in their responses. This takes time and early discussions may be less philosophical than later ones.

After listening to or looking at the initial stimulus material children are asked to think together in groups of a question which the stimulus raises. These should be questions which can be discussed, rather than questions for which there is a factual answer. The distinction is a tenuous one and sometimes questions which at first seem to be factual turn out to have deeper elements to them. One of the most difficult aspects to this approach is knowing how to best support children in moving towards deeper questions without taking ownership of the question away from them. In this book we have used a number of strategies to give this support. These are listed on page 2.

In choosing the question which is to become the focus for the session we do not reject the other questions so much as place them to one side , some to be considered alongside the chosen question or to be re-visited at the end of the session.

Page 14 offers a list of the type of responses that the teacher tries to give in moving the discussion forwards, constantly trying to clarify and sharpen the quality of thinking.

Philosophical questions:

These are questions which do not have obvious answers. They offer opportunities for us to explore ideas, placing teacher and student alongside each other in a search for deeper understanding. The questions on page 12 are essentially philosophical questions.

Different types of stimulus

Although philosophy for children traditionally starts from a story we have tried a variety of different approaches in this project. These have included teacher in role, exercises, guided fantasy, mysteries and news items. Some have worked more effectively than others. We have concluded that the most useful have been those which have drawn children in to an emotional engagement with the issues.

Cartmel CE Secondary School, Philosophical enquiry in geography

The serious problems of life are never fully solved. If it should appear that they are, there is the sign that something has been lost. The meaning and design of the problem seem not to lie in its solution, but in working at it incessantly.

C G Jung "Modern Man in Search of a Soul"

Children's Questions

Questions naturally fall into five areas of philosophical thought

"If everything was beautiful, would there be any such thing as horrid?"
(Sean, Cambridge Primary School)

Aesthetics

The principles of beauty and tastefulness

"Can anything be fair?"
(Rebecca, Ulverston Victoria High School)

Ethics

The science of morals in human conduct

"Do we really see what is there?"
(Mark, Cambridge Primary School)

"Does seeing things help our understanding?"
(Mandy, Cambridge Primary School)

Epistemology

Theory of knowledge

"Why do people see places as special?"
(Laura, Abbotsmead Primary School

"What remains of somebody's life after they are dead?"
(Jordan, Cambridge Primary School)

Metaphysics

Speculative inquiry that deals with concepts transcending what is physical or natural; such concepts as being, knowing, substance, cause, identity, time space etc.

"An individual is important.

A group is a collection of individuals. Therefore the individual is the most important thing in a group."
(David, Ulverston Victoria High School)

Logic

The science of reasoning, and study of the patterns of argument.

Philosophy for Children as an approach

Philosophy for Children is:

Co-operative and Caring

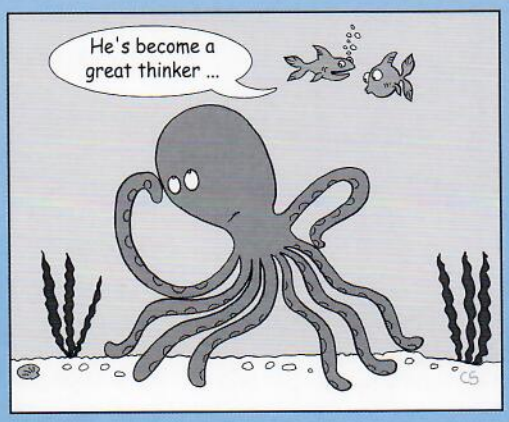
Thinking with others
Learning to see reason and be reasonable
Listening to and responding to others thoughts
Democratic choice
Respect

Creative and Critical

Thinking for yourself
Thinking about thoughts
Thinking new thoughts
Asking philosophical questions
Openness to changing your mind
Challenging thoughts

Progressive

Using whole class dialogue and exercises to deepen thoughts



"To teach how to live without certainty, and yet without being paralyzed by hesitation, is perhaps the chief thing that philosophy, in our age, can still do for those who study it."

Bertrand Russell "The History of Western Philosophy" (1946)

Facilitating an Enquiry

It raises a number of issues both for the curriculum and for the teacher

It is important that children have an opportunity to raise their own questions and to choose which one they would like to discuss. This poses a difficulty as we may wish to encourage certain types of questions or conceptual area to discuss, yet prescribing questions would shift the ownership from group to teacher.

In this book we have tried to raise and choose questions using a variety of methods and page 17 lists the strategies that we have used. It is a delicate compromise. Balancing on the one hand the need to identify an area of questions whilst on the other maintaining the children's choice.

Sustaining the dialogue sometimes needs specific exercises to focus thinking.

At its heart philosophical enquiry explores the meaning underlying what we do, say, hear and see. Language is at the centre of how we express all of these.

Wisdom begins in wonder

Socrates

South Cumbrian children. Philosophical enquiry at The Lantern House, Ulverston, 2003

The role of the teacher in managing philosophical enquiry

The teacher needs to respond using what we might call "Socratic questions."

- Why do you think that? (reasoning)
- Could you give an example?
- So do you agree or disagree with . . . ?
- Would your ideas be the same if . . . ? (changing context)
- Is what you have said the same or different to what . . . said?
- So is that a result of x or does it happen anyway? (causality)

Live the questions now. Perhaps then, someday far in the future, you will gradually, without even noticing it, live your way into the answer"

R.M. Rilke "Letters to a young poet"

Why use Philosophy for Children for Citizenship and Environmental Education?

Citizenship and environmental education, like several other subjects, brings together values, concepts, and skills

- Even a concept like classification has a values element to it e.g. do we show greater desire to protect species which are closer to us in appearance, genetics, or behaviour? In a philosophical enquiry this "values" aspect of our understanding is explored.
- Philosophy for Children uses concepts to focus our thoughts and raise questions about our values.
- A teacher would not teach art without the skills to draw or model. Despite this we regularly try to teach environmental understanding without giving the skills to handle the complex issues that are inherent.

"We should not pretend to understand the world only by intellect; we apprehend it just as much by feeling. Therefore the judgement of the intellect is, at best, only half the truth, and must if we be honest, also come to an understanding of its inadequacy." Carl Jung

Cambridge Primary School, Urswick Beach Sculpture, 2003

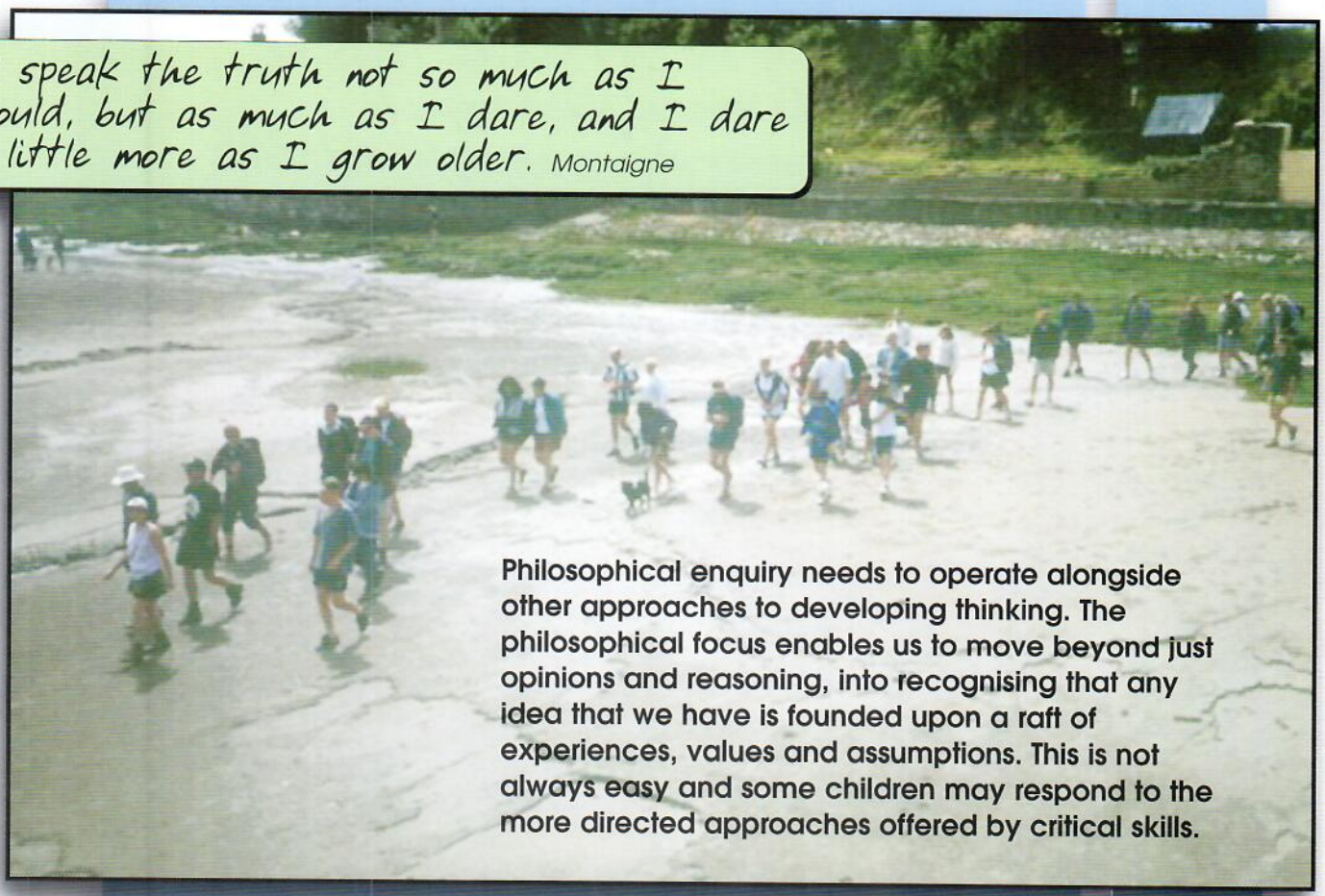
There needs to be a range of approaches to environmental and citizenship education. We must be careful, however, to ensure that the approaches used include opportunities to challenge the very basis of our ideas. Philosophy for children as an approach appears to offer a method which can be applied as a formula. Although it uses certain procedures described in this book, a fundamental aspect of the approach is to constantly challenge its own procedures, to avoid formulaic approaches.

"The introduction of thinking skills into the official curriculum is a double-edged sword. It needs to avoid formulaic procedures"

Joanna Haynes. "Children as Philosophers" 2002

Other approaches to Citizenship and Environmental Education used in this publication

I speak the truth not so much as I would, but as much as I dare, and I dare a little more as I grow older. Montaigne



Philosophical enquiry needs to operate alongside other approaches to developing thinking. The philosophical focus enables us to move beyond just opinions and reasoning, into recognising that any idea that we have is founded upon a raft of experiences, values and assumptions. This is not always easy and some children may respond to the more directed approaches offered by critical skills.

Critical Skills

The experiential learning cycle forms the foundations upon which the Critical Skills Programme has been built, encouraging learning through both active process and reflection. Frequently, when using this approach, learning opportunities are presented in the form of 'challenges' that are complex, open ended problems through which students work actively and collaboratively to reach meaningful solutions. As part of the process they are encouraged to develop 'critical skills' and 'fundamental attitudes' that encourage autonomy and increased ownership of their learning. The programme enables teacher and pupils to develop these skills and attitudes whilst providing tools for formative assessment.

Network Education Press Ltd coordinates the development of the Critical Skills Programme in the UK, provides teacher professional development sessions and publishes resources for the classroom.

The examples in this book often use the following approaches before moving into philosophical enquiry.

Starting from:	
Living graphs	Changes in Fishing page 68
Critical skills	In a scheme on water, South Walney School page 76 and in the example under "Diversity" page 47
A mystery	Disappearing cockles, Walney School page 69
Teacher in role	Grange Promenade, Cartmel School, page 62 and Hest Bank Change, Lancaster Grammar School page 37
An odd one out	Classifying birds, Glasson Dock School, page 23
Art work	Patterns in the landscape, Cambridge Primary School, page 29

References to these other approaches to developing thinking are in the bibliography page 80.

"To be caught up in the world of thought - that is being educated"

Edith Hamilton

2. What is Morecambe Bay like?

Kennie Hopper

Concepts which help us to understand the Bay?

We have chosen concepts which underlie most environmental issues affecting the Bay. For example, if we want to talk through an issue such as the placement of wind turbines in the Bay some exploration of the concepts below would help in moving towards a deeper conclusion. A teacher who develops this depth will look for the types of questions on page 8 and 12. Whilst these may not be the first questions that children ask, it is often possible to develop the concepts by the types of response you give. The questions below all relate to the wind turbine dilemma. The extent to which they relate to the concepts will depend upon the direction that a discussion takes.

Richard Evans, Warwick Energy

Description and Classification in Morecambe Bay

Classification

Classifying is how humans comprehend the world. We create hierarchies and we exist in so many classes and groups that it becomes the most confusing of concepts.

In the Bay itself we group by habitat (but where does the habitat of a seagull end?), we group by food sources (but we share a food source with some birds when we fish) and we also group by "landscape quality" (but how do we decide which landscapes are the highest quality?)

"Matchbox Museum"
Cambridge Primary School and John Hall, Artist 2003

An arrangement of interesting items collected on Barrow Island by children of Year 5, Cambridge Primary School. Children collected small objects from wasteland by the Bay and experimented with different ways of grouping them. Does the grouping chosen change the way we appreciate the objects?

Description

Describing the Bay is not an easy task due to the range of scale, and variety of subjects. As part of a programme to develop both understanding and appreciation of the Bay, description takes on a crucial role.

What is more, values cannot be divorced from description. In the Bay we describe from our experience (but what if our experience is only of danger?) We also describe by association, (but do we associate the Bay with work or leisure?)

"The major problems in the world are a result of the difference between the way nature works and the way man thinks." *Gregory Bateson*

Description in Environmental and Citizenship Education

Description

There are philosophical issues in how we describe our environment. We can never have the total picture and therefore our description is from a particular perspective.

Description is to give an account of what we perceive, and to translate our perceptions into words. There is a difference between what we observe and how we respond to these observations. It is important to make the distinction between describing something and how we feel or think about it.

Good description

- Locates the thing being described where it actually is
- Ascribes properties to something which it actually has
- Tells the truth about the thing.

Our feelings and experiences of place affect how we describe it and are important. Recognising that is essential to sound description.

Cerophium (enlarged)

Do our feelings influence how we describe these two species of the Bay?

Curlew

Philosophical Questions about Description

Are some things impossible to describe?

Does description have to be accurate?

Is it the sound of the Bittern that makes it special?

Would it be correct to describe the Bay as dangerous?

Can you describe something without using words?

Classification in Environmental and Citizenship Education

Classification

Understanding and questioning how we classify life has never been so crucial. Today's generation will have to consider the ethics of, for example, genetic modification. Where do we draw the line when using genes from, say, the plant kingdom in order to alter a member of the animal kingdom?

Extract from "The Simpsons"

Homer: You look like a little tiny dinosaur. One vicious baby bird.

Lisa: Dad, they aren't birds.

Bart: Sure they are, they came from eggs in a bird's nest; they're birds. Ipso facto.

Lisa: 1 They don't have beaks.
2 They don't have feathers.
3 They are lizards.

Bart: You're a lizard.

Philosophical Questions about Classification

Since pebbles were never living does it makes sense to call them "dead?"

Is it harder to classify birds when they all look different?

Can some classess cross into other classes?

Do you stop being a bird when you die?

Can we change the class we are in over time?

Classification

The Stimulus: Birds of the Bay

After discussing what a "class" is (linking to school and other classes) we identified groups within a class. A quick "odd one out" activity (like the one on page 25) led to a discussion of reasons which might be used to INCLUDE or EXCLUDE one from a group.

A number of sheets like this one of birds from the Bay had been prepared by copying images from the RSPB website (www.rspb.org.uk). The group were asked to find at least two birds on their sheet which form a group and to give a reason.

The different reasons given form the basis for raising questions about how we group birds. An image, such as this one from "Sowa's Ark" by Michael Sowa can also be an excellent stimulus for focussed enquiry.

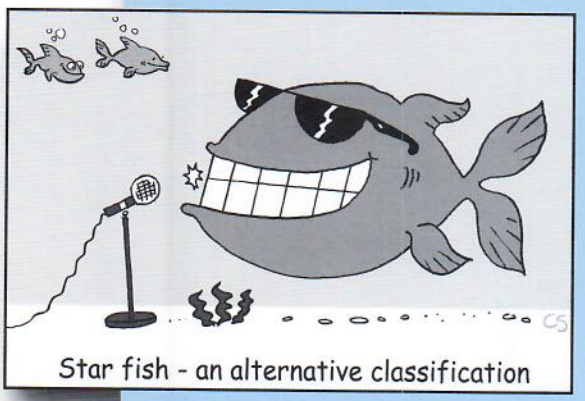
Michael Sowa

Classes can be used in lots of ways:

Classes within a class (Ducks, Birds of Prey, Wading Birds, Geese), are all one class but also form sub-groups within that.

We need to talk about what makes something INCLUDED within and/or EXCLUDED from, a group.

Starfish



Star fish - an alternative classification

The Guardian (21st May 2003) ran a piece suggesting that chimps should be re-classified as homo rather than pan as their DNA is so close to ours. So is it prejudice that excludes ?

It is often helpful to stop the discussion and do a short exercise to develop deeper issues e.g. could these be placed in a class and what would it be?

Sea gulls	Juice	Hairs
Boomerangs	Rivers	Rail tracks
Wasps	Lakes	Electricity lines
Paper aeroplanes	Sea	Rope

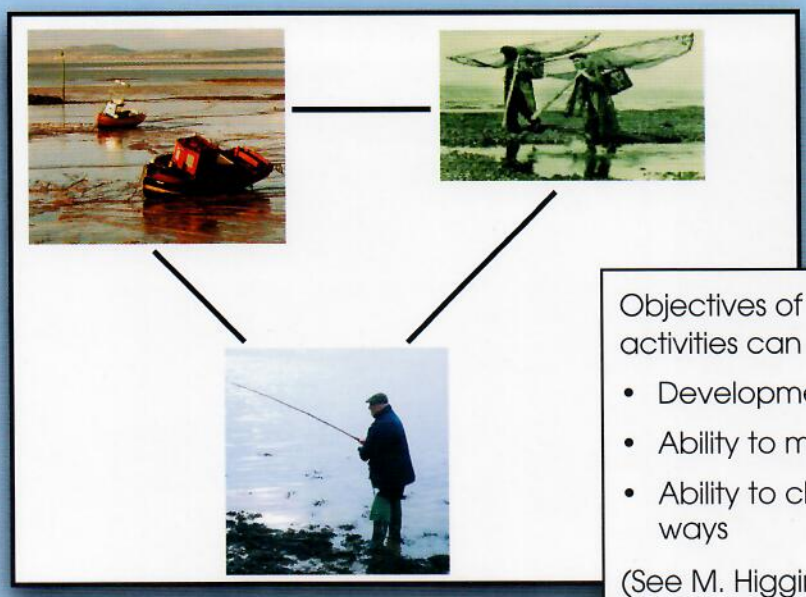
An excellent story to use here is "The Starfish" by Helmut Schreider (available in Thinking Skills 1, Phillip Cam, Hale and Iremonger, 1994)

The story relates a conversation between Bernard and Katherine who have gathered a collection of shells and other bits from the beach. "These shells are cockles," explains Bernard. This simple statement leads to a puzzling dialogue in which alternative ways of classifying the shells are investigated. By age, colour, alive or dead, living or not living, and even by stage of development. Exercises are provided in the accompanying teachers' book to support dialogue on questions raised in the story.

Classification

Odd one Out

Odd one Out activities enable children to identify different ways of seeing what may appear to be obvious to the teacher.



Objectives of odd one out activities can include:

- Development of vocabulary
- Ability to make connections
- Ability to classify in different ways

(See M. Higgins & V. Baumfield, "Thinking through the Primary Curriculum" Page 14-15)

Example

1. Use the following 3 pictures to identify similarities and differences between them.
2. Identify one which is an "odd one out" and say why
3. Try to identify a similarity for each difference and label the connections between the pictures accordingly.

(There are, deliberately, a variety of different possible answers)

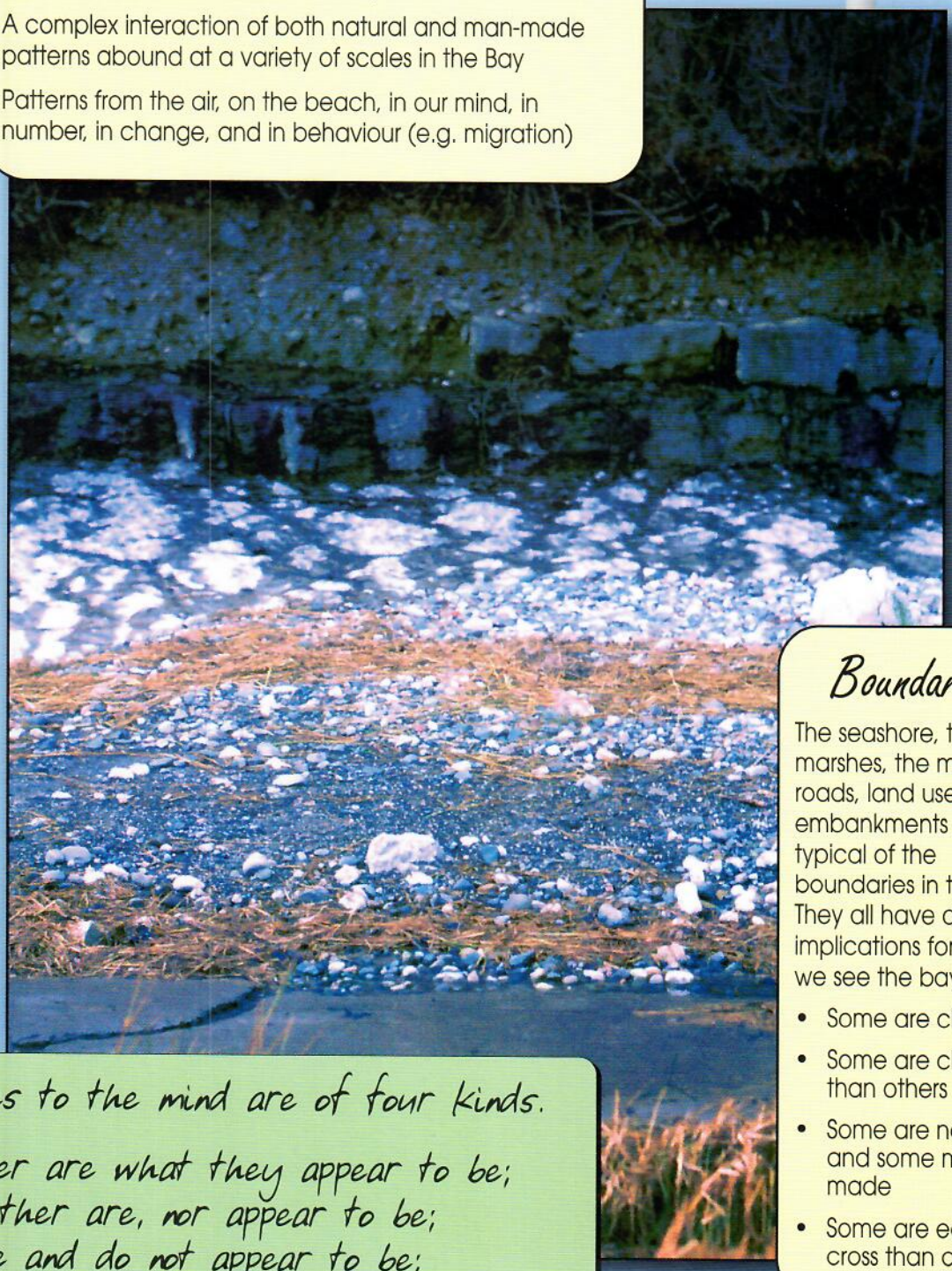
"In the normal process of becoming acquainted with subject matter already known to others, even young pupils react in unexpected ways. There is something fresh, something not capable of being fully anticipated by even the most experienced teacher, in the ways they go at the topic. Too often this is brushed aside as being irrelevant." *John Dewey Democracy and Education (1916)*

Pattern and Boundaries in Morecambe Bay

Pattern

A complex interaction of both natural and man-made patterns abound at a variety of scales in the Bay

Patterns from the air, on the beach, in our mind, in number, in change, and in behaviour (e.g. migration)



Patterns on a beach

Boundaries

The seashore, the salt marshes, the mudflats, roads, land uses, and embankments are typical of the boundaries in the Bay. They all have different implications for how we see the bay.

- Some are changing
- Some are clearer than others
- Some are natural and some man made
- Some are easier to cross than others

"Appearances to the mind are of four kinds.

Things either are what they appear to be;
or they neither are, nor appear to be;
or they are and do not appear to be;
or they are not, and yet appear to be.
Rightly to aim in all these cases is the wise man's task."

Epictetus (Discourses)

Pattern in Environmental and Citizenship Education

"World Map from found Materials"
Year 5 Cambridge Primary School, 2003

Pattern

Pattern is important to our understanding and value of the environment in a number of respects:

- It is the building block of our perception of beauty
- It is a major indicator of change
- It helps us recognise process

Philosophical Questions about Pattern

Are the patterns which humans make the same as natural patterns?

Are all patterns a result of processes?

Do our thoughts follow patterns?

Do we create patterns in our minds?

Do some patterns look better than other patterns?

Boundaries in Environmental and Citizenship Education

Cambridge Primary School pupil, 2003, Barrow Island.
"Framing industrial debris" Does the framing change how we see this?

Boundaries

As soon as we place a frame around a place, whether it is a fence, the edge of a photograph or a map, we change the way that we see that place. Raising children's awareness of both visible and invisible boundaries in the environment and thinking about the nature of those is fundamental to how we relate to the place.

Philosophical Questions about Boundaries

Are there some boundaries that we can't see?

Does making boundaries mean we find it harder to make connections?

Do we view the world differently when we put boundaries around it?

Which boundaries can we cross and which can't we cross?

Are some boundaries more important to us than others?

Pattern

"Blue Mola"
Mola work by Year 5 children, Cambridge Primary School working with Barbara Wright, Artist and Teacher

Mola Work

A technique using up to five layers of material sewn together then cut to different depths to reveal hidden layers.

Mola Work used to link Pattern and Place

Using a geology map and the land use map on page 33 as a starting point children were involved in designing and making a textile wall hanging using five layers of material sewn together. Objects such as stones, shells etc. from the visit were incorporated. They then cut into the material to different levels to expose the underlying colours. Subsequently the image and the original map can be used to raise questions about sense of place and the nature of beauty (e.g. Does something become beautiful only after you have recreated it in another form?). The layering technique made possible reflection on emotions felt whilst on the visit. Barbara found the process of making the mola wall hanging provided the stimulus for children's thoughts about the place.

By comparing the original stimulus and the resulting artwork a number of questions might arise about the reasons why some patterns are more attractive, why we choose some elements rather than others, and the extent to which we copy nature in art work.

The exercise below might follow or precede the art work and, alongside an image or a story in which there are different views about a pattern, thoughtful and philosophical questions can be the starting point of dialogue.

Which of the following show patterns?

	All the time	Sometimes	Never
The Sky			
The Sea			
A Painting			
A Photograph			
A Day			
A Thought			

"Grey Mola", Year 5 Cambridge Primary School

Investigating Boundaries

With Year 3

(Thurnam Glasson Primary) Stimulus: A Story

The story "Your Place or Mine?" can be found in Phillip Cam "Thinking Stories 1" and offers an opportunity to question the physical boundaries to our life. A bear visits a fish and the fish pays a return visit to the bear. The boundary, which separates them, is between air and water, yet the two find parallel concerns to their lives, which provide an excellent stimulus for questioning the assumptions that we make.

With Year 5

(Cambridge Primary) Stimulus: Environmental Art

A visit to industrial wasteland on Barrow Island found a wealth of both old industrial remains and natural adaptation. Placing boundaries around these remains and decorating them raised questions such as "Can rubbish be organised artistically to be beautiful?". The idea of organisation was discussed and the extent to which something needs boundaries to be organised.

Environmental art on Barrow Island, Cambridge Primary School

With Year 8

(Ulverston Victoria High School) Stimulus: A News Article

"Wirral Pickers muscle in on Bay cockle beds"
(Westmorland Gazette, November 22nd 2002)

The report looked at the issues raised by a large boat from the Dee estuary entering the Bay to collect cockles. The fears of small operators around Flookburgh were considered alongside other information such as sales of cockles to Spain, and parallel examples of local ships bringing fish from Mauritania. After listing questions "what is fair?" became the focus. The group quickly realised that you cannot discuss fairness without considering whether it is possible for everyone to be happy without conflict. Do we create boundaries to protect particular ideas of fairness?

Places, Maps and Communication in Morecambe Bay

Places and Maps

Maps only show us what we want to know about a place. The centre of Morecambe Bay is as unknown to most of us as the surface of the moon; our maps tell us little about it.

Barrow Island

Communication

For most of human history Morecambe Bay formed a barrier to easy physical communication. It still does; a significant factor in the recent proposal to build a bridge from Heysham to Barrow.

Any proposed environmental change will inevitably have different impacts upon different communities around the Bay. Bay communities are each part of different

- Geographical regions
- Administrative regions
- Age groups
- Employment groups

It will be hard to achieve consensus, particularly in the face of the rapid environmental and economic changes likely to impact upon the area in the next 50 years.

"Mobile phones abolish time and place. They compress geography to vanishing point. If you are instantly available and accessible - if you are everywhere all the time - you are nowhere any of the time."

David Nicholson Resurgence March/April 1995.

Places, and Maps in Environmental and Citizenship Education

Places and Maps

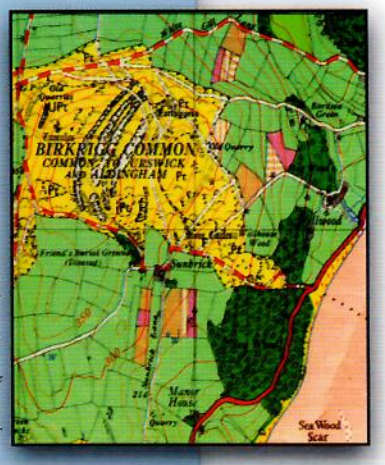
Place and particularly how we perceive place (a sense of place") could be seen as the basis of our relationship with the environment. Many would argue that we have lost our real sense of place because of our ability, using technology, to be everywhere and anywhere.

Without a strong sense of a place can we ever really care about it?

The map alone gives only a partial view of place.

- It is a major indicator of change
- It helps us recognise process

This image is an extract from The Millennium Map@getmapping.com plc Getmapping website address : www.getmapping.com



Land Use Map of the same area, 1964

Reproduced from Ordnance Survey map data by permission of Ordnance Survey, Crown Copyright

"The truth is not the truth unless it's felt."
Archibald Macleish

Would we see the world differently if we didn't have maps?

Is a map different to a picture?

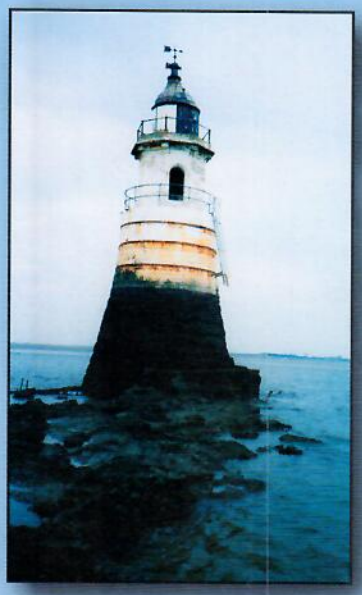
Philosophical Questions about Maps

Are maps real?

If a map was the same size as a place would it be the place?

What sort of map would a whale want?

Communication in Environmental and Citizenship Education



Lighthouse at Cockerham

Communication

The way we communicate determines how we respond to a concept. Take the word "Bay." It immediately conjures up an image in our mind which is a compendium of all the "bays" that we have come across.

A Bay window

"The Bay" Radio

"Baywatch"

A Bay

Some of these are directly related, however in a discussion we need to be sure that we all understand the context in which we are using the word.

Are our thoughts more important than the words we use to express them?

Are the words in our heads or in the things we look at?

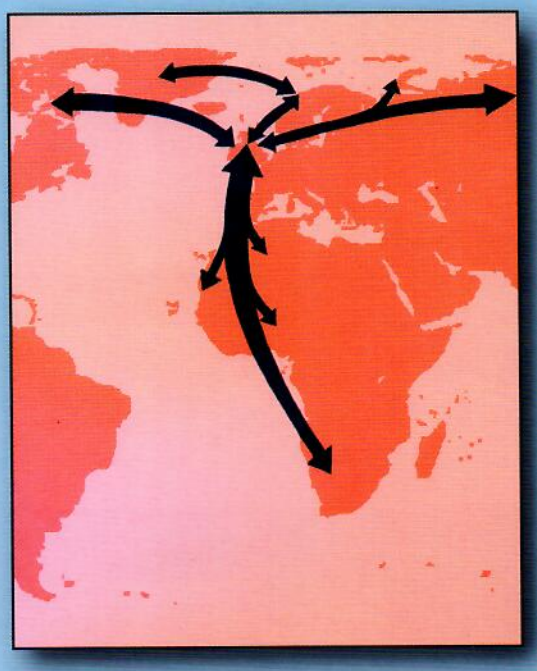
Philosophical Questions about Communication

Do pictures say things as well as words?

Why do people tell stories?

How is animal's communication different to human communication?

Maps, Places and Communication



From "Making the Coast Count" RSPB

Migration of Birds Map

The maps appear to show links with widely different places around the world. It is useful to ask the group what they *think* it represents.

The image shows typical flight lines of the main migratory species of birds, which winter in Britain. However, it might be that we just associate certain things with arrows on maps.

The way in which we respond to the image says much about our concept of the place we live in. Is it about air flights? Imports and exports, refugee movements or war? It could be helpful to consider what maps do and don't show. We may also want to think about the extent to which maps help us to understand the unknown.

Which things do we associate with which places?

Are there some things which we associate with all the places?
What questions does this exercise raise?

Places	**Things**
A beach	Geese
A bay	Ducks
A marsh	Crabs
The sea	Grass
The ocean	A whale
The sea floor	People
The sea surface	Shellfish

We traditionally see a map as divided through oceans. What happens, though, if we divide it through continents? The Athelston Spilhaus map does just that. The map shows the oceans combined, revolving around Antarctica, just as a whale might see the world.

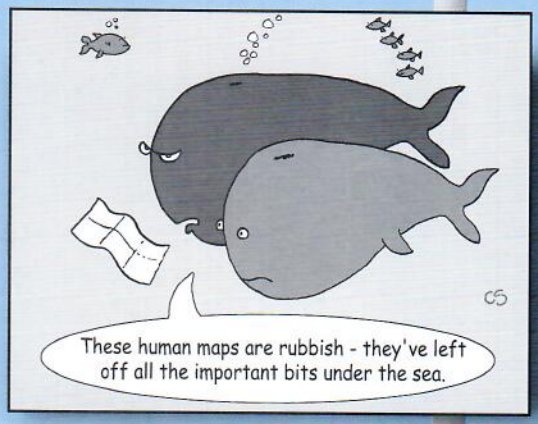
Parts and wholes

Most geographical concepts are part of nested groupings. Answering the following questions highlights the dilemma.

- Could you have a bay within a bay?
- When all seas or oceans are connected are they really all the same?
- If you were a whale would you use a map like this?

Athelstan Spilhaus Map Projection of the World

Is this the map that a whale would use?



What does a map show us about a place?

	Always on a map	Sometimes on a map	Never on a map
Houses			
Seas			
Rivers			
Fish			
Sand			
Mud			
Roads			
Ideas			
Discussions			

Coastal Protection

How do we decide which bits of coast to protect against changing sea level?

(Work developed with Andrew Talks and the geography department of Lancaster Grammar School to precede a field trip to Hest Bank, near Morecambe)

see www.nwcoastline.org

Part of the National Shoreline Management Map

The Shoreline Management Plan (SMP) for the North West of England from the river Wyre to Walney Island has the following objectives:

1. *To provide an appropriate policy and level of coastal defence to prevent coastal erosion and/or flooding.*
2. *To maintain, manage and encourage, the development of natural coastal defences.*
3. *To ensure that man made coastal defences are appropriate and adaptable.*
4. *To minimise the effects that man made coastal defences have on nature conservation interests.*

The SMP looks forward over the next fifty years and takes account of the possible effects of climate change and sea level rise.

We used teacher-in-role (TIR) to provoke discussion about the question. The students were put in role as teams of consultants on shoreline management, then asked to think about what that would be involved in terms of skills and ways of working. They were given a limited time to digest a report and produce a poster summary of key issues that it raises for a public consultation exercise. (A report on sea level change can easily be created from web-based material, other information given to students is overleaf).

Teacher in role (TIR)

The teacher, "by holding or wearing a 'signifier'" moves into role as someone else. Previous negotiation of this role with the class (who themselves are often placed into a group role) enables the teacher to move in and out of the role in order to ensure understanding and to challenge the classes pre-conceptions.

Your Role: A Consultant on shoreline management

Having studied the coastline between Hest Bank and Morecambe you are acting as a consultant on shoreline management.

John Glover is a farmer who is seeking your advice before he buys Red Bank Farm, Hest Bank.

First you should sort out his observations and offer him advice as to what they mean.

You are to advise John Glover on the shoreline management strategy that you would recommend for his stretch of coast given the prospect of sea level rise.

The Teacher in role (TIR) was as, John Glover, a prospective buyer of the farm, (using an item of clothing such as a coat to show when he was in that role) In role the teacher as John Glover appears confused. He explains the background to wanting to buy the farm, and gives a copy of a diary extract and asks the students to explain it. In role the teacher visits the groups and responds to what they are doing by asking simple but demanding questions to push their thinking forward. The session is concluded by letting the groups pacify the TIR by ensuring that they have had to think through consequences in order to do so,

STATEMENTS FROM JOHN GLOVERS DIARY

(Observing the farm on visits whilst deciding whether to buy it)

- The salt marsh in front of the farm keeps changing. Locals speak of it advancing and retreating
- I keep seeing all these birdwatchers out there. They seem to be making recordings of some sort.
- I can't understand why they keep placing defences by other farms along the coast.
- I saw lots of people digging in the cliff last week. They had hammers with them and looked a bit academic.
- They keep saying that the sea level is rising but I can't see any evidence of it happening yet.
- They have designated that cliff as a RIGGS site (Regionally Important Geological and Geomorphological Site)
- I think maybe the cliff erosion is due to the movement of the channel

Information given to students ***(in addition to material on sea level change)***

SOME OPTIONS IN DECIDING ON THE FUTURE OF COASTAL PROTECTION

1. Do-Nothing
2. Hold the existing defence line: to maintain the line of defence in its present position/location
3. Advance the existing defence line: To relocate the line of defence to seaward of its present position
4. Retreat the existing defence line: To allow the line of defence to relocate landward of its present position
5. The designation of a stretch of coast and therefore the degree of coastal protection depends on a number of factors including:
   i. The value of the land, infrastructure (roads, electricity pylons etc) and property being protected;
   ii. the cost of providing that protection.

Communication

This plan formed part of a scheme for Year 8's in The Department of Belief, Philosophy, and Ethics at Ulverston Victoria High School. The section below followed work on big ideas and how they might relate to where we come from. The students had studied George Fox and the origins of the Quaker movement at Swarthmoor Hall.

Ulverston Panorama

The students arrive in the classroom to find laid out:

- Photographs (from "Secrets of the Sands" downloadable at www.morecambebay.com – choose downloads)
- Seashells and driftwood
- A panorama photograph of the place (as above)

They look at these and choose words which come to mind. The class then listen to a "guided fantasy" read with the sounds of birdsong in the background.

Guided Fantasy

- One day you decide to go down to the shore on your bike.
- You stand at the waters edge in silence. What can you see? What can you smell?
- You feel the water warming your skin and you feel relaxed and calm.
- A thick and heavy mist comes over the Bay, but you are not afraid.
- You carefully look into the mist and you see a lone traveller walking purposefully towards you. He has leather trousers, unlike any you have seen before. He has long, messy hair, which is covered by an old leather hat which protects him from the elements.
- You notice that there is something different about him; he has a sense of urgency. You recognise this man as George Fox and he is making his way towards Swarthmoor Hall.
- As he passes you he catches your eye and he walks over towards you. What does he say to you? How do you feel?
- The mist passes again and you look out onto the Bay.

Questions are then raised and one is selected to form the focus of an enquiry in the next lesson.

Communicating with Words and Pictures

George Fox crossed the Bay to visit Swarthmoor Hall near Ulverston. He used words effectively to persuade people of his belief that we are all equal. People use words in lots of ways, so we need to think about words and how they link to pictures.

Swarthmoor Hall

Is the word "house" the same as a house?
Is the "word" a picture in our mind?
Are "houses" words, pictures or thoughts?
Is this a house or a picture of a house?

Communicating with signs and symbols

Signs and symbols are widely used for communicating places as well as ideas. A strategy to encourage tourists to visit the Bay will involve the use of signs to enable people of different ages, cultures, languages and abilities to understand the place. A symbol, however, is more complex. It represents an idea, an emotion, or a place in a less direct way, e.g. the colour green has become symbolic for the environmental movement. In the case of Morecambe Bay, images of any of the following could be used symbolically:

- A bittern (they live at Leighton Moss)
- A salt marsh (The Bay has many)
- A nuclear power station (there are two at Heysham)
- A basking shark (they visit the Bay)
- A cockle (There are many and they are collected)

If we were to choose a symbol to represent the Bay and to communicate something of it to visitors how would we decide which to use? What questions arise from the way in which we choose symbols?

"Sacred Circle"
Cambridge Children, Urswick Beach, 2003

Diversity and Wilderness in Morecambe Bay

Diversity

The Cumbria Bio-diversity Action Plan identifies particular species which are at risk. It also recognises, however, that it is the habitats that really matter when addressing the issue of conserving species.

Bio-diversity is a complex idea. In essence it means the ability of species in nature to sustain each other. The philosophical problem with this lies in how we perceive diversity. This is related to the way in which it is measured, e.g. there will always be fewer species living on a beach than in a wood. That does not mean that one is less healthy than the other.

Wilderness

On the one hand we perceive wilderness as unpopulated by people, but on the other we identify it with being solitary, wherever that may be.

As a result our image of a natural wilderness is a complex mixture of both. Children, for example will see wilderness as more dangerous than crossing the road, not because it necessarily is, but because it is associated with lonely places.

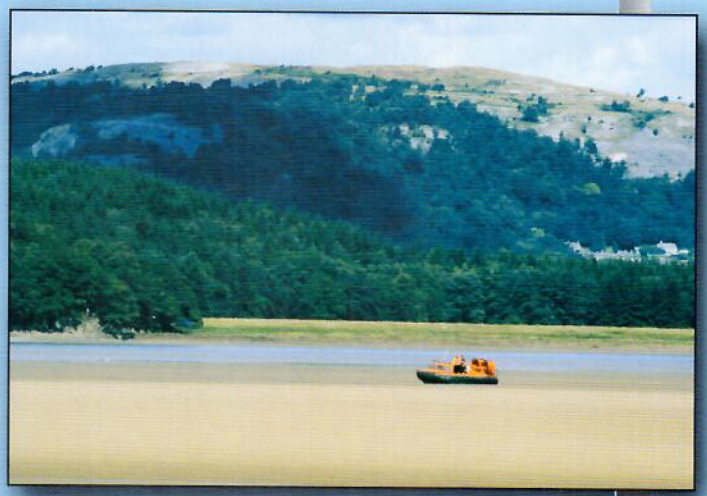
An implication of this is that we develop a fear of wilderness which leads us, in the long term to, either "preserve it" (perhaps the basis for no wind farms in wild places) or, through fear of it, ignore it.

Diversity in Environmental and Citizenship Education

Diversity

Diversity is a significant concept in environmental and citizenship education. Environmental diversity and our attitudes to variety often parallel those of diversity within the human population.

We often like to see "tidy" landscapes (millions are spent cutting grass for example). To ensure a diverse maritime coastal landscape we must learn to recognise contradictions in our own preferences.



Hovercraft, Kent Estuary

Philosophical Questions about Diversity

Is diverse the same as different?

Does diverse mean "a lot of?"

When should we interfere with nature?

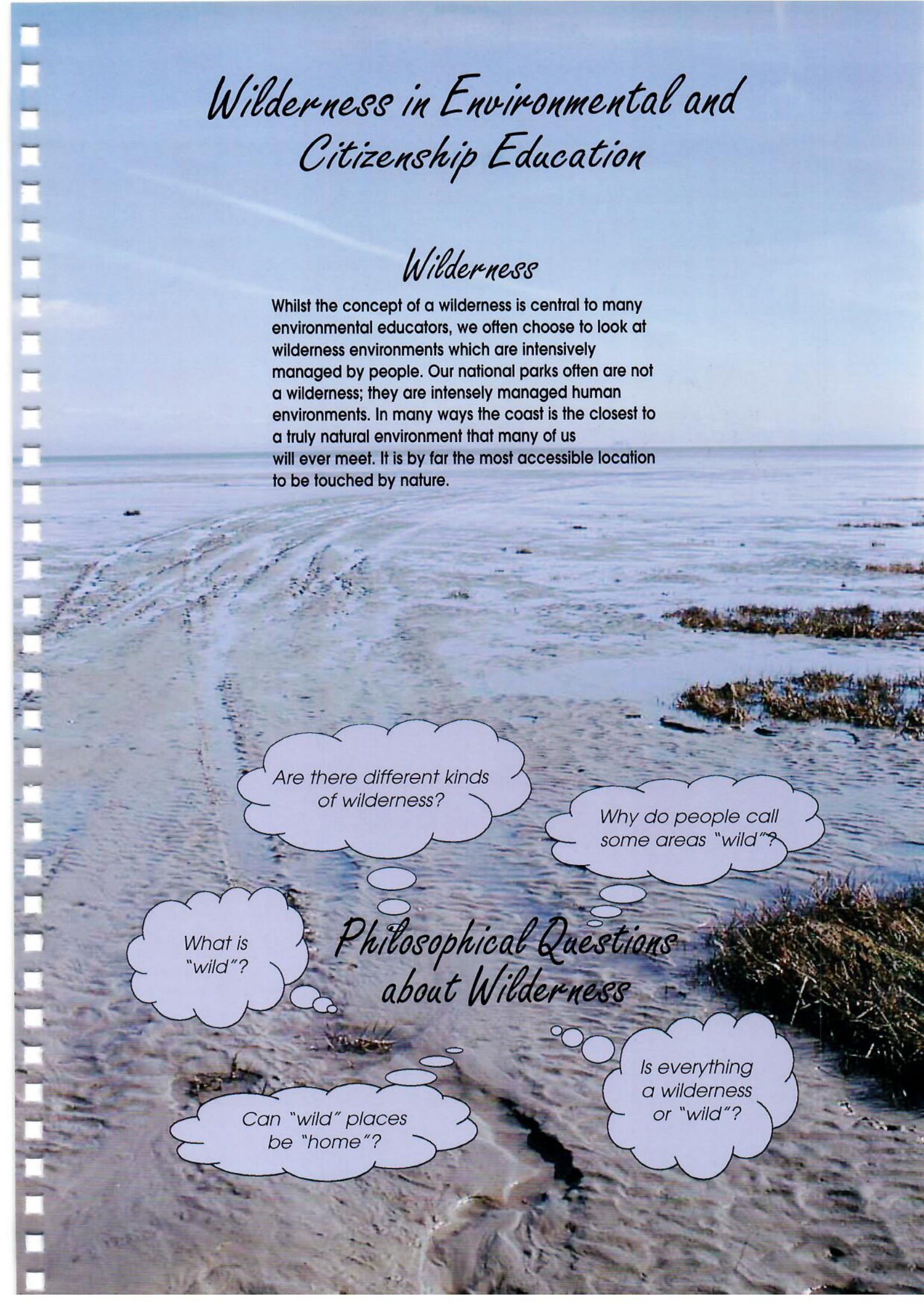
How do we know when our environment is at its optimum?

Is there such a thing as "nature" unaffected by humans?

Wilderness in Environmental and Citizenship Education

Wilderness

Whilst the concept of a wilderness is central to many environmental educators, we often choose to look at wilderness environments which are intensively managed by people. Our national parks often are not a wilderness; they are intensely managed human environments. In many ways the coast is the closest to a truly natural environment that many of us will ever meet. It is by far the most accessible location to be touched by nature.



Diversity

The story of the shooting of the last wolf at Humphrey Head may be a legend but it is also an icon of the loss of a species from these islands in the 15th century. The story, adapted here by Rick Lee of the Barrow Community Learning Partnership, forms a chilling start to an investigation of the questions raised by species loss.

The Last Wolf at Humphrey Head
©Geoff Taylor
geofftaylor.art@btopenworld.com

AT THE EDGE

A long time ago - but not that long ago - less than you might think - on a still moonlit night - if you were stood among the trees on this high cliff at the edge of the bay and were as still and silent as you could be - you would hear and see something so strange and so sad that you would never forget . . .

as you stand there beginning to feel a bit cold and wanting to move all you could hear is the gentle lapping of the sea as it creeps through its channels and slowly slides across the flat expanses of sand - the tide is coming in

and then as you watch, you sense something coming - the hairs on your neck prickle and a shiver runs down your back - you can't hear anything no matter how hard you listen - but there drifting through the trees is a soundless silver shadow . . .

as you watch, it lopes towards you - a relentless effortless movement born from thousands of nights like this . . .

at last the creature comes to the edge of the cliff and stops . . .
its ears stand erect - turning at every tiny sound - sounds you can't hear
it sniffs the tide - questioning scents you can't imagine
it turns to look back the way it came
listening in the silence
there standing at the edge of the cliff is a grey forest wolf
he is young - only two winters old
he listens for the sound of his pack
puzzled by their absence
unaware that they are dead
killed by the men who now search for him
he hesitates . . uncertain . .
and then raises his head, points his nose at the stars . . and howls
an unearthly noise
a voice from the past
from our nightmares
full of wild inhuman power
when he stops the silence is deeper than ever
no answering call echoing through the darkness
just a huge silent longing

Diversity

the wolf whimpers and turns slowly back to the cliff edge
he knows the tide is in
he knows the treacherousness of the sand
he knows he must return the way he came

you hear nothing but suddenly his ears point back towards the land
a low growl rumbles in his throat and his lips curl to reveal white fangs
with that effortless motion he begins to run through the trees
skirting round the edge of the cliff and as you strain to keep him in sight becomes the silver shadow which then disappears into the gloom

you stand holding your breath
in the distance finally you can hear a noise
the sound of men shouting, horses whinnying and the baying of dogs
they get nearer
you can see the lights of their torches burning and flickering through the trees
the dogs bark and men yell
a horse screams
there is huge crescendo of barks and snarls and yelps and shouts and breaking branches
then a gasp of a gasp
a gulp of time
then cheering, shouting, torches thrown in the air, barking and snarling
there is a huge fire
the noise goes on for a long time
but eventually dies down
the fire goes out and silence descends

the tide has turned
the water gurgles back down its channels and slides off the flat sand
a pale yellow morning light filters across the bay forcing its way through the mist
in the mud at the edge of the cliff there is one clear spoor
the unmistakeable five clawed mark of the wolf
the last wolf
whose body lies torn into unrecognisable clumps of fur and gristle
soon to rot and drift away in the wind

Adaptation by Rick Lee
(from "The Last Wolf" Jerome Mercier)

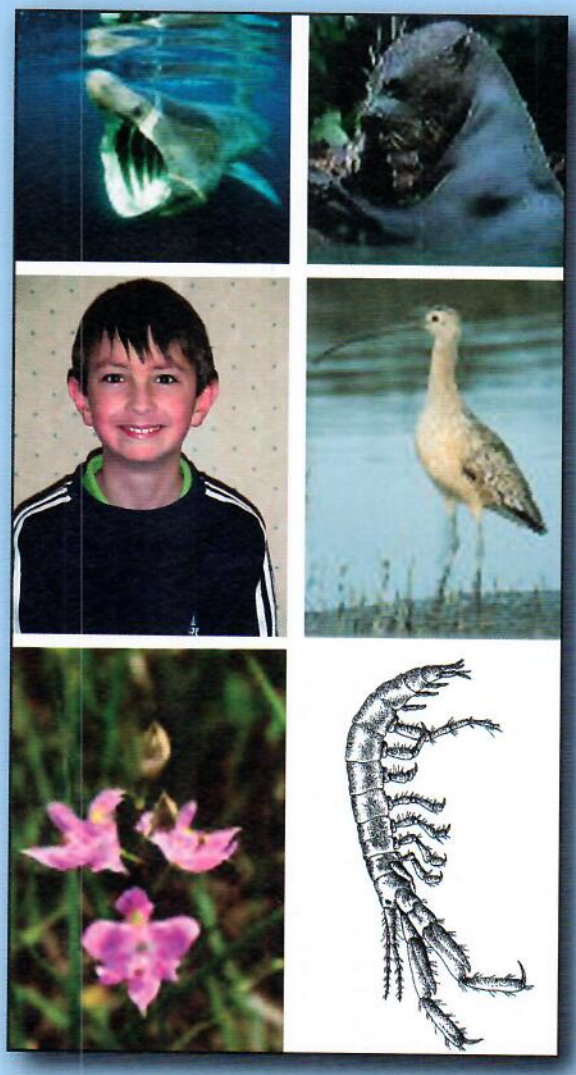
This story is emotive and so is the question of biodiversity. The Cumbria Biodiversity Action Plan identifies 39 species and habitats for special consideration in Cumbria. There are well over 100 species for which the numbers are causing concern. Our understanding of the complex factors leading to the populations of these species is still inadequate. More importantly, the decisions that need to be made to maintain a diverse pool of species are essentially about our values. The examination of these values using various stimuli is offered as material for developing philosophical dialogue with children on the following pages.

Diversity

Using Images as a stimulus for both philosophical enquiry and critical skills

Ten images similar to the six examples here were cut up and given to groups. They were asked to arrange them first in order of beauty. After a brief discussion they are asked to arrange them in order of value, (They were to decide how they define value)

This exercise was used to stimulate both critical skills challenges and philosophical questions, both outlined below.



"Truth springs from argument amongst friends"

David Hume

The Critical Skills Route - Valuing

"Humphrey Head"

You are a team of scientists bidding for a lottery grant of £1,000,000. In order to get the money you have been asked to select the four species that you would like to support. Your challenge as a team is to select four of the species from the images that you have been given, remembering that the other species may receive no funding!

Think about how you will decide and what strategies you will use. Will you base your judgement on the beauty or value of each species, their visual appearance, or the written information that you have been given? Try to think carefully, exploring several ideas. Ensure that you listen to the views of each team member before coming to a decision.

To get a grant you must give a presentation to the lottery board of judges. Your presentation should last no more than two minutes and must also include a poster display illustrating which species you have chosen, and even more importantly why and how you chose each of them. You can use any of the resources provided to create your poster, including the images themselves.

You have 1 hour to complete the tasks and will be asked to present your work.

The Philosophical Enquiry Route

What couldn't the world do without?

Why do we think of humans as the most important thing on earth?

The following exercises may help in clarifying some of the issues raised by the questions.

1 Which do you think are the most useful ways of measuring how we are related?

- Number of toes
- What we look like
- How similar or different our behaviour
- What we are made of
- How big we are

2 How do we decide which is "most useful" to people?

- Because we use it to make things with
- Because we eat it
- Because it feeds something we like
- Because we like looking at it
- We can't decide because we don't know what might be important to us in the future.

3 How would we decide which were important if we lived on an island where humans had no more influence than other life forms.

- Beauty
- Size
- Numbers
- How dependent others were on it

Would we see it differently if we considered the world to be alive?

Imagine if Dolphins could have an opinion

More Philosophical Questions about Diversity

How do humans need other life to sustain our own lives?

Could we ever respect a worm as much as an otter?

Why is it that animals that we love can still become animals that we slaughter without need?

Is respect for plants similar or different to respect for animals?

Should we care for the rare more than we care for the common?

How could we know whether some life is always going to be rarer than other life?

Wilderness

Whilst on a visit to a locality by the coast children are given a mirror. Looking in this, over their shoulder, they decide on words to describe what they see.

Children from Cambridge Primary School gathering words at Urswick Stone Circle

Mirror Words at the Stone Circle

Under a cold sky
Black and white sheep graze on a green moor.
Brown bracken and a grey stone
Wall leaning on,
Bare boned trees.
A church with a big steeple.

Y5 Cambridge Primary School, 2003

Poster paint on textile banner (Barbara Wright & Cambridge Primary School)

First, by sorting all the words gathered into a line from "most wild" to "least wild", there will inevitably be differences of opinion. These differences can form the basis of questions about how we decide if something is "wild" or not.

Mirror Words at the Stone Circle

A strange place this is.
Skeleton branches holding hands
Across the pale grey sky.
February bracken and muddy moss
Crispy under our feet.

Cambridge Primary School Year 5, 2003

Which of the following could be a wilderness to you?

A city street

A garden

A mountain top

The seashore

Your thoughts

What is wild?

Each generation has seen, and defines, wilderness differently.

Rank these from "most wild" to "least wild."

The oceans

A waste ground

A park

A field

A beach

Mirror Words at the Stone Circle

White sharp rocks behind and in front.
Trees all leafless with twig like fingers
Houses and stonewalls and mud coloured horse tracks,
Across a cold, bright, breezy moor.

Cambridge Primary School Year 5, 2003

Sacredness and Beauty in Morecambe Bay

Sacredness

At its simplest "sacred" might simply be "special." A place becomes sacred when people attribute to it special values of peaceful energy. These may be buildings, places, or landscapes. Birkrigg Common, with it's stone circle, must have been a sacred landscape and Humphrey Head, with it's well, still has the feel of a sacred place.

Beauty

It is possible that our attitude to the Cumbrian coast, our willingness to allow pollution of large parts of it, is rooted in a different attitude to mud flats and salt marsh than to a more classic beauty of cliff lines and bays?

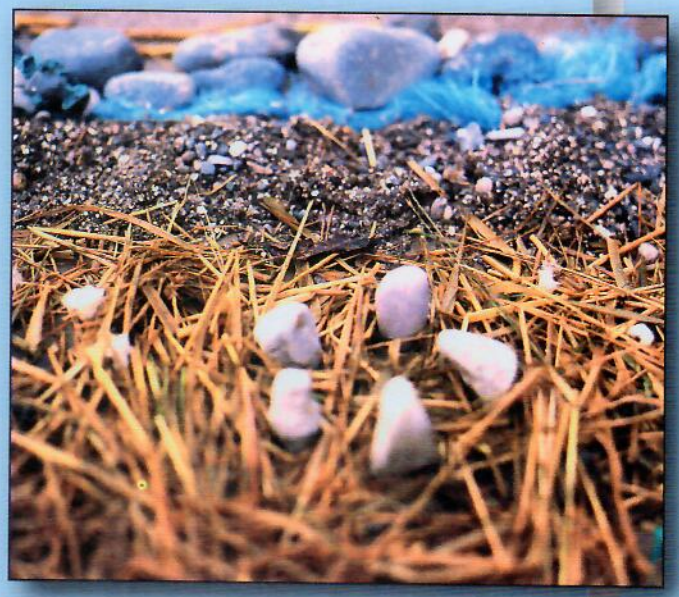
"A day spent without sight or sound of beauty, the contemplation of mystery, or the search for truth or perfection is a poverty stricken day, and a succession of such days is fatal to human life."
Lewis Mumford

Urswick stone circle

Sacredness in Environmental and Citizenship Education

Sacredness

We might begin by asking children to identify places which are special to them. For many of us the sense of awe and wonder which we find in special and sacred places is the very basis of our spirituality - whether we see ourselves as part of a religious group or not.



Part of a beach sculpture of a stone circle by children of Cambridge Primary School at Urswick, 2003

Philosophical Questions about Sacredness

Can people make a place special just by putting an edge round it?

Why is one place more sacred than another place?

Is a stone circle sacred? Why?

Might someone from the Bronze Age have seen the stone circle as sacred?

Are some remains more sacred than others?

Sacredness

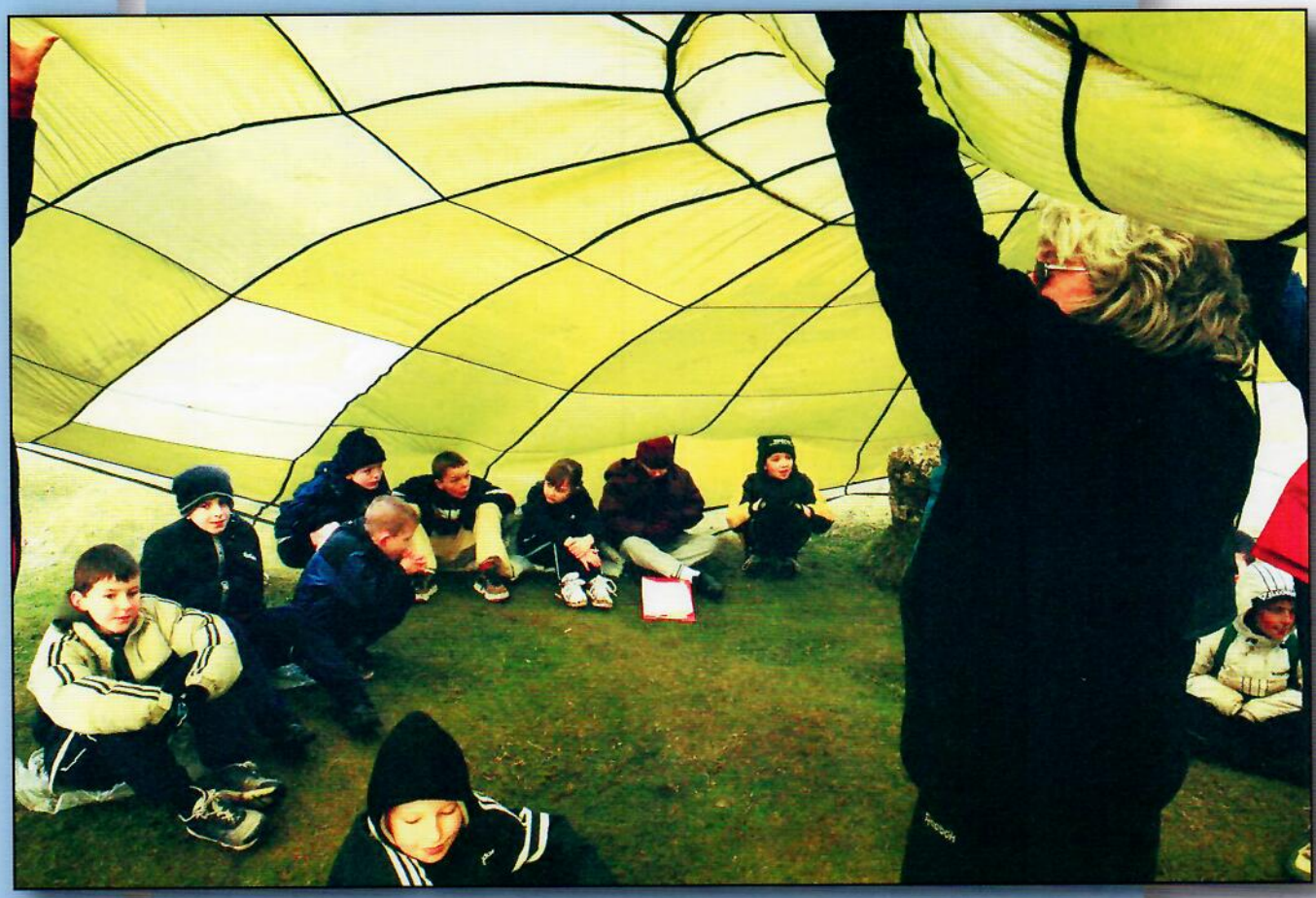
Why do people see places as special?

Chloe, Abbotsmead Primary School

This question developed from telling the story of a Bronze Age lady who might have visited the stone circle. We sat inside the circle under a parachute and talked about her life and why she might have visited the circle (for trade, to meet, to talk). This prompted other questions including: *"Can people make a place special by what they do to it?" "Does a special place have to be beautiful?" "Does somebody else have to be there to make it more special?" "Are some shapes more special than others?"*

The discussion moved from the importance of ritual (e.g. lighting a candle there) to the importance of people coming together to pass on ideas.

The modern parachute overlying the ancient stones provided a unique atmosphere for reflective storytelling.



Storytelling at Urswick Stone Circle

"Minds are like parachutes: they only function when they are open"

Thomas Robert Dewan

Which of the following places is special to you?

Fishcarling Marsh, Kent Estuary

	Very Special	Not so special
1. The seaside		
2. A particular building		
3. Your bedroom		
4. Your house		
5. A skateboard park		
6. School		
7. A wild place		
8. A den		

What would have to happen to make these special places into sacred places?

The seaside
A particular building
Your bedroom
Your house
A skateboard park
A wild place
School
A den

Beauty in Environmental and Citizenship Education

Beauty

There is much evidence that key experiences change how we see the world, but experience alone isn't enough. The depth with which we investigate questions leads us to change our perspective, and behaviour. Our sense of aesthetics and our values are closely related. Classroom discussion of the meaning of concepts such as beauty can help in that process.

"Everything has its beauty, but not everyone sees it."
Confucius

"Entrance to the Bay"
Cambridge Primary School 2003

Philosophical Questions about Beauty

What is the difference between an ordinary seashell and a beautiful seashell?

Could danger be beautiful?

Can a picture or photogaph of a place be as beautiful as a real place?

Do we need to experience beauty as humans?

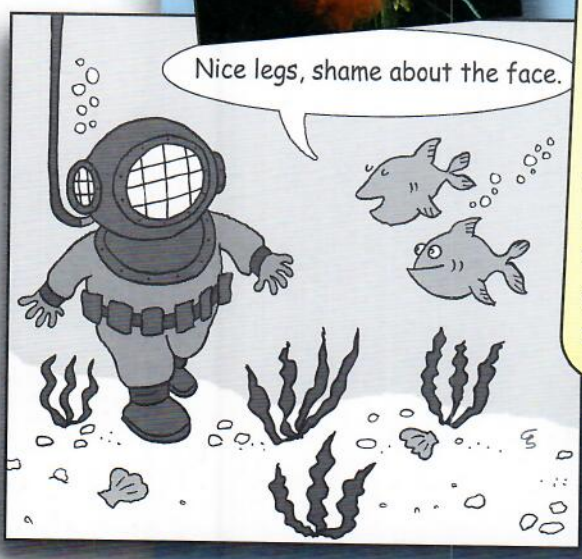
If everything was beautiful, would there be any such thing as horrid?

Beauty

Basking shark, Gordon Fletcher

Peacock Worms, Gordon Fletcher

Lion's Mane Jellyfish, Mark Woombs



Story: Neptune King of the Sea

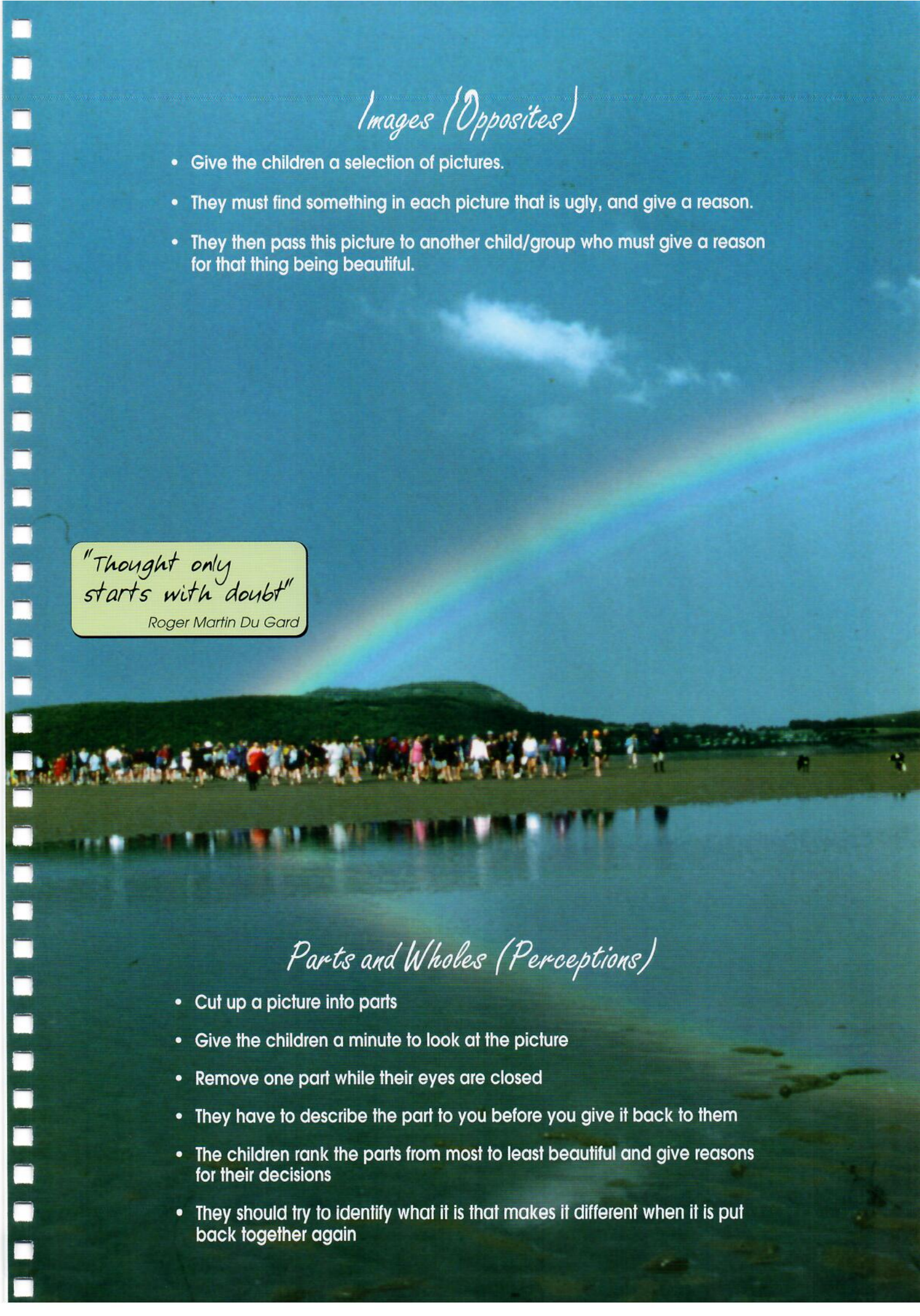
Neptune, King of all the sea, gathered all the creatures of the oceans together to decide which was the most beautiful. The basking shark had wonderful filter plates, the starfish had stunning patterns, the peacock worm delicate fronds and the cockle an impressive pattern of ridges. Whilst Neptune was trying to decide, along came a human who said that distant relatives used to live in the sea. So can humans be in the competition?

Developed from an African legend *"The Monkey and her Baby."* (See Robert Fisher *Stories for Thinking*)

After reading the story a variety of exercises help to focus thoughts (such as those opposite and page 58).

Children's questions included: Why didn't he choose all of them? Is it a real story? Why didn't he say none of them?

One question was chosen for a philosphical discussion.



Images (Opposites)

- Give the children a selection of pictures.
- They must find something in each picture that is ugly, and give a reason.
- They then pass this picture to another child/group who must give a reason for that thing being beautiful.

"Thought only starts with doubt"

Roger Martin Du Gard

Parts and Wholes (Perceptions)

- Cut up a picture into parts
- Give the children a minute to look at the picture
- Remove one part while their eyes are closed
- They have to describe the part to you before you give it back to them
- The children rank the parts from most to least beautiful and give reasons for their decisions
- They should try to identify what it is that makes it different when it is put back together again

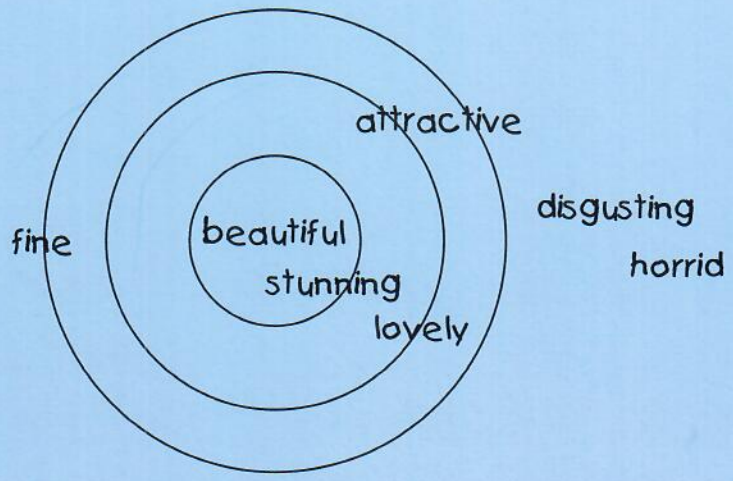
Exercises on Beauty

Arnside Knott from Humphrey Head

Target (Distinctions)

Put the following words onto a target of beautiful

Attractive	Splendid	Good-looking
Delightful	Pleasant	Not beautiful
Fine	Horrid	Brilliant
Disgusting	Stunning	Pretty
Decent	Superb	
Cool	Lovely	



3. The Bay and Us in the Future

Grange Promenade, 2003

Grange Promenade, 1997

"We live and we learn and we build up life with changes. How we think today is different to how we thought ten years ago, and that is different to how we will think ten years from now . . . we need to learn how to live with that. Change is everything."

Vittorio Radice, Executive Director, Marks and Spencer plc
Desert Island Discs, 8th June 2003

Change in Morecambe Bay

Piel Castle, Walney Channel

Any Bay is a temporary phenomenon. Morecambe Bay itself, only 10,000 years ago, was almost fiord like, very deep. It rapidly filled with silt from melting glaciers.

We should expect it to continue to get shallower on the basis of past trends. A complication, however, is rising sea level which exposes the silt to increasingly aggressive waves in storms.

The implication of these two apparently conflicting processes is likely to be sudden and unexpected changes to:

- the channels
- the shoreline
- the salt marshes
- the estuaries
- the vegetation
- the habitats

A thoughtful and reflective population with sufficient knowledge of the issues is more likely to accept change than a population educated to provide simplistic answers.

"For time changes the nature of the whole world and all things must pass from one condition to another, and nothing remains like itself." *Lucretius*

Change in Environmental and Citizenship Education

Part of the "Matchbox Museum" (page 20) grouped by contrast and change

A key objective should be to prepare young people to be rational when changes occur.

We need to know and understand when it is appropriate to resist, and when to accept, change.

To achieve this we need to:

- Be aware of the timescales in which the change is happening.
- Know when the change results from our own actions and when it is part of a process outside our control.
- Constantly re-visit and reflect upon the ideas of change which are fed to us.

An example might be the ways North Walney adapted the QCA scheme on water (page 75)

"Bridge Building" Pupil from Cambridge Primary School on Barrow Island, 2003

Philosophical Questions about Change

When places change can they ever return to what they were?

Do "man-made" objects return to being "natural" objects?

How can we work out when change starts and stops?

Do we only see change that is relative to our lives?

Does watching something change the way it changes?

Grange Promenade Consultation, Mediation and Change

One of the main problems of introducing change is the process and management of public consultation. Part of citizenship and environmental education should look at the issues surrounding this process. Examples might include:

- How do we choose who to consult (the sample)?
- What criteria do we use to decide whether a "new idea" is a good one or not?

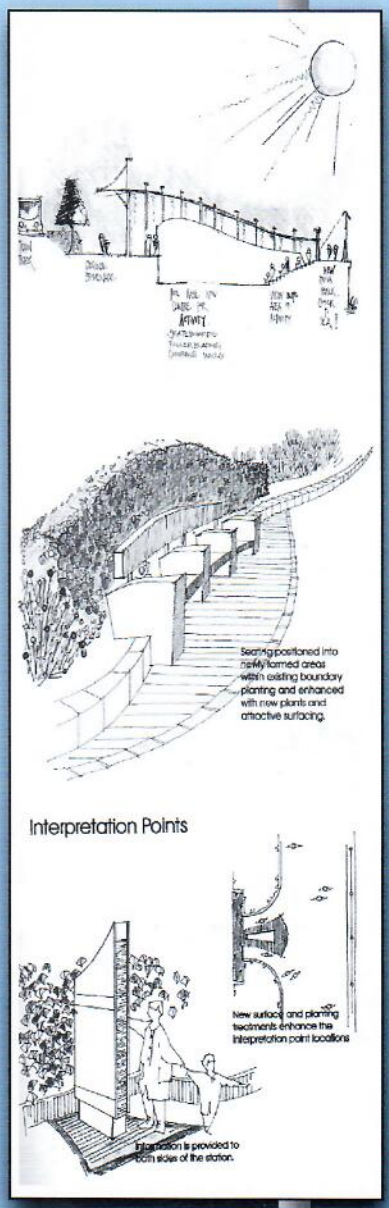
These are complex ideas but we have managed to engage year 8 pupils with them by using teacher in role (TIR). By alternatively taking a provocative and a consultative role the group became engaged in the questions

As a warm up activity groups of pupils are given a selection of possible ideas to improve the locality.

After familiarising themselves with how these differ they were given an envelope with a selection of different opinions on the change. They matched the ideas to the opinions in as much as the person who holds that opinion may show a preference for that idea.
(A no preference option is given)

- "Cycling on the prom is too dangerous for the elderly. It's too frequent that cyclists ignore the signs."
- "Grange must retain its individuality; building on its genteel past but incorporating the best ideas of today."
- "An audiovisual presentation of bay ecology and surrounding area, also relevant history, could prove helpful and encourage the tourist trade."
- "The promenade and railings need smartening up. Don't spend money on trendy gimmicks. Keep the feeling of Grange that was so popular when the pool was open."

Statements from Capita public meeting in Grange.



Ideas for development of Grange Promenade CAPITA consultancy Lancaster

After thinking about the reasons that might exist for differences of opinion on these ideas groups are asked to select ONE idea which two of them could demonstrate in a still life (tableaux). The others then each represent a different viewpoint in the tableau by expressing (1) an emotion by their body language and (2) a reason why they feel that way (this is written and laid on the floor in front of the group).

By asking the rest of the class to think of "questions which are hard to answer" it is possible, with help from the teacher, to develop one question from each tableaux which has a deeper or more philosophical potential.

Questions raised in a Year 8 Geography Class

- Do our opinions always come from what we like doing ourselves?
- Do different generations always see things differently?
- Is change always a good thing?
- Do we have opinions when we don't have power?
- Is there a difference between how tourists and locals see a place?

The last question was chosen and discussion led to a recognition of similarities as well as differences between tourists and locals. Through dialogue we began to explore some of our prejudices and pre-conceptions. The class developed some ideas about how we see places, and how that might influence how we perceive change.

Students at Cartmel Priory CE School

Changes to the Eider Duck Population at Walney

The change in this example is far more complex. South Walney nature reserve has data showing wide fluctuations in the number of breeding eider ducks over 50 years. We really don't understand fully why changes like this occur. We might come up with a list like this and try to score the likelihood of each on a visit to the reserve.

Recognising such factors, however, can be complex and you may prefer to stimulate thoughts about change first.

Eider Duck

Internal factors affecting Eiders

- Ability to adapt to changing habitat
- Time taken to adapt to changing habitat
- Number of males to females

External factors affecting Eiders

- Predation
- Food supply
- Visitor pressure
- Forced to move from another place
- Habitat changes
  - Climate change
  - Seal level rise
  - Erosion
  - Pollution

How we count

- The number of birds
- The number of nests
- The number of females
- The time of year
- Error

Change every day?

- Would you like a seashore that changed every day?
- Would you like everything to change from day to day? (e.g. bread today might taste like tomatoes tomorrow)
- Would you like everything to stay the same from day to day? (e.g. If every day was a Saturday)

Put the following into groups

Group 1 Things which never change

Group 2 Things which might change if not watched

Group 3 Things which only change if they are watched

Group 4 Things which only change if they are not watched.

The sun	A story	The sea	The weather
Gran	Love	Imagination	A thought
A TV programme		The light in the fridge	
Number of ducks in a pond			

The same or different?

- Would the world be better if there was only one type of everything? (One type of wood, one type of animal, one type of plant)
- Do you stay the same person as you grow up?
- Would the world be better if everyone was the same?

Staying the same

- Is there anything on the seashore that stays the same from day to day?
- What are the things in your life that stay the same day after day?
- What are the things in your life that change from day to day?

Walney School at South Walney Nature Reserve

Some change is seen as good, some as bad. The problem is that what we perceive as good and bad is probably different to that which is good or bad for the environment.

It is a difficult concept, but there are stories which help to lead us into this issue. "Wonderful Journey" by Paul Geraghty encourages reflections upon changes in the life of a grandmother.

Real or pretend change?

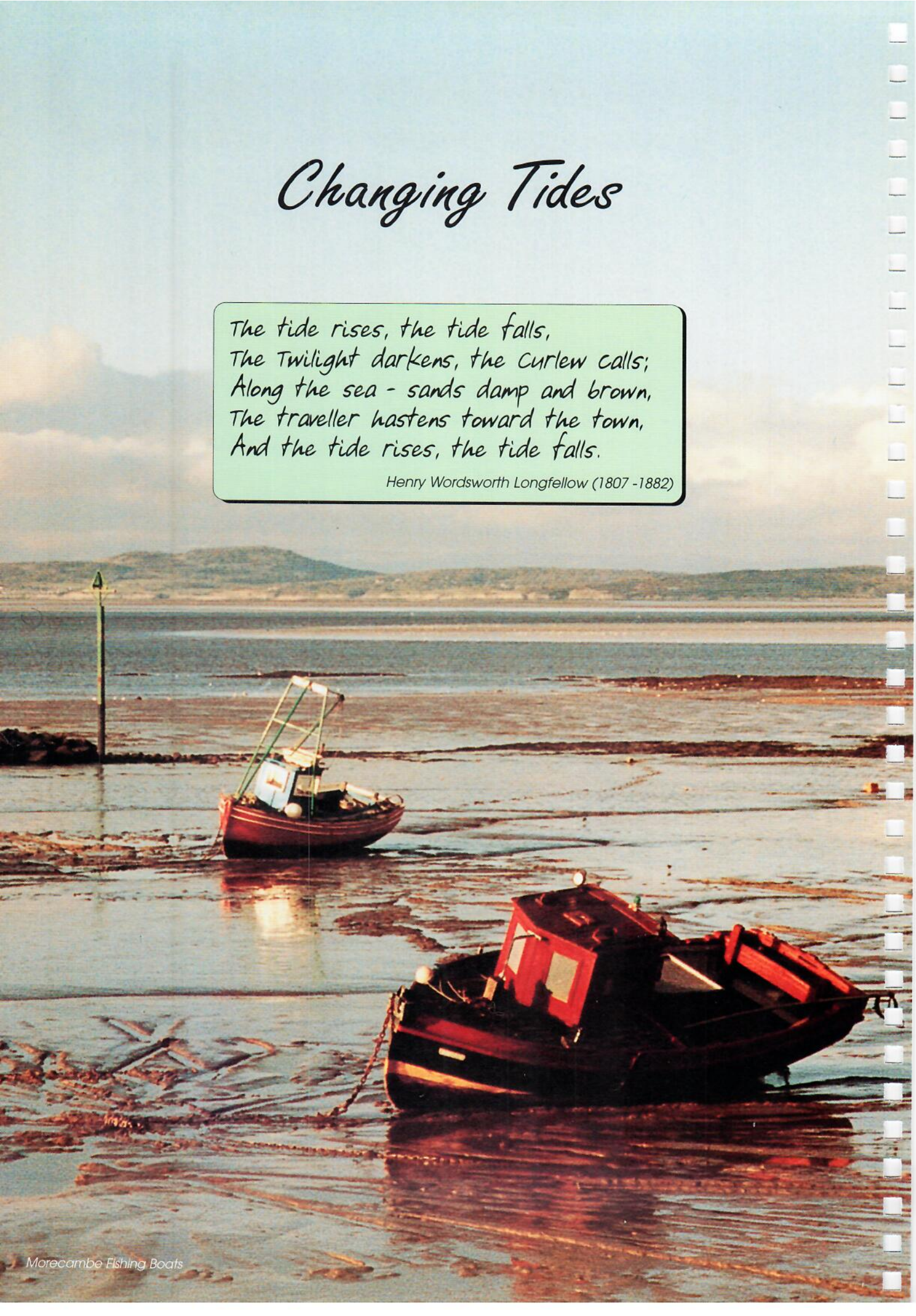
- Is there anything about a seashore that seems to change but really doesn't?
- What things in your life seem to change but really don't?
- What things in your life seem to stay the same but really don't?

	Does change a lot	Changes, but very slowly	Doesn't change
A beach			
The tide			
A wood			
A piece of stone			
You			
The sea			
A story			
A TV programme			

Changing Tides

The tide rises, the tide falls,
The Twilight darkens, the Curlew calls;
Along the sea - sands damp and brown,
The traveller hastens toward the town,
And the tide rises, the tide falls.

Henry Wordsworth Longfellow (1807 -1882)

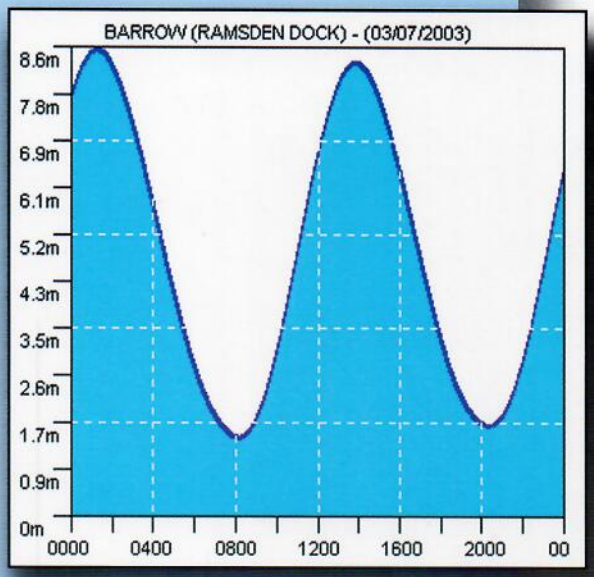


Morecambe Fishing Boats

Understanding types of change

There are lots of types of change taking place in the bay all the time. Some are parts of cycles. Some might be spiralling out of control. Change might be sudden or gradual. Maybe there is no change at all; just us thinking that there is change. Indeed getting data on change can itself be difficult and it may be necessary to create a partly fictional graph for learning purposes, providing it has a basis in the changes that are happening.

Before approaching any of these types of change, which could easily move your teaching into an explanatory rather than an exploratory mode, it is worth considering the two methods.



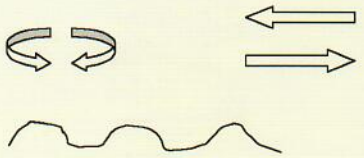
www.bbc.co.uk\weather\marine

Understanding the Tides in Morecambe Bay
A beach activity

Which of these two approaches do you think children would learn most from? How is the learning *different* in each case?

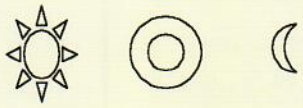
An Exploratory Approach

Children are asked to devise a way of making a shape (using pebbles or marks in the sand) to show extraterrestrials how the tide works. We might encourage them to use different types of lines.



An Explanatory Approach

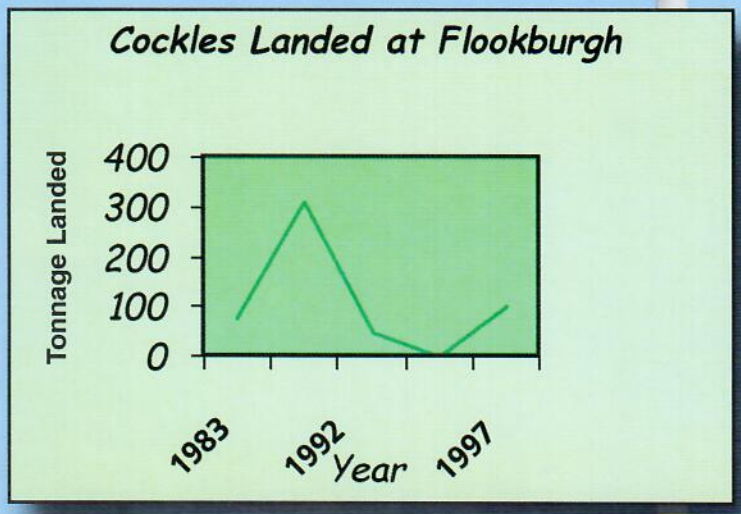
Children could represent water molecules and crowd together to form the earth. Two other children could represent the sun and the moon. As these two circle the earth the water molecules would have to bulge out to an oval, representing water moving to different areas.



Changes to Cockle Landings at Flookburgh

Fishing in Morecambe bay has always been important. Change has been huge and results from complex environmental, local, national and global issues. Understanding that change has to be fundamental to any environmental education.

The data on shellfish landings is notoriously unreliable as there is no legal requirement for records to be kept. Despite this, the fluctuations are massive and they do not necessarily indicate any one obvious process.



Solving a mystery.

Why do the number of cockles keep fluctuating?

The group was given the graph and a series of possible explanations for each change (see lists opposite). Asked to match or arrange the possible explanations in a way which might explain the change, each group then presented their conclusions.

From this questions were raised about the nature of change.

How do we know when it is us or nature that is causing change?

If changes in another country are effecting our fish how do we make the right decisions?

Landings of Cockles

- Cockles in North Spain are being picked rapidly in the expectation that there will be more pollution from the tanker that sank in deep water in November 2002.
- In the UK there is no longer much taste for cockles.
- Boats from North Wales enter the Bay and take large numbers of cockles out.
- In North Wales there are legally protected areas where shellfish can be grown without being collected by others.
- It is a legal requirement to send records of salmon caught and also of deep sea fish caught. Shellfish can be collected without any record keeping.

Stocks of Cockles

- A particularly cold winter killed off a whole generation of cockles.
- Cockles grow faster the longer that they are covered by the tide. Areas near Grange are getting higher so they have fewer cockles.
- A severe storm in February swept away the sands that the cockles live in.
- The channel of the River Kent keeps shifting and destroying existing cockle beds whilst forming new ones elsewhere. The cockles have difficulty keeping pace with the changes.
- Oyster catchers have a good year with over 40,000 birds in the Bay. One had eaten 140 cockles.

Over the last twenty years there have been big changes to the quality and type of fish landed in the Bay. There have been increases in sea bass landed possibly due to warmer waters) and yet huge reductions in landings of cod and haddock at Fleetwood.

There are many factors leading to changes in both stocks and landings of fish.

4. Further Thoughts and Reflections

"It is estimated that the average person in Haiti uses the equivalent energy of less than a hundred pounds of coal a year, whilst the average American uses more than 20,000 pounds. Or another way to look at it, the average individual in our society uses the energy equivalent of 200 personal slaves."

Facing the Future

Walney Secondary School Pupils on a visit to the Baywind Harlock Hill windfarm 2003

Encouraging children to think about the future and acting to change the future are perhaps the most difficult challenges to face any teacher concerned with the human/environmental relationship.

The approach to environmental and citizenship education taken in this book comes from a belief that we should be focusing our efforts on developing children's natural philosophical and reflective thinking abilities as a priority. If we learn to reason and, to be reasonable, there is a far greater likelihood that we will accept promote and encourage change, when that change is brought about by, for example, shortage of fossil fuels or by sea level rise.

Learning to reason begins with clarifying our understanding, then being able to build on ideas, then to distinguish between ideas and finally to challenge others ideas.

Since we are proposing that thinking and reasoning should start from children's questions, this section will use some of those questions raised in the course of 2003 and explore the early stages in development of reason.

Two questions asked by children on Walney Island raise important thoughts not only about what sort of environmental education we want , but also about the process that we might want to develop in delivery of it. They will form the basis of this section.

Are we all going to die? Nathan. Year 7 Walney Secondary School

"Who owns the water?" Jonathan. Year 5 North Walney Primary School

> *"Are we all going to die?"*
> *Nathan, Year 8 Walney Secondary School*

The question grew from a ranking exercise using images of different features that we might not want in our "back yard." (see page 74) After doing this the class was asked to develop a thought-provoking question. Some of these were more philosophical than others but all had potential. To deepen the discussion the questions were grouped by the teacher over the subsequent week into three groups, each with a philosophical question which incorporated the others. These are numbered 1-3 on page 73.

Dealing with Questions

How can we take a question with strong emotional content and develop it in philosophical and meaningful ways?

For each of the questions an exercise was prepared to engage the class with the issue for whichever question they chose.

Questions about Energy Sources

"Why don't people use solar power instead of carbon dioxide?" (Sam)

Why don't we stop using fossil fuels and start using renewable energy sources? (Richard)

1. **"How do we decide when it is ok to take the short term option?"**

Questions about Decisions

"Why do we have such things?"

"Why don't we have strict rules for things?" (Elly)

2. **"To what extent and how can we control what we do?"**

Questions about the future

Are we all going to die? (Nathan)

"Will this planet always be there?" (Carl)

3. **"When is knowledge the same as a fact?"**

Exercise for question 2 - *Which of the following do you feel most and least able to influence?*

	Most able to influence	Least able to influence
What I eat for dinner		
How long I can stay out		
The type of energy I use		
The type of energy the country uses		

Exercise for question 3 - *Which do you see as FACT and which as "NOT FACT"?*

	Fact	Not Fact
We can change the future of the world		
Whichever type of energy we use there will be the same harm done to the environment		
War has something to do with our energy use		
Global warming will be bad for some and good for others		
The planet can cope with the changes that we are making to it		
Nuclear power is less reliable than wind power		

Dealing with Questions

The group chose to focus on "When is knowledge the same as fact?"
By doing the exercise first, the dialogue about this question was deepened considerably.

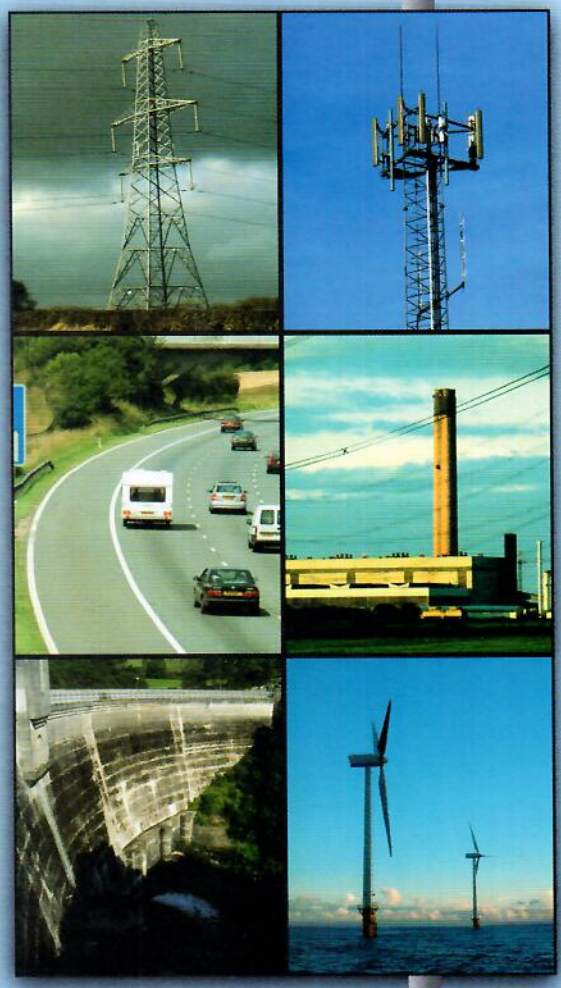
Simon *"What we thought were facts might be different."*

Colin *"We don't have any facts or knowledge as to whether we'll all die."*

Gemma *"Will our planet be so different? It won't be the same? Will our planet be there if we aren't there?"*

Rachel *"I don't understand Gemma's question. I think it means will the planet stay there or be destroyed."*

Stimulus - Which of these would you least like in your backyard?



Images used for the NIMBY exercise © Ian Britton FreePhoto.com

Exercises to support question 1
Which do you see as long term choices and which short term?

	Short term	Long term
Choosing where to live		
Making friends		
Saving energy		
Deciding where to buy your food		
Getting married		
Deciding how to use your spare time		
Using solar power instead of coal or gas		

Which of these things can we use and replace and which can we only use once?

	Can replace	Can't replace	Can replace, but only if we plan ahead	Don't know
Carrots				
Coal				
A view				
An idea				
Fish				
Electricity				

Creative Thinking

How can we encourage children to develop creative responses to the future in a QCA scheme on water?

Who owns water?

Jonathan, North Walney Primary School

The work described below was an attempt to use both philosophical enquiry and critical skills, alongside visits to water treatment plants, to look creatively at the problems that would arise if there was no mains water supply from outside of the locality.

Philosophical Enquiry Route

This question was developed as a group after reading extracts from the story "The Man" by Raymond Briggs. The children were placed in the roles of small people living on an island which we called "Portney" where they have been cut off from the mains water supply.

Their first task was to raise questions which they would have to ask before tackling the situation.

As a group we prioritised the questions and chose the first for further consideration.

The discussion was interesting because after Amy had suggested that the water "belongs to the earth" she was challenged by Stuart who said that "the earth can't own something if it can't pick it up." A counter example was then used by Stephanie to challenge this by saying "A tree can own water because it takes it up from the ground."

From THE MAN by Raymond Briggs Red Fox. Used by permission The random House Group Limited

Critical Skills Route

A further stimulus for both philosophical questions and for a critical skills task, was to rank the importance of the information gleaned during a visit to the fresh water treatment works at Poaka Beck.

If Portney was cut off from getting it's water from Poaka beck which of the following bits of information would be most useful? Put them in order and be prepared to give reasons.

Poaka beck water treatment works

- There is always the same amount of water in the world
- Water moves down many water pipes. 40,000 Kms of water pipes would go around the earth
- The daily waste water treated is equal to 288million toilet flushes United Utilities invested almost £2000 per household in the 1990's Getting water to our taps is expensive and if we waste water new reservoirs would be needed which would flood good land.
- The water from Poaka Beck comes to our taps by gravity, pumps are only used when the water has to go uphill When we bring water a long way pumps have to be used and they use a lot of electricity"
- Chlorine is added to the water to kill the bacteria"
- Ferric sulphate is added to attract dirt and to clear the water"
- The water is filtered through sand, which is then cleaned before more water goes through it."Lime is added to the water"In a desert in Chile it would take 6 months to collect enough water (from the fog) to have a bath
- There is 2 metres of rain a year at Walney

After the ranking exercise the children raised questions and one was chosen for enquiry.

As a conclusion to the terms work each group of children was given a challenge. They were to design a strategy to cope with not having a water supply. Each group had to first decide what materials they would need and then produce an explanation of how their solution would work and why.

Constant emphasis on collaboration, reflection and listening to each other, enabled some groups to begin working in ways that are fundamental to the development of ideas. (see page 16 for notes on the approach). This non-threatening, collaborative environment, provided an opportunity for the children to confidently put forward their individual ideas within their group, creating an open forum for a range of abilities. Each time a window of opportunity for learning presented itself, the free reign that critical skills provides, enabled the children to pass through it and explore a wide variety of possible solutions to their water problem.

The resulting presentations offered a broad selection of resolutions which spanned social, environmental and financial issues. The cross curricular nature of this approach meant that children had been able to pull ideas from a range of topics covered over the term, including The Water Cycle, their locality as well as the Water unit in Geography. During a question time, the children asked each other probing questions and many groups were able to substantiate their ideas with plausible explanations. This both consolidated and extended the children's learning as well as providing a useful assessment of their progress at the end of this unit of work.

Evaluating Enquiry as an approach to Environmental Education

> "I've never thought of a question like this before"
>
> *James, Ulverston Victoria High School whilst attending the Biodiversity Conference at Ulverston June 2003*

When talking of rigorous approaches to education it is too easy to define rigour on the basis of specific outcomes in terms of knowledge. The approaches to enquiry in this book are also rigorous , but here rigour is defined in terms of the ability to identify the real questions which underlie the issues and to develop thinking about those in reflective ways.

We are often influenced by the view that education is about developing tangible and easily measured outcomes. In the same way that "National Standards" drive our numeracy and literacy objectives so, in environmental and citizenship education positive "actions" which are seen to help the environment are seen as desirable outcomes.

Both standards and actions are of course important to education. However A problem with both, could be that they derive from a culture of certainty established by Descartes in the 18th century.

Can we be certain that instruction always leads to higher standards of literacy?

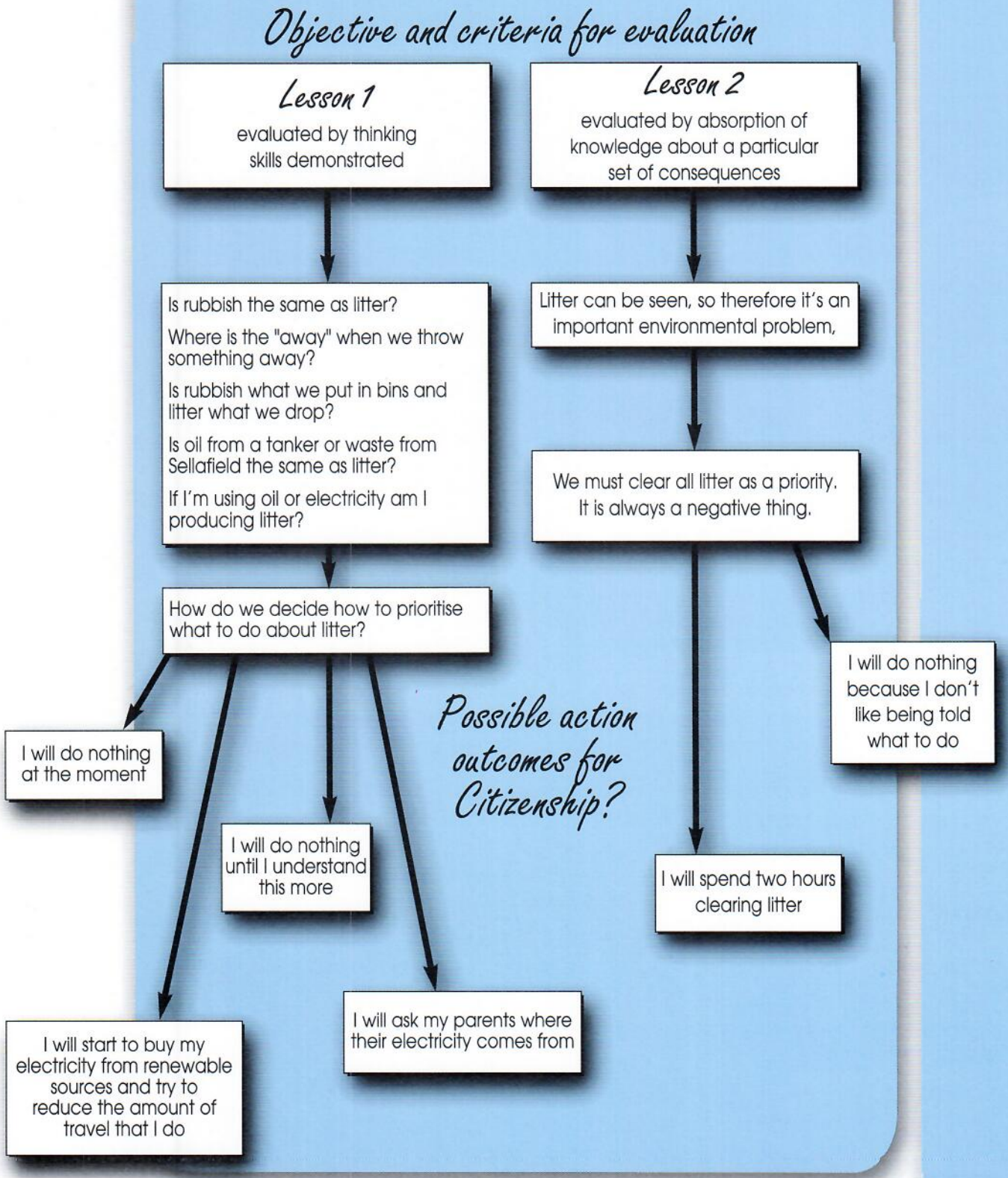
How sure are we that a particular environmental action is the right one to promote?

In short, our instructional education, whether from the liberal environmentalist or from the not-so-liberal government department, is based upon a set of assumptions which need to be constantly challenged.

The National Curriculum offers the contexts within which we work, the outcomes, on the other hand, can be seen as the way in which we think about the material that we study. This is often a qualitative shift, but can still be part of our assessment of children's learning if we observe the development of thoughts and ideas rather than the assimilation of particular knowledge.

Evaluating

An example might be that of beach litter. Two contrasting lessons might develop from the same stimulus.



Where Next?

This book is just a start. The ideas expressed in it are complex and the implications far reaching. If we want children to think in the ways expressed on page 12 and 13 then we are opening a Pandora's box of possibilities. Schools themselves would become very different places, our approaches to the environment would equally be and radically different.

The National Curriculum website has a page on "learning across the curriculum" which offers the opportunity to search on specific thinking skills using key phrases. Whilst it is comforting to see many of the skills listed in this book identified across the curriculum, there is a real danger of reducing the curriculum to key skills. Values are so easily lost in the process. It is proposed here that the choice of question and the ownership of that, together with some process of democratic choice in the classroom which is transparent to all, is the key to ensuring that the environmental issues raised are discussed in the context of the plethora of existing values in the classroom.

Would children trained to think freely be prepared to accept decisions that our government makes every day, if they had the opportunity to question the rights of future generations to, for example, a diverse and healthy landscape?

It is not possible, nor desirable, to impose from above the methods of teaching and learning proposed. The process has to be slow, has to be desired and has to be supported with training and development. Fundamentally, though, we have to ask questions about the role of schools in a world where knowledge is freely available but opportunities to think, question and change that world are surprisingly restricted. Maybe schools need to focus on what they can do well, developing collaboration and enquiry skills. They need increasingly to measure outcomes qualitatively in terms of the shift in thinking processes rather than in the acquisition of a knowledge base which will rapidly become out of date in a changing world.

"Getting it wrong is part of getting it right"

Charles Handy

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Mercier J	**The Last Wolf** HT Mason	Grange over Sands
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Note: Many of these books plus others on philosophy for children are available from Bookstall Forum (www.bookstallforum.com) also see a resources list at the SAPERE website (www.sapere.net) SAPERE is the "Society to Advance Philosophical Enquiry and Reflection in Education)

Some weblinks that may be useful for education work around the Morecambe Bay

Thinking and Philosophy for Children Websites

www.criticalskills.com
offers guidance on introducing critical skills approaches

www.SAPERE.net
offers a link to other sites promoting this approach

www.dialoguebox.org.uk/BubbleDialogue.htm
offers an IT resource to develop dialogue skills, perhaps in the early stages of developing philosophical enquiry

www.childrenthinking.co.uk
Offers good examples of children engaging in philosophical enquiry

www.thinkingontheedge
Is a website designed specifically to support and develop the work of this book. It includes forums and the opportunity to upload files of your own to share materials on these approaches

Environmental Education

http://www.geographynetwork.com/
Has many links relating to environmental education

Coastal and other Environmental Websites

www.moremcambebay.org.uk
is the the Morecambe Bay Partnership website and offers web based links to many useful sites including;

- A downloadable version of the booklet "Secrets of the Sands"
- A saltmarsh and a spartina fact sheet plus general information about the Bay, safety (including tide times) and cross bay walks
- Newsletters on:
  climate change and shoreline management (No.2);
  European Marine site designation (No.3);
  Biodiversity (No.4);
  Bathing waters (No 5);
  Offshore Wind Farms (No6).

www.nettingthebay.org.uk
offers resources and activities about fishing in the Bay

www.livingearth.org.uk
Is the website of the organisation which helped develop this book

Link to information about Shoreline Management Plans

www.nwcoastline.org

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Acknowledgements

The book is the result of work in schools around the Bay in 2003. It has been compiled by Chris Rowley and Lizzy Lewis.

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Year 5 Cambridge Primary School
Years 7 and 8 Walney School
Year 7 Ulverston Victoria High School
Year 5 North Walney School
Year 7 Cartmel Priory CE Secondary School
Year 8 Lancaster Grammar School

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Jackie Dunn	Woodland Trust
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Gina Mullarkey	Cumbria Development Education Centre, Barrow
Gavin Murray	Photographer
Rachel Osborne	Cumbria Wildlife trust
Wendy Ridley	Cumbria Education Service
Gill Simpson	North Walney Primary School
Andrew Talks	Lancaster Grammar School
Nigel Toye	St. Martin's College
Steve Tyson	Walney School
Paul Vare	Living Earth
Michelle Waller	Morecambe Bay Partnership
Jenny Weir	Cartmel Priory CE Secondary School
Welfare State Int. & Staff	Lanternhouse, Ulverston
Barbara Wright	Artist and teacher, Dalton-in-Furness
Terry Wright	Photographer

FUNDING FROM
Cumbria County Council Local Agenda 21
Cumbria Biodiversity Partnership
Glaxo Smith Klyne
Heritage Lottery Fund
North West Arts

Additional funding from
Cumbria County Council Agenda 21

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Supported by the
Heritage Lottery Fund

ISBN: 0-9546370-0-3