

LESSONS



THE USE OF ANIMALS IN MEDICAL RESEARCH

Every Breath Podcast Teachers Resource

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Lesson 1:

Initial Responses

Focus

The following are suggestions for how you might pick up on the ideas and issues raised by the play and discuss the students' initial responses. You can select to do one or more from the range below. They can be used as stand alone exercises or as preparation for one of the other lessons. They use a range of strategies and could be used in a variety of different lessons: i.e. PSHE/ Science/ English/ Drama/ Form Tutor Period etc

If you used the Preparatory Lessons

If you used the Preparatory Lessons What Do We Feel? and What Do We Think? it may be interesting to return to the activities to see how the students' ideas have changed since seeing EVERY BREATH. (See Preparatory Lessons, What Do We Feel? and What Do We Think?)

What Do We Think? – An Active Discussion

The Preparatory Lesson What Do We Think? would work as an interesting follow-up exercise regardless of whether it has been done beforehand. (see above.)

A Discussion Exercise

Divide the students in pairs or small groups. Ask them to discuss and write down their answers to the following questions:

- What did you like/dislike about the play?
- Why do you think the play is called EVERY BREATH? Do you think it's a good title?
- What surprised you in the play? What new things did you learn?
- Did anything make you laugh? Was this appropriate in relation to the subject?
- What didn't you understand? What do you need further clarification on?
- What questions has the play made you ask?

After allowing 10 minutes to discuss their answers ask each group to share their answers and discuss them as a whole group.

Still Image Exercise – Memorable moment

Divide the class into groups of 4.

Ask the group to share with each other the moment of the play that sticks most strongly in their mind.

Each group must agree on one of these moments and create a still image of that moment. (Not all the group members have to be in the image.)

Share the images with the class.

Try and identify each one and discuss the different choices. Is their consensus about the most memorable moment? What made it memorable?

Still Image Exercise – Capturing the essence

Divide the class into groups of 4.

Ask them to create a still image that captures the “essence” of the play. (This demands they have a good discussion between them about what they think the play was about.)

Share and discuss the different ideas? Are any more accurate or do they just represent different views about what is important?

Practical Exercise – Telling the Story

Divide the class into groups of 4.

Ask them to tell the story as succinctly and accurately as possible in one of the following ways:

- Freeze Frames (max 5)
- Sentences (max 8)
- Improvisation (max 1 min)

Share and discuss the differences between the versions.

Lesson 2: Science

Regulating Research

Focus

To understand how research using animals is regulated in the UK by simulating a research licence application procedure

Objectives:

To gain an understanding of UK regulations governing research using animals

To weigh up the necessity of using animals for a specific piece of research

To explore the possibility of using non-animal research methods

National Curriculum Links

SCIENCE KS4 4a & b

Resources

Information Sheet 1: HOW RESEARCH USING ANIMALS IS REGULATED

Information Sheet 2: YOUR RESEARCH

Information Sheet 3: THE 3RS

ACTIVITY

1) Divide the class into groups of 3-6 and give them the following brief:

The optic nerve connects the eye to the brain, carrying the electrical impulses which enable us to see. You are a team of research scientists trying to discover whether it's possible to reconnect a severed optic nerve. Finding this out could have many uses: reversing accidental damage to this nerve, which can cause blindness, giving clues as reversing other types of blindness and possibly even treating people with spinal cord injuries. The research would involve rats.

In order to be allowed to do your research you have to apply for a licence.

- 2) Distribute **INFORMATION ON SHEET 1: How Research Using Animals Is Regulated**, and ask students to read.
- 3) Give the students the following information:

Each member of your team has a **Personal Licence** and the place where you are carrying out your research has a **Research Facility Licence**. You now need to put together your case to apply for your Project Licence.

Distribute *INFORMATION SHEET 2: Your Research* and *INFORMATION SHEET 3: The 3Rs*. Ask students to read *INFORMATION SHEET 2: Your Research*, in order to understand the research they want to carry out. They should keep *INFORMATION SHEET 3: The 3Rs* for reference for the following exercise.

- 4) Ask students to discuss the following in their groups:
 - a) Is your research important enough to justify the use of animals? (i.e. Do the likely benefits of the research outweigh the costs to animals?)
 - b) Can you think of ways of carrying out your research without using animals? (Look at Information Sheet 3: THE 3RS - Replacement.)
 - c) Will your work “translate” from rats into man?

Feedback

- 5) In order to apply for your Project Licence you need to be able to demonstrate how your research implements the 3Rs. Read *INFORMATION SHEET 3: The 3Rs* and in your group discuss and note down your answers to the following questions:

REDUCTION – How do you intend to keep the number of animals used to a minimum?

REFINEMENT – How will you ensure your experiment is carried out in such a way to ensure animal suffering is minimised?

REPLACEMENT – Could you use non-animal methods?

Feedback.

Possible Extension Exercise

If appropriate this work could be developed into a written exercise titled Application to the Home Secretary for a Research Project Licence, with answers written under the following headings:

- a) What is the research you want to do?

- b) Justify why it is necessary to use animals.
- c) Explain how you are going to keep the number of animals used to a minimum.
- d) Explain how you are going to keep suffering to a minimum.
- e) Explain why you can't use non-animal methods.

Information Sheet 1: Research Regulation

The UK has a long tradition of protecting animals and this is especially true of animals used in research. There have been special controls on the use of laboratory animals in the UK since 1876.

In 1986 the laws governing the use of animals in research were extended and revised to ensure that the welfare of the animals was safeguarded while allowing important medical research to continue.

The resulting Animals (Scientific Procedures) Act is widely recognised as the strictest in the world. This UK Act will only allow research to be carried out using animals if any benefit the research is likely to bring outweighs any pain and distress the animals may suffer.

More detailed information on the 1986 Act can be found on the Home Office Web site at <http://www.homeoffice.gov.uk/animact/>

What Scientists have to do before they are allowed to carry out Research using Animals

Three licences are required for any scientific work using animals under the 1986 Act:

1) THE PROJECT LICENCE

If a scientist wants to carry out research or testing using animals they must first obtain a Project Licence from the Home Secretary who will take advice from the inspectorate in the first instance before granting the licence.

The licence will only be granted if:

- The results of the research are likely to be important enough to justify the use of animals.
- The research cannot be done without using animals.
- Any suffering is kept to an absolute minimum.
- Monkeys, dogs and cats are only used when no other species, usually rodents, are suitable.
- The people working with animals have undergone training and testing on the species of animal they wish to use, the type of procedure they are going to carry out and the level of distress the animal may suffer.

- The scientists have shown that they have, as far as possible:

Reduced the number of animals used to a minimum.

Refined the way the experiment is carried out to make sure that any animal suffering is minimised

Replaced the use of animals with non-animal methods where ever possible.

These three principles, **Reduce**, **Refine** and **Replace** are called the three R's and are the guiding principles in animal research.

More information can be found at <http://www.rds-online.org.uk/welfare/threers> and <http://www.nc3rs.org.uk/>

- The research is carried out in an approved research facility i.e. one that has been inspected and has shown that it has accommodation for the animals that meets the required standards and has vets on call 24 hours a day. If the facility meets these very rigorous standards then it is given a Certificate of Designation.

Many additions have been made to the Act since 1986 to make it even more stringent. The latest was added in April 1999 and this new regulation means that a project must now pass through an additional local ethical review before a licence is granted.

2) THE PERSONAL LICENCE

The person actually carrying out the research on the animal must first obtain a personal licence by attending the appropriate training courses and passing the relevant examinations. They must be qualified to:

- Work on a particular species of animal
- Carry out the specific procedure required
- Work only to the levels of suffering for the animals laid down in the project licence. The suffering is classed as mild, moderate or severe. Very few procedures involving severe levels of suffering are allowed in the UK

3) THE RESEARCH FACILITY LICENCE

The research must be carried out in an approved research facility which will have been inspected and shown that:

- It has accommodation for the animals that meets the required standards
- Has vets on call 24 hours a day.

If the facility meets these very rigorous standards then it is given a Certificate of Designation.

Many additions have been made to the Act since 1986 to make it even more stringent. The latest was added in April 1999 and this new regulation means that a project must now pass through an additional local ethical review before a licence is granted.

Adapted from Biomedical Research Educational Trust (BRET) website: Information on Animal Welfare and the laws governing Animal Research

<http://www.bret.org.uk/gov.htm>

Information Sheet 2 - Your Research (Science)

You want to carry out research to see if it's possible to re-connect a severed optic nerve, the nerve which carries signals from the eye to the brain, enabling us to see. If successful, your research could help to restore sight, and might also give us clues about how to repair other sorts of damage to the brain, nerves or spinal cord.

Your research would involve severing the optic nerve in rats, rejoining them, and looking at ways to encourage them to grow normally again. Following this surgery, you would study the rats over a period of months to assess this.

(For further detail see:

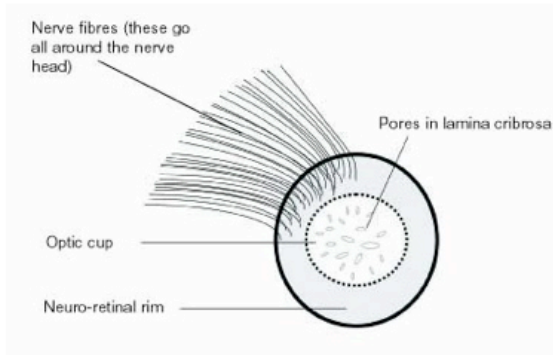
http://www.rds-online.org.uk/pages/headline_detail.asp?i_ToolbarID=6&i_PageID=771)

See Diagram of The Structure of the Eye on the following page

Structure of the Eye

The Optic Nerve

The *Optic Nerve*

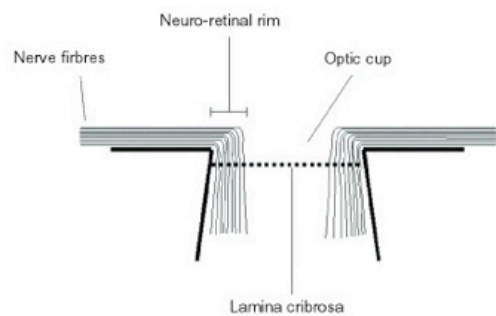


Structure of the *optic nerve* head (head on)

(holes) in the *lamina cribrosa*, a sieve-like structure in the optic nerve head. Blood vessels enter and leave the eye through the same structure. The nerve fibres form a rim around the edge of the *optic nerve* head (*neuro-retinal rim*), leaving a central indentation without nerve fibres called the *optic cup*.

Behind the *pupil*, the *lens* of the eye is suspended from the *ciliary body* by fine ligaments. The *cornea* and *lens* focus a picture of your surroundings on the *retina*, which is the light-sensitive layer that coats the inside of the eye. The picture of your surroundings is sent from the *retina* to the brain by nerve fibres, which derive from nerve cells in the *retina*. The *optic nerve* is formed by about one million of these nerve fibres collected together. The *optic nerve* starts at the back of the eye at the *optic nerve* head, which is also called the *optic disc*.

The nerve fibres leave the eye through pores



Structure of the *optic nerve* (side on)

[← back to previous page](#)

http://www.glaucoma-association.com/nqcontent.cfm?a_id=340&=fromcfc&tt=article&lan_site_id=176

Information Sheet 3 - The 3 Rs (Science)

The principles of the 3Rs - Replacement, Refinement and Reduction - were developed as criteria for humane animal use in research and testing.

Replacement

Replacement refers to the use of non-animal methods instead of animals to achieve a scientific aim. Safety testing is probably the area where most progress has been made in the development of direct replacements for animals.

The non-animal techniques are:

- **in vitro techniques**, involving the study of isolated molecules, cells and tissues (which may come from humans, animals, micro-organisms or even plants). This gives useful information about interactions between molecules, within or between cells, or about organ function.
- **study of human beings and populations.** Research on human subjects can give very useful information about the body in health and disease, and about the distribution of diseases in society, but is limited by what is considered ethical. New non-invasive scanning techniques make it possible to study blood flow or nerve activity in the living human brain, for instance.
- **Computers** and chemical techniques can screen out harmful or useless compounds before they ever get to the animal testing stage.
- **Genetic studies** are a growing area of research, and may be carried out at molecular and cellular levels. But they often lead directly to the use of more animals, to study the effect of particular genetic changes in living beings.
- **Microdosing** is a new method being developed. It involves giving human subjects a drug dose one-hundredth of what would be necessary for it to have an actual effect on the body and watching what the body does with it. With the aid of accelerator mass spectrometry (AMS) — an incredibly sensitive measuring technique, which can pick up minute traces of a drug in the human body — the metabolic fate of a drug administered in trace doses can be followed. It may allow scientists to watch the metabolism of new drugs in the human body with no risk. (THE TIMES The Human Guinea Pigs 17/12/05 <http://www.curedisease.net/articles/051217.shtml>)

Refinement

Refinement refers to methods which alleviate or minimise potential pain, suffering or distress, and which enhance animal welfare, for those animals which still have to be used. Refinement can be achieved by, for example, using appropriate anaesthetics, training

animals to co-operate with certain procedures (e.g. taking blood samples) so the animals are less stressed, and ensuring that accommodation meets the animals' needs (e.g. providing opportunities for nesting for rodents). There is evidence that refinement not only benefits the animals, but also improves the quality of the research findings.



The 'mouse house' is a refinement developed at the MRC National Institute for Medical Research. The transparent, red, plastic house provides mice with an area to nest, hide and climb. The mouse house appears dark to the mice as they cannot see red, yet the transparent walls mean that animal care staff can see the mice at all times and so are able to carry out their daily checks without disturbing them

Reduction

Reduction refers to methods which enable researchers to obtain comparable levels of information from fewer animals, or to obtain more information from the same number of animals. Improved experimental design and statistical analysis are means of achieving reduction. The National Centre for 3Rs recently awarded a prize to a scientist who developed a way of reducing the number of animals used in a specific piece of research:

In her research, Dr Wiles infects mice with bacteria from the same family as E. coli to study the paths of infection. Traditionally, every mouse has been infected by putting a tube down its throat to deliver the bacteria to the stomach - a process called gavage. Dr Wiles tried infecting only one mouse in this way, then putting it in a cage with uninfected mice and letting nature take its course. The results showed higher infection rates than the traditional technique. But more importantly, the research was refined so that far fewer animals were subjected to gavage, and the new approach also reduced the total number of animals used by improving the reliability of infection.

Adapted from

The National Centre for the 3Rs website:

The 3Rs: <http://www.nc3rs.org.uk/page.asp?id=7>

The NC3Rs Prize: <http://www.nc3rs.org.uk/page.asp?id=149>

The RDS website:

Non- Animal Research Methods:

http://www.rds-online.org.uk/pages/page.asp?i_ToolbarID=2&i_PageID=33http://www.rds-online.org.uk/pages/page.asp?i_ToolbarID=4&i_PageID=148

Lesson 3: Drama

What do the Characters learn

AIM:

To explore how the characters learn and change over the course of the play

OBJECTIVES:

- To understand the inter-connection between relationships and views
- To understand that that personal views may change in relation to other people and events
- To demonstrate how the characters relationships and views change over the course of the play

NATIONAL CURRICULUM LINKS

PSHE KS3 3g, h & I KS4 3e

ENGLISH (Drama) KS3 & KS4 4a & b

RESOURCES:

Play Synopsis (see Preparatory Lessons)

Possibly white board and pen

ACTIVITY:

- 1) Divide the class into groups of 4. Ask them to tell the story of EVERY BREATH as succinctly and accurately as possible in one of the following ways: (you may like to refer to the play synopsis in Preparatory Lessons to help you.)
 - Freeze Frames (max 7)
 - Freeze Frames with captions (max 5)

- Speed improvisation (max time 1 min)

Share and discuss the differences between the versions.

2) Ask the students to create a series of 4 freeze-frames of the relationships between the 4 characters at the following moments of the play. The aim is to capture how the relationships change:

- At the start of the play i.e. before Anita comes home from University
- Mid-way through the meal scene before Sonny has his Asthma attack
- After Anita's visit to the hospital
- The end of the play

(It may also be interesting to include one of the family before the start of the play when the Dad was still alive. i.e. to introduce the idea of how his death has affected the views and relationships of individuals within the family. The person previously playing Raz could play Dad.)

3) Extension Exercise

You could ask the groups to "morph" their freeze-frames into each other i.e. show the transition from one freeze-frame to the next as a slow merging process. Can they do this in such a way as to teach us something further about the changing relationships?

4) Watch the groups and use this as a springboard to discuss how the characters change over the course of the play. Why? What do they each learn?

If you intend to continue to the next exercise it may be useful to note down the ideas that are suggested for Anita and Sonny.

5) Extension Exercise

Divide the class into pairs. Each pair can choose whether they want to work on the character of Sonny or Anita.

In their pairs they must work on the following role-plays/missing scenes from the story. The focus is to demonstrate how the characters change over the play thus one scene is near the start and one towards the end of the play:

SONNY

- 1) Sonny and Kelsey (his girlfriend)/or a friend

When:

After Scene 3 – Saturday morning, his conversation with Anita over breakfast

Things to include:

Sonny's attitude towards Anita

Sonny's attitude to taking his Asthma medication

- 2) Sonny and Kelsey

When:

At the end of the play

Things to include:

Sonny's attitude towards Anita

Sonny's attitude to taking his Asthma medication

ANITA

- 1) Anita and her boyfriend/a friend

When:

After Scene 3 – Saturday morning, her conversation with Sonny over breakfast

Things to include:

Anita's attitude to Sonny's new job on the pussy cat and his decision to stop taking his Asthma medication

- 2) Anita and her boyfriend/a friend

When:

At the end of the play

Things to include:

Anita's attitude towards Sonny (the seriousness with which he holds his view) and her own attitude towards her research

Allow 10-15 minutes for the pairs to work on their scenes.

Then watch some and comment on anything new you have discovered about what the characters learnt.

What have you learnt from doing this exercise?

Lesson 4: Drama - Sony's Dilemmas

AIM:

To consider the factors that influence Sonny's decision to stop taking and then re-take his Asthma medication

OBJECTIVES:

- To understand the ethical and scientific arguments involved in Sonny's decision
- To understand the influence of relationships and emotional factors in Sonny's decision
- To vocalise those factors through role-play and improvisation

NATIONAL CURRICULUM LINKS

PSHE: KS3 3b, 4g and KS4 1a, 2b, 4g

ENGLISH (Drama): KS3 & KS4 4a, 4b

ACTIVITY:

1. Sometime before the start of the play, Sonny has faced a big decision:

Should he or should he not take Asthma medication which has been tested on animals?

He has decided to stop using his inhaler and taking his steroids risking both deterioration in his general condition and increasing the danger an Asthma attack may cause him (as we see in the play.)

Discuss:

What are his reasons for making this decision? (How do you think his relationships have influenced his decision? (i.e. Kelsey, Anita, his Dad, his Mum, someone at Animal Kind.)

2. Divide the class into pairs and ask each pair to choose one of the above characters who they think has influenced Sonny's decision. Ask them to create a scene which demonstrates this.

Show and discuss which influences are the most significant.

3. Although he doesn't admit it at the time, Sonny's decision at the end of the play to take the medication again indicates he was re-assessing the situation in hospital. What factors do think influenced his change of mind? (Think about his conversations with his Mum, Anita and Raz and any other factors you think important.)

4. **Conscience Alley**

Ask a volunteer to represent Sonny. Ask the other students to form 2 lines facing each other with Sonny standing at one end. The students should be facing Sonny.

Tell the students they are going to be speaking the thoughts in Sonny's head as he is deciding whether to re-take his medication.(It is almost a physical representation of his journey home from hospital.) He will probably have conflicting thoughts going through his mind. Ask each person in the line to think of a thought that might influence Sonny's decision.

Ask Sonny to walk down the alley between the 2 lines of students. As he passes each student they should speak their line.

When Sonny has reached the end ask what he would do as a result of what he's just heard. Discuss as a group what they think the most significant influences are.

5. **Impro**

Divide the class into pairs: Sonny and Kelsey

Scene: Sonny tells Kelsey about the decision he has made to re-take his Asthma drugs.

How does she react? How does he feel explaining it to her? (You may need to discuss what her attitude is like towards animal testing and whether he should take the drugs. You could try the scene in two ways:

- 1) She is strongly against Sonny backing down and thinks he should continue his protest. Perhaps she isn't very understanding about what he's been through. Can Sonny persuade her?
- 2) She is very supportive of Sonny's decision but surprised by his change of mind. She wonders what's changed?

Discuss what further you learn about Sonny's decision.

Lesson 5: PHSE

Challenging Stereotypes

This lesson is primarily a PSHE lesson which uses drama techniques. However ,it can be a adapted to have a stronger Drama focus by making it a comparison between stereotypes and complex characters.

AIM:

To explore and understand the differences between stereotypes and complex individuals

OBJECTIVES:

- To create dramatic representations of stereotypes and complex characters
- To understand why stereotypes arise
- To understand the limitations of stereotyping

NATIONAL CURRICULUM LINKS

PSHE KS3 3a, KS4 3c

ENGLISH (Drama) KS3 & KS4 4a & b

RESOURCES:

Large Empty Classroom/Drama studio

White board. Marker pen.

ACTIVITIES:

1. Warm-up Game – Exploring social stereotypes

Pupils stand in a circle. Explain to them that in a moment they are going to face outwards and you are going to say a word to which they will have 3 seconds to create a physical representation and then turn in to face the group.

Use words from the following list. After each, count aloud to 3 and ask the pupils to turn in making their physical representation. They can have a brief look at each other's and then turn back out and wait for the next word.

Actor	Teenager	Student	Mother	Father	Tourist
American	Italian	Brit	Vicar	Football Player	
Rugby Player	Politician	Celebrity			

Make the point that most of these images will have drawn upon stereotypes that we each hold about many people in society.

2. Make the point that at the start of the play each of the characters hold stereotypical views of each other and individuals involved in the animal experimentation debate. Ask if anyone can remember what any of these views were.

Ask pupils to stand in a space. Read out the following quotes from the play and ask them to create a physical representation of the stereotype the words suggest.

Animal Rights Activists

LINA Some of these Animal Rights People are really violent.

ANITA Life can't all be fluffy little bunnykins hopping through the fields you know!

ANITA If you like reading unproven propaganda he means.

Scientists

SONNY Yeah. More boffins like yourself. What do you talk about? Scientific formulas

RAZ Meeting in secret to conduct dastardly experiments! P24

SONNY You just want to go on doing your "interesting work" like all the other Scientists. You don't want to think about the animals because thinking about the animals means you'd have to stop.

SONNY You think science is all about being definite, all about being right.

Buddhists

ANITA Has he got a shaved head and love beads?

Discuss, how far these stereotypes are a fair representation of the characters in the play?

3. Write the name of each character on a board. As a whole class, brainstorm all the details you can remember about each character. Pay particular attention to things that challenge the stereotype or contradict other aspects of their character.
4. Divide the class into small groups 3-5. Allocate one of the four characters to each group (or you could just choose to focus on Sonny and Anita.)

Ask the group to create a multi-faceted image for their character i.e. a group image which reflects different aspects of the character, perhaps with each person representing a different facet.)

5. Each person should think of a line they can say which adds further detail to their character.
6. Show and discuss:

Why do we create stereotypes?

How truthful are they?

What is the impact of stereotyping?

Is stereotyping something to be avoided? How can we?

Lesson 6: R.E.

What do the major religions have to say?

AIM:

To explore and understand what the major religions say about the relative values of animal and human life and the use of animals for medical research.

OBJECTIVES:

- To learn about what the different religious viewpoints are.
- To voice a particular religious viewpoint as if it is your own.
- To understand how a religious viewpoint might influence someone making a decision about using medication tested on animals.
- To understand the value of religious viewpoints in the wider debate about animals in medical research.

NATIONAL CURRICULUM LINKS

RE: KS3: 1a & e. 3i, j, k, o & p **KS4** 1a, 2a, b & c

RESOURCES:

PLAY EXTRACTS: Scene 7 – Hospital

INFORMATION SHEET – Religious views

DISCUSSION STARTER:

The character of Raz in EVERY BREATH is “thinking about becoming a Buddhist.”

How does this affect his view on animals?

What impact does this have on Sonny and his decision about whether or not to take his Asthma medication?

You might like to look at INFORMATION SHEET - PLAY EXTRACTS: Scene 7 - Hospital to refresh your memory.

ACTIVITY:

- 1) Divide the class into pairs. Distribute INFORMATION SHEET - RELIGIOUS VIEWS and allocate to each pair one of the major religions to focus on.
- 2) Ask the pair to read the information for the religion they have been allocated and note down the major points about that religion's view of:
 - a) the way animals should be treated
 - b) the value of animal life in relation to human life
 - c) experiments on animals
- 3) Role-Play

Ask the pairs to label themselves A and B and give them the following information:

A is a friend of Sonny's who holds the religious faith/ or is in the process of considering the religious faith they have just been studying.

B is Sonny, in hospital considering whether or not he should take his Asthma medication.

A comes to visit Sonny in hospital. Sonny asks, "What's your view about Animal Rights?"

Ask them to role-play the scene. They should aim to make the scene: a realistic portrayal of a conversation between two friends and informative to the rest of the class about the view of the religion they are representing.

They might like to discuss beforehand the kinds of things A might say. They should bear in mind that most of the religions do not have a clear-cut right or wrong view, so they should simply select some ideas from the information given.

After letting the scene run for 2-3 minutes, ask them to review how it went and re-run bearing in mind their two aims.

- 4) Ask representatives from each religion to present their scene to the rest of the class.

After each one discuss:

 - A) What were religious ideas presented?
 - B) What impact did the conversation have on Sonny?

Extension Activity

- 5) An Independent Ethics Committee advises the Government about whether or not certain experiments involving animals should be allowed.

Discuss:

Do you think representatives from the major religions should have a place on such a committee? Why?/Why not?

What other voices should be represented?

As a class draw up a list of who you think should be represented on the Independent Ethics Committee.

- 6) You can either run this exercise as a whole class or in small groups of 5-6. Present them with the following scenario:

You are the independent Ethics Committee deciding if the research that Anita wants to do in the play, researching mice in the new lab, should be allowed (we are taking a step back in time here in the imaginary world of the play).

Anita's research involves examining mice to discover more about how the genes in their hearts and livers work at different times of the day. As part of this work, the mice are killed, and their organs removed. This type of research is known as basic research and its purpose is to gain knowledge about how the body works. It is not directly linked to a particular illness, but its outcomes may lead to improvements in medicine or care further down the line.

Using the religious views considered earlier in the lesson, debate whether or not you think the research should go ahead.

If done in small groups, feedback the main points discussed in your debate to the rest of the class.

Information Sheet - Religious Views

(R.E. Lesson)

Judaism

The way Jews should treat animals is encapsulated in Proverbs 12:10: "The righteous person regards the life of his beast."

Judaism teaches that animals are part of God's creation and should be treated with compassion. Human beings must avoid "tzar baalei chayim" - causing pain to any living creature. God himself makes a covenant with the animals, just as he does with humanity. The Talmud specifically instructs Jews not to cause pain to animals, and there are also several Bible stories which use kindness to animals as a demonstration of the virtues of leading Jewish figures.

Judaism also teaches that it is acceptable to harm or kill animals if that is the only way to fulfill an essential human need. This is because people take priority over animals, something stated very early in the Bible, where God gives human beings the right to control all non-human animals. Human beings are therefore allowed to use animals for food and clothing - and to provide parchment on which to write the Bible.

Scripture and animals

"And God blessed Noah and his sons, and said unto them, be fruitful, and multiply, and replenish the earth.

"And the fear of you and the dread of you shall be upon every beast of the earth, and upon every fowl of the air, upon all that moveth upon the earth, and upon all the fishes of the sea; into your hand are they delivered.

"Every moving thing that liveth shall be meat for you; even as the green herb have I given you all things." (Genesis 9: 1-3.)

Genesis, the first book of the Bible, states that God has given human beings dominion over all living things. Dominion is interpreted as stewardship - living things are to serve humanity but human beings, as part of their dominion, are required to look after all living creatures.

"His tender mercies are over all His creatures" (Psalm 145:9)

The Bible gives several instructions on animal welfare:

- A person must feed his animals before himself (Deuteronomy 11:15)

- Animals must be allowed to rest on the Sabbath (Ex. 20:10, & Deut 5: 14)
- An animal's suffering must be relieved (Deuteronomy 12:4)

Jews are instructed to avoid:

- Severing a limb from a live animal and eating it (Genesis 9:4)
- Killing a cow and her calf on the same day (Leviticus 22:28)
- This demonstrates that Judaism accepts that animals have powerful family relationships
- Muzzling an animal threshing corn (Deuteronomy 25:4)
- Harnessing an ox and donkey together (Deuteronomy 22:10)

Experiments on animals

Jewish teaching allows animal experiments as long both of these conditions are satisfied:

- There is a real possibility of a benefit to human beings
- There is no unnecessary pain involved

Islam

"There is not an animal on earth, nor a bird that flies on its wings, but they are communities like you..."

Qur'an 6:38

Muslims believe that:

- all living creatures were made by Allah
- Allah loves all animals
- animals exist for the benefit of human beings
- animals must be treated with kindness and compassion

Muslims are instructed to avoid:

- treating animals cruelly
- over-working or over-loading animals
- neglecting animals
- hunting animals for sport

- hunting for food is permitted if the animals are killed humanely
- cutting the mane or tail of a horse
- animal fighting as a sport
- factory farming

Using animals is permitted

The Qur'an explicitly states that animals can be used for human benefit.

"It is God who provided for you all manner of livestock, that you may ride on some of them and from some you may derive your food. And other uses in them for you to satisfy your heart's desires. It is on them, as on ships, that you make your journeys."

Qur'an 40: 79,80

Muhammad (pbuh) and animals

There are many stories and sayings of the Prophet (pbuh) that demonstrate his concern for the welfare of animals. Once someone traveling with the Prophet (pbuh) took some eggs from a nest, causing the mother bird great grief. The Prophet (pbuh) saw this and told the man to return the eggs.

When the Prophet (pbuh), was asked if Allah rewarded acts of charity to animals, he replied: *"Yes, there is a reward for acts of charity to every beast alive."*

The Prophet (pbuh) said *"Whoever kills a sparrow or anything bigger than that without a just cause, Allah will hold him accountable on the Day of Judgment"* The Prophet explained that a killing would be for a just cause if it was for food.

Experiments on animals

According to Al Hafiz B A Masri, using animals for research may be permitted in Islam. The animals must not suffer pain or mutilation and there must be a good reason for the experiment:

"Actions shall be judged according to intention. Any kind of medical treatment of animals and experiments on them becomes ethical and legal or unethical and illegal according to the intention of the person who does it."

Masri, B.A., Al-Hafiz. Animals in Islam. Great Britain: Athene Trust. 1989

Christianity

Introduction

For most of history Christians largely ignored animal suffering. Christian thinkers believed that human beings were greatly superior to animals. They taught that human beings could treat animals as badly as they wanted to because people had few (if any) moral obligations towards animals. Modern Christians generally take a much more pro-

animal line. They think that any unnecessary mistreatment of animals is both sinful and morally wrong.

The traditional Christian view

When early theologians looked at "nature red in tooth and claw" they concluded that it was a natural law of the universe that animals should be preyed on and eaten by others. This was reflected in their theology.

Christian thinking downgraded animals for three main reasons:

- 1) God had created animals for the use of human beings and human beings were therefore entitled to use them in any way they want
- 2) Animals were distinctively inferior to human beings and were worth little if any moral consideration, because:
 - humans have souls and animals don't
 - humans have reason and animals don't
- 3) Christian thought was heavily humano-centric and only considered animals in relation to human beings, and not on their own terms

Animals and saints

Not all leading Christians disparaged animals. Some of the saints demonstrated that virtuous Christians treated animals respectfully and kindly:

- St Antony of Padua preached to fishes
- St Francis of Assisi preached to the birds and became the most popular pro-animal Christian figure
- Cows are protected by St Brigit

Modern Christian thinking about animals

Modern Christian thinking is largely sympathetic to animals and less willing to accept that there is an unbridgeable gap between animals and human beings. Although most theologians don't accept that animals have rights, they do acknowledge that some animals display sufficient consciousness and self-awareness to deserve moral consideration.

The growth of the environmental movement has also radically changed Christian ideas about the role human beings play in relation to nature. Few Christians nowadays think that nature exists to serve humanity, and there is a general acceptance that human dominion over nature should be seen as stewardship and partnership rather than domination and exploitation.

This has significantly softened Christian attitudes to animals.

Animal-friendly Christian thoughts

Here are some of the animal-friendly ideas that modern Christians use when thinking about animals:

- The Bible shows that God made his covenant with animals as well as human beings
- Human and non-human animals have the same origin in God
- St. Francis of Assisi said that animals "had the same source as himself"
- In God's ideal world human beings live in harmony with animals
- The Garden of Eden, in which human beings lived in peace and harmony with animals, demonstrates God's ideal world, and the state of affairs that human beings should work towards
- The prophet Isaiah describes the Kingdom of Heaven as a place where animals and human beings live together in peace
- God has the right to have everything he created treated respectfully - wronging animals is wronging God
- God is not indifferent to anything in his creation
- The example of a loving creator God should lead human beings to act lovingly towards animals
- Inflicting pain on any living creature is incompatible with living in a Christ-like way
- Animals are weak compared to us - Christ tells us to be kind to them
- Jesus told human beings to be kind to the weak and helpless
- In comparison to human beings, animals are often weak and helpless
- Christians should therefore show compassion to animals
- To love those who cannot love you in the same way is a unique way of acting with generous love.
- "If you love them that love you, what reward have you?"
- It is a great good to take responsibility for the welfare of others, including animals

What the churches say about animals

The Anglican view

This resolution from the 1998 Lambeth Conference of the Anglican Church is typical of contemporary Christian thinking about animals:

This conference reaffirms the biblical vision of creation according to which Creation is a web of inter-dependent relationships bound together in the covenant which God the Holy Trinity has established with the whole earth and every living being. The divine Spirit is sacramentally present in creation, which is therefore to be treated with reverence, respect and gratitude. Human beings are both co-partners with the rest of creation and living bridges between heaven and earth, with responsibility to make personal & corporate sacrifices for the common good of all creation. The redemptive purpose of God in Jesus Christ extends to the whole of creation.

The Roman Catholic view

The Papal Encyclical "Evangelium Vitae" recognises that animals have both an intrinsic value and a place in God's kingdom.

The Roman Catholic Ethic of Life, if fully accepted, would lead Christians to avoid anything that brings unnecessary suffering or death to animals.

The official position of the Church is contained in a number of sections of the Church's official Catechism (the paragraphing within each section is ours):

373 In God's plan man and woman have the vocation of "subduing" the earth as stewards of God.

This sovereignty is not to be an arbitrary and destructive domination. God calls man and woman, made in the image of the Creator "who loves everything that exists", to share in his providence toward other creatures; hence their responsibility for the world God has entrusted to them.

2415 The seventh commandment enjoins respect for the integrity of creation. Animals, like plants and inanimate beings, are by nature destined for the common good of past, present, and future humanity.

Use of the mineral, vegetable, and animal resources of the universe cannot be divorced from respect for moral imperatives.

Man's dominion over inanimate and other living beings granted by the Creator is not absolute; it is limited by concern for the quality of life of his neighbour, including generations to come; it requires a religious respect for the integrity of creation.

2416 Animals are God's creatures. He surrounds them with his providential care. By their mere existence they bless him and give him glory. Thus men owe them kindness. We should recall the gentleness with which saints like St. Francis of Assisi or St. Philip Neri treated animals.

2417 God entrusted animals to the stewardship of those whom he created in his own image. Hence it is legitimate to use animals for food and clothing. They may be domesticated to help man in his work and leisure. Medical and scientific experimentation on animals is a morally acceptable practice if it remains within reasonable limits and contributes to caring for or saving human lives.

2418 It is contrary to human dignity to cause animals to suffer or die needlessly. It is likewise unworthy to spend money on them that should as a priority go to the relief of human misery.

One can love animals; one should not direct to them the affection due only to persons. Some writers have criticised the statements above for being so firmly centred on human beings. Causing animals to suffer needlessly, for example, is described in 2418 as being contrary to human dignity, rather than as being a wrong towards animals.

Buddhism

Although Buddhism is one of the most animal-friendly religions, some aspects of the tradition are surprisingly negative about animals.

The positive

- Buddhists try to do no harm (or as little harm as possible) to animals
- Buddhists try to show loving-kindness to all beings, including animals
- The doctrine of right livelihood teaches Buddhists to avoid any work connected with the killing of animals
- The doctrine of karma teaches that any wrong behaviour will have to be paid for in a future life - so cruel acts to animals should be avoided

Buddhists treat the lives of human and non-human animals with equal respect. Buddhists see human and non-human animals as closely related:

- both have Buddha-nature
- both have the possibility of becoming perfectly enlightened
- a soul may be reborn either in a human body or in the body of a non-human animal

Buddhists believe that is wrong to hurt or kill animals, because all beings are afraid of injury and death:

*All living things fear being beaten with clubs.
All living things fear being put to death.
Putting oneself in the place of the other,
Let no one kill nor cause another to kill. (Dhammapada 129)*

The negative

Buddhist behaviour towards and thinking about animals is not always positive. The doctrine of karma implies that souls are reborn as animals because of past misdeeds. Being reborn as an animal is a serious spiritual setback. Because non-human animals can't engage in conscious acts of self-improvement they can't improve their karmic status, and their souls must continue to be reborn as animals until their bad karma is exhausted. Only when they are reborn as human beings can they resume the quest for nirvana.

This bad karma, and the animal's inability to do much to improve it, led Buddhists in the past to think that non-human animals were inferior to human beings and so were entitled to fewer rights than human beings. Early Buddhists (but not the Buddha himself) used the idea that animals were spiritually inferior as a justification for the exploitation and mistreatment of animals.

Experimenting on animals

Buddhists say that this is morally wrong if the animal concerned might come to any harm. However, Buddhists also acknowledge the value that animal experiments may have for human health. So perhaps a Buddhist approach to experiments on animals might require the experimenter to:

- accept the karma of carrying out the experiment

- the experimenter will acquire bad karma through experimenting on an animal
- experiment only for a good purpose
- experiment only on animals where there is no alternative
- design the experiment to do as little harm as possible
- avoid killing the animal unless it is absolutely necessary
- treat the animals concerned kindly and respectfully
- The bad karmic consequences for the experimenter seem to demand a high level of altruistic behaviour in research laboratories

Buddhism and vegetarianism

Not all Buddhists are vegetarian and the Buddha does not seem to have issued an overall prohibition on meat-eating. The Mahayana tradition was (and is) more strictly vegetarian than other Buddhist traditions.

The early Buddhist monastic code banned monks from eating meat if the animal had been killed specifically to feed them, but otherwise instructed them to eat anything they were given.

Hinduism

Because Hinduism is a term that includes many different although related religious ideas, there is no clear single Hindu view on the right way to treat animals, so what follows are generalisations to which there are exceptions.

- The doctrine of ahimsa leads Hindus to treat animals well
- Most Hindus are vegetarian
- No Hindu will eat beef
- Butchery and related jobs are restricted to people of low caste
- Most Hindus believe that non-human animals are inferior to human beings
- Cows are sacred to Hindus
- Some Hindu temples keep sacred animals
- Some Hindu gods have animal characteristics
- Ganesh has the head of an elephant
- Hanuman takes the form of a monkey

Animal sacrifice

Hinduism permits animal sacrifice.

Cows

The cow is greatly revered by Hindus and is regarded as sacred. Killing cows is banned in India and no Hindu would eat any cow product.

Taken from BBC Website - Religion and Ethics

<http://www.bbc.co.uk/religion/ethics/animals/index.shtml>

Y Touring Theatre Company

Every Breath

Lesson 7: English

Looking at Language

AIM:

To explore how language is used in the animals in medical research debate to affect a particular response in the reader.

OBJECTIVES:

To identify examples emotive and objective language.

To understand the different impacts of emotive and objective language.

To write an article using either emotive or objective language.

NATIONAL CURRICULUM LINKS

ENGLISH (Reading) KS3 1a, 4a, 4b, 4c, 4d

RESOURCES:

INFORMATION SHEET: Articles

ACTIVITY:

- 1) In the play, Sonny and Anita argue over whether a procedure used on animals during research is “force” or “restraint”.

Read out extract below:

ANITA OK (Reading) “For Asthma research we use the mouse inhalation routes, which can be the whole body, or the nose only. Whole body is done in a special chamber. Nose only requires the animals to be restrained with plastic tubes.”

SONNY So. They basically force themselves to inhale Asthma drugs to see if it harms them?

ANITA To see what the effects are, not just if it harms them. And force isn’t the right word.

SONNY Excuse me, “restrained with plastic tubes”? They tie them down, they make them asthmatic so they can’t breathe, so they feel just like I did, like I had a slab of concrete on my chest, choking me to death. Then they make them inhale something that may not even make them better!

Discuss: Why are they both keen that their word is right?

- 2) There are many different organisations involved in the animals in medical research debate, each with a different viewpoint and each keen to convince the public to agree with their view.

Ask: Who do you think these groups are and what point of view would they have? (i.e. Animal Rights Groups – you might like to draw the distinction between extremists, activists and those who campaign for animal welfare, medical research organisations, drugs companies. Refer also to the Media and their interest in having an angle and story)

- 3) Read articles 1 (ANIMAL AID) and 2 (THE DAILY MIRROR) from INFORMATION SHEET: Articles

Discuss the following questions:

What words are used to describe:

Scientists
Animal Rights Campaigners
Animals
Experiments
The outcomes of experiments
The behaviour of Animal Rights Campaigners

- What phrases have the biggest impact on you? Why?
- What does the article focus on? What are its main themes?
- Does it tend to use facts or opinions? Does it seem to appeal more to reason or emotion?
- What impact does the article have on you?
- Do you think this is the aim of the piece?
- Does it present a balanced view?

- 4) Read articles 3 (RDS) and 4 (THE INDEPENDENT) from INFORMATION SHEET: Articles and discuss the same questions.

- 5) Is it possible to identify the source of each article from the list below at the bottom of the sheet?

- 6) Which articles do you trust the most? Why?

7) Use the information from all the articles on INFORMATION SHEET: Articles and what you have learned from the play to write your own piece.

Decide if it is going to be:

- emotive or objective
- For or against or neutral
- for a Tabloid or Broadsheet Newspaper or Campaign organisation

Give your article a headline, then write your article.

You may need to refer your students to further resources. See RESOURCES.

Information Sheet - Articles (English Lesson)

ARTICLE 1 (ANIMAL AID)

Animal Experiments

Each year inside British laboratories, approximately 3 million animals are experimented on. Every 12 seconds, one animal dies. Cats, dogs, rats, mice, guinea pigs, rabbits, primates (monkeys) and other animals are used to test new products, to study human disease and in the development of new drugs - they are even used in warfare experiments.

Animal Aid opposes animal experiments on both moral and scientific grounds. Animals are not laboratory tools. They are sentient creatures capable of experiencing pain, fear, loneliness, frustration and sadness.

To imprison animals and deny them their freedom and ability to express natural instincts, to deliberately inflict pain, cause extreme suffering, mental distress, and ultimately a premature and often slow and protracted death all in the name of science is unacceptable. All the more so because the experiments are bad science in the first place: they do not work and have the potential to harm human health. Ending vivisection will benefit people as well as animals.

In January 2004 a landmark victory was won in the campaign against animal experiments. Cambridge University, which had for several years been planning to build a multi-million pound primate research centre, announced it was shelving the plans, following a public inquiry at which it was unable to back up its claims that the research to be carried out there would benefit human health. Hundreds of monkeys each year will now be spared the horror of confinement, torture and death inside a laboratory. Animal Aid is actively campaigning against a new animal laboratory under construction at Oxford University.

Every year, Animal Aid's Mad Science Awards highlight the ludicrous and horrific scientific research carried out on animals. The 2004 awards went to researchers at Oxford and Cambridge conducting experiments on monkeys.

<http://www.animalaid.org.uk/viv/index.htm>

ARTICLE 2 (DAILY MIRROR)

27 September 2005

Police arrest five over medical research farm

LONDON (Reuters) - Police arrested five people on Tuesday as part of their probe into a long and violent campaign against owners of a farm which bred guinea pigs for medical research.

The Hall family at Darley Oaks Farm in Staffordshire endured abuse, death threats and, in the worst incident of a six-year campaign, a family grave was desecrated. In August, the family said the business would return to traditional farming, a decision they hoped would lead to the return of the body of Gladys Hammond, the mother-in-law of one of the co-owners.

On Tuesday, Staffordshire detectives raided four addresses arresting a 35-year-old man in Manchester, a 36-year-old man in Birmingham, a 38-year-old man in Wolverhampton and a 37-year-old woman in Burntwood, Staffordshire.

The men were arrested on suspicion of conspiracy to blackmail David Hall and Partners. Detectives said they had also arrested a woman, 23, in Wolverhampton on suspicion of obstructing police and assaulting an officer.

The grave of Hammond, who died eight years ago aged 82, was dug up and her remains taken away in October 2004.

No group has claimed responsibility for the action, the culmination of one of the most sustained harassment campaigns by animal rights activists in Britain.

http://www.mirror.co.uk/news/latest/tm_objectid=16178883%26method=full%26siteid=94762-name_page.html

ARTICLE 3 (THE INDEPENDENT)

29/08/05 The Independent

Julia Stephenson: The Green Goddess A victory for good sense - and guinea pigs

I cheered when I heard that Darley Oaks guinea pig farm is to close. As usual this rare victory for the animal rights lobby caused a storm of protest and the usual band of scientists and doctors, many financed by pharmaceutical companies, were wheeled out to give their one-sided view. Predictably, the focus was on a minority of violent protesters and avoided the real issue: that animal tests offer misleading results and cause suffering for both people and animals.

Many doctors and scientists are growing increasingly concerned about the efficacy of animal experiments. Thousands of them have joined Europeans for Medical Progress, an independent body who oppose animal experimentation solely because it harms people. Its director, Kathy Archibald, admits that those who speak out risk ostracism from the medical establishment, but they feel compelled to fight for the truth. Testing on animals slows down medical progress because it tells us about animals, not people. Animals are biologically and physiologically different to humans and react differently to many substances. It's no surprise that prescription drugs tested on animals are the fourth leading cause of death in the Western world. The question is, why do animal experiments continue if they are so inaccurate and given that there are more efficient alternatives such as human DNA chips, human tissues, computer programmes that predict human metabolism, and micro-dose studies that reveal the fate of drugs in the human body?

The tradition of animal experiments is so deeply ingrained that the whole medical system is based on it. Researchers attract grants based on how many papers they publish. It's much easier to publish papers using animals than by doing human-based research. Animal breeders, cage and equipment manufacturers and the pharmaceutical industry are multi-billion pound industries. Animal tests help them speed new drugs to market and give them liability protection when their drugs kill or injure.

However, the tide is turning. We recently witnessed the biggest drug disaster in history when the arthritis drug Vioxx was withdrawn after causing heart attacks. The Physicians Committee for Responsible Medicine, American doctors who campaign against animal testing, are suing Merck for promoting an unsafe drug on the strength of test results in monkeys.

This was reported on the same day as the one-sided reports about Darley Oaks closing. No one made the link between Vioxx - extensively animal-tested yet lethal to humans - and the guinea pig farm, but if they had they would have cheered. Guinea pigs are used in medical research for skin irritation testing. Their fur is shaved and medication applied, without anaesthetic, causing agony. But due to a difference in the distribution of blood vessels, their skin reacts differently to ours, rendering most experiments useless. Yet the media avoid these arguments and exaggerate the extremist angle.

In reality, most animal rights protesters are law abiding. However peaceful old ladies don't make waves, and in frustration a minority of extremists take violent action, which acts as propaganda to the vivisectionists.

<http://www.curedisease.net/articles/050829.shtml>

ARTICLE 4 (RESEARCH DEFENCE SOCIETY)

Medical Milestones

Animal research has played an important role in most major medical advances of the last century. We have probably all benefited from vaccines and antibiotics to prevent and treat infections and anaesthetics used in all forms of surgery. Medicines can now overcome serious conditions such as diabetes, asthma and high blood pressure.

Research in the last few decades has also begun to answer some of the more difficult medical problems such as cancer, heart disease and depression, and newly emerged infections such as HIV. In addition to the medical benefits, we should not forget that every advance in veterinary medicine is, by definition, the result of animal research.

Medical science has developed a wide range of non-animal experimental techniques which can provide answers to scientific questions that animal studies simply could not address. Despite these scientific advances, a review of some current medical research shows that many key questions in medical science can still only be answered by studies on animals. These studies offer hope to millions who suffer from serious conditions such as cystic fibrosis, Alzheimer's disease, stroke, spinal cord damage and third world infections like malaria.

Alternatives

What is an alternative?

By any common-sense definition, the word 'alternative' suggests a choice between two or more options. In the case of animal experiments there is no choice. If a non-animal (in vitro) method is developed to replace animals, then it must be used.

Advances in science and technology can lead to techniques that can replace animals. However, different research methods are generally complementary rather than alternatives.

Few in vitro techniques at present can directly replace the use of animals.

Lesson 8: IT

Presenting different points of view

AIM:

To transfer information from video presentation to written document/power point presentation.

OBJECTIVES:

To select relevant information from sources.

To organise and present information clearly and in a format appropriate to its audience.

NATIONAL CURRICULUM LINKS

ICT: KS3 1b, 3a & 3b and KS4 1a, 3a & 3b

RESOURCES:

Access to weblink:

<http://www.ytouring.org.uk/productions/breathe/education/moviemenu.html>

ACTIVITY:

1) Explain the following background:

During the early stages of creating EVERY BREATH, Y Touring Theatre Company invited a selection of speakers from different organisations involved in the use of animals in medical research debate to come to a workshop where they could present their point of view on the issues involved. The videos of those talks are viewable on weblink: <http://www.ytouring.org.uk/productions/breathe/education/moviemenu.html>

2) Divide the class into small groups (i.e. 2-4). Each group needs access to the internet. Assign each group a speaker from the list below:

Antony Burn - British Union for Anti Vivisection

<http://www.ytouring.org.uk/productions/breathe/education/antony.html>

Vickie Cowell – Patient’s Voice for Medical Advance

<http://www.ytouring.org.uk/productions/breathe/education/vicki.html>

