Democs for schools
Animal Experiments
Using Democs in the teaching and learning of controversial issues

A Introduction to Democs

What is Democs?
Democs (DEliberative Meeting Of CitizenS) is a conversation card-based activity, i.e. a discussion-based learning tool for dealing with controversial issues. It enables students to find out about a topic, form their opinions, discuss the topic with others, and vote on what they would recommend that the Government or other decision-makers should do.

More about Democs
- Democs comes in an A4 box, on CD ROM, or by email.
- Democs is an interactive, collaborative learning process.
- It is straightforward to facilitate.
- It is suitable for students of Year 9 and above.
- No previous knowledge of the topic is required.
- Democs is unbiased – the cards include different viewpoints on the topic.
- Democs IS active citizenship. Results from the activities are collected and fed into a bigger national picture, which can inform decision-makers and the government of public opinion.

Democs topics
Topics available for schools:
- Stem cell research
- GM food
- Climate change
- Use of animals in medical research
- Vaccination policy
- Neuroscience
- Nanotechnology (for students aged 16+, available to download in Big Picture June 2005 at http://www.wellcome.ac.uk/node5950.html)
Instructions for Reviewing the arguments

In this activity you will explore some of the issues surrounding using animals for experiments and decide where you stand on the topic.

1. Collect the sheets *Animal experiments* from your teacher and read it carefully.

2. Collect the sheet *For and against animal experiments* from your teacher. You will need to cut the statement cards out so that each statement is on a separate piece of paper.

3. Using information from the *Animal experiments* sheet and your own ideas, sort the statements into two piles: 'For' and 'Against'.

4. Now sort the 'For' statements into a line with the strongest arguments at one end and the weakest at the other. You might have some groups of statements if you feel they are equally powerful.

5. Now do the same with the 'Against' statements. You should end up with a line of statements going from strongly 'For' to strongly 'Against'. The statements in the middle of the line will be the weakest statements from both sides.

6. Where do you fit? Put your pen at the position where you feel comfortable on the line. Are you 'For' or 'Against'? 

How did I do?

Tick these off when you feel you have done them.

☐ I have sorted the statements into 'For' and 'Against'.

☐ I have ranked the statements on both sides from 'Strong' to 'Weak'.

☐ I have decided where I feel I stand on this issue at the moment.
How many animals are experimented upon?

In 2004, there were almost 2.8 million experiments on animals in the UK. This was around half the number of experiments carried out in the 1970’s.

Most procedures are carried out on mice (59%), rats (20%), fish (9%) and birds (4.5%).

The three Rs

In 1959 it was proposed that all animal experiments should if possible incorporate the three Rs:

- Replacing the use of protected animals with other methods.
- Reducing the number of animals.
- Refining procedures to minimise pain and suffering.

Most researchers agree with the three Rs. Some people, anti-vivisectionists, think that animal experiments should not be carried out at all and oppose reducing and refining because they imply the continuing use of animals for experiments.
**Why experiment on animals?**

Although experiments on human subjects would produce more accurate results, many people think that it is OK to use animals in ways which would not be acceptable with humans and that animals suffer less than humans.

**Types of research using animals**

- **Applied research**
- **Toxicity testing**
- **To advance knowledge**

**When can experiments be carried out animals?**

The Animals (Scientific Procedures) Act of 1986 protects all 'non-human vertebrates' (animals with backbones) and the common octopus. This law regulates any experiments that may cause a protected animal 'pain, suffering, distress or lasting harm'.

The law makes sure that before any experiments are carried out on animals, three licenses are obtained.

1. A project licence for the experiment.
2. A personal licences for each researcher.
3. A licence for the establishment where the research is to take place.

A licence should not be granted if there is a 'reasonably practicable method not entailing the use of protected animals.'
Animals are the best available models that we have for humans.

Properly regulated animal research is absolutely essential to discover new treatments and check the safety and use of new drugs.

Research is unethical. Harm should not be caused to any animal unless it benefits that particular animal.

Animal use has become a habit, due to lack of money from pharmaceutical companies and research councils.

Some drugs have serious side-effects which are not discovered until the drug is administered to patients.

Mammals are very similar to humans, they have similar vital organs brains, heart, lungs, liver, kidneys.

Results in animals cannot be 'read across' to humans. Diseases are different in animals than in humans.

A human life is worth more than an animal life – that’s why most of us are happy to eat animals.
Choose three of the websites to visit and write down five sentences or facts that you want to say in the next lesson.

- Agriculture and Environment Biotechnology Commission (AEBC): www.aebc.gov.uk
- Animal Aid: www.animalaid.org.uk
- Animal Procedures Committee (APC): www.apc.gov.uk
- Boyd Group: http://www.boyd-group.demon.co.uk/
- British Union for the Abolition of Vivisection (BUAV): www.buav.org
- CDS in dogs (a Pfizer website): http://www.cdsindogs.com/content_g.asp
- Coalition for Medical Progress: www.medicalprogress.org
- Dr Hadwen Trust: www.drhadwentrust.f2s.com/
- European Chemicals Bureau: http://ecb.jr.it
- Fund for the Replacement of Animals in Medical Experiments (FRAME): www.frame.org.uk
- Home Office
  a) Statistics on the use of animals in scientific procedures: http://www.homeoffice.gov.uk/docs/animalstats.html
  b) Voluntary data-sharing agreement to reduce duplication of animal studies: http://www.homeoffice.gov.uk/docs/dataconcordat.html
  c) Project licence summaries: http://www.homeoffice.gov.uk/comrace/animals/index.html
- Foundation for Biomedical Research: http://www.fbresearch.org/animal-activism/welfare-vs-rights.htm
- Medical Research Council: www.mrc.ac.uk
- Research Defence Society: www.rds-online.org.uk
Instructions

1. Get into your group of eight. Your teacher may have already put you into groups. Elect a chairperson for the group. The chair person hands out one story card to each member of the group.

2. Read your story card to yourself. Try to picture the person who has written the story. Is it a newspaper journalist, a parent, doctor, a child or a teacher?

3. In turn, read out your story to the group and make a guess what sort of person has written the story. Ask if other members of the group agree.

4. After everyone has had a turn, the chair person will hand out a name badge with the true name and description of the story writer.

5. Now take on that role. Read your story card carefully again, and make a list of the main views and concerns of your character. Now try and remember these without referring to your list.

6. Start the discussion with everybody introducing themselves to the group in role and give your view about animal experimentation. Listen carefully to everybody's comments. Each person can then say who they agree with and who they disagree with, and why, still in role.

7. Your group will have to write a statement to the press saying what you have agreed upon and what you have disagreed about.

How did I do?
Tick these off when you have done them:

☑️ I have read and understand my role card.
☐ I have listened to others and explained my position on the use of animals in experiments.
☐ I have contributed to the final press statement about our group’s discussion.
Instructions for animal experimentation options

1. Get into a group of four. Your teacher may have already put you into groups.

2. Collect the sheets *Animal experimentation options* and *Animal experimentation voting grid*.

3. In your group discuss the policy positions in turn. Give each member of your group a chance to say what they think about each position.

4. As an individual look at the policy positions again and tick the appropriate box in the table on the voting grid provided.

How did I do?

Tick these off when you feel you have done them.

- [ ] I have read the possible policy positions.
- [ ] I have discussed these positions in my group.
- [ ] I have recorded my personal opinion on the animal experimentation voting grid.
Policy positions

These are the four possible options available:

1. Researchers can decide for themselves when to experiment on animals.

2. Central licensing for animal experiments.
   Licenses given when:
   a. the likely outcomes outweigh the harms to animals
   b. there are no alternative means to achieve the outcomes.

3. Phase out animal experiments within an agreed time frame (e.g. by 2012).
   Use available alternatives to animal experimentation as the first option. Step up efforts to find more alternatives.

4. Stop granting licences for animal experiments now. Animal experimentation to benefit humans is never justified.

Where would you position yourself?
### Vote before

**Name**

1. Vote once for each scenario.
2. This information will be sent to policy makers.

**Think carefully. What is your vote?**

<table>
<thead>
<tr>
<th>Policy position</th>
<th>Vote before</th>
<th>Agree</th>
<th>Not sure</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>Researchers can decide for themselves when to experiment on animals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Central licensing for animal experiments. Licenses given when: (a) the likely outcomes outweigh the harms to animals (b) there are no alternative means to achieve the outcomes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Phase out animal experiments within an agreed time frame (e.g. by 2012). Use available alternatives to animal experimentation as the first option. Step up efforts to find more alternatives.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Stop granting licences for animal experiments now. Animal experimentation to benefit humans is never justified.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy position</td>
<td>Description</td>
<td>Agree</td>
<td>Not sure</td>
<td>Disagree</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Policy position 1</td>
<td>Researchers can decide for themselves when to experiment on animals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy position 2</td>
<td>Central licensing for animal experiments. Licenses given when: (a) the likely outcomes outweigh the harms to animals (b) there are no alternative means to achieve the outcomes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy position 3</td>
<td>Phase out animal experiments within an agreed time frame (e.g. by 2012). Use available alternatives to animal experimentation as the first option. Step up efforts to find more alternatives.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy position 4</td>
<td>Stop granting licences for animal experiments now. Animal experimentation to benefit humans is never justified.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1  Vote once for each scenario.
2  This information will be sent to policy makers.

Think carefully. What is your vote?
Other topics available:
Adult versions of the above topics (suitable for students aged 16+), and also on:

- Xenotransplantation
- Pre-implantation genetic diagnosis
- Over the counter genetic testing kits

These are free to download at http://www.neweconomics.org/projects/democs

B Teaching controversial issues

What are the benefits of studying controversial issues?

Students learn to:

- weigh up conflicting evidence
- find out information
- detect bias
- question the validity of sources
- present their own considered viewpoint
- develop skills such as communication and working collaboratively
- relate science to everyday life.

What do we need to consider when teaching controversial issues?

Teachers need to give a balanced viewpoint

- All views are expressed with equal emphasis.
- The necessary scientific principles need to be understood.
- Arguments, opinions and information from all sides are presented.
- Sensitivity and tolerance to different views are encouraged.
- Bias, prejudice and indoctrination are excluded.
- A neutral stance is maintained.

Maintaining neutrality and balance.

- Teachers should not use their authority as teachers as a platform for promoting their own views.
- The mode of enquiry should have discussion rather than instruction at its core.
- Discussion should protect divergence of view.
- Teacher should have responsibility for quality and standards in learning.
How does Democs implement these principles?

During Democs students get involved with the topic:

■ They develop background knowledge and understanding through an introductory briefing sheet, CD ROM or activities.
■ They understand the impacts on people using Story Cards.
■ They gather further information using Information Cards.
■ They discuss the major questions using Issue Cards.
■ As a group, they identify their concerns and dilemmas by grouping all previously chosen cards. They identify the BIG issues, and record the group’s conclusions on each issue. They map and make visual the main points of the group’s discussion.
■ They then vote on a range of given policies. Using a voting grid they make individual recommendations to the Government.

Further valuable features of Democs.

1 Conversation guidelines create a supportive environment in which all students can form their opinion and express themselves safely.
2 Yellow cards – just like in football – are used to bring the game to a halt if someone fails to observe the guidelines.
3 Activities can be given for a follow-up session, to translate student’s enthusiasm and learning into action.
4 Most of all, Democs unpicks a topic, making it simple and accessible by breaking it into easy steps.

How does Democs link with key parts of the National Curriculum?

Democs links with the National Curriculum with Key Stages 3 and 4 in Science, particularly *How Science Works*, and Citizenship. It can also be used for General Studies, English, Geography, PSHE, and Religious Education.

What learning does it promote?

■ Democs helps students learn about, think and reflect on controversial topics.
■ It provides an opportunity to students to develop opinions, explore a range of options, and negotiate with others.
■ Through Democs students can consider moral responsibility, as well as train in political literacy – two of the three key aspects of the Citizenship Curriculum.
■ Democs links thinking, speaking, emotional literacy, and decision making skills.
■ Democs fosters deliberation rather than debate.
■ A main objective of Democs is to enable people to influence decision-making.

Democs with science students

Democs can help students to:

■ explore ideas about science, and its essential role in society
■ develop scientific literacy
■ develop a critical approach to scientific evidence and methods.
C Using Democs effectively in the classroom: A step by step guide.

The whole process is outlined on the multi-media presentation. These notes are designed to support you through that process.

Tips for facilitating Democs

1. Give clear instructions (briefing).
2. Ensure all students understand what they have to do and what is expected of them.
3. You may have to demonstrate.
4. During the action trouble shoot, listen, support, help, challenge, and maybe demonstrate to small groups or whole group if common problem.
5. Debrief as described (you could also include discussions you had listened to during the action).
6. Follow-up to consolidate the learning.
7. Send the compiled results to nef.
## Contents of Democs kits

Each Democs kit contains the following:

<table>
<thead>
<tr>
<th>Resource</th>
<th>Electronic file name</th>
<th>For stage</th>
<th>Number needed</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher’s guide</td>
<td>Teacher’s guide</td>
<td>All, 2</td>
<td>1 per teacher/ facilitator</td>
<td></td>
</tr>
<tr>
<td>Conversation guidelines</td>
<td>Conversation guidelines</td>
<td>3</td>
<td>1 per student group</td>
<td></td>
</tr>
<tr>
<td>Conversation guidelines activity</td>
<td>Conversation guidelines activity</td>
<td>3</td>
<td>1 per student group</td>
<td></td>
</tr>
<tr>
<td>Instruction cards</td>
<td>Instruction cards</td>
<td>6</td>
<td>1 per table, or on whiteboard</td>
<td></td>
</tr>
<tr>
<td>Generic cards</td>
<td>Generic cards group challenge</td>
<td>3, 9, 10, 11</td>
<td>1 set, 1 yellow card per group and 4 BIG issue cards per group</td>
<td></td>
</tr>
<tr>
<td><strong>Topic</strong> multimedia presentation</td>
<td>Topic multimedia presentation</td>
<td>All, 6–12</td>
<td>Whiteboard or computer</td>
<td></td>
</tr>
<tr>
<td><strong>Topic</strong> activities</td>
<td><strong>Topic</strong> activity sheets</td>
<td>4, 5, 6, 12</td>
<td>1 copy per participant and 1 per teacher</td>
<td></td>
</tr>
<tr>
<td><strong>Topic</strong> cards</td>
<td><strong>Topic</strong> cards</td>
<td>6, 7, 8</td>
<td>1 set per table</td>
<td></td>
</tr>
<tr>
<td>Follow up activity sheet</td>
<td>Generic follow-up activity</td>
<td>14</td>
<td>1 per participant, plus 1 per teacher</td>
<td></td>
</tr>
<tr>
<td>Participant feedback form</td>
<td>Participant feedback form</td>
<td>15</td>
<td>1 per participant</td>
<td></td>
</tr>
<tr>
<td>Teacher feedback form</td>
<td>Teacher feedback form</td>
<td>15</td>
<td>1 per teacher/facilitator</td>
<td></td>
</tr>
</tbody>
</table>
Preparation

1 Photocopy all resources indicated in the table on page 5.
2 Copy and prepare sets of the topic cards and generic cards. Prepare the instruction cards too if you are using them. Students will generally be working in groups of 4 throughout the process.
3 Read the teacher feedback form so you know what information to send back to nef.
4 Prepare the room to enable students to easily work in groups of 4.
5 For the policy making activity write the statements on large sheets of paper, and put the sheets of paper on the walls well spaced out to create five distinct areas in which students can stand.
6 During the lessons when you are using the cards, put a set of the cards in the middle of each groups’ table. Leave a set of the instruction cards on each table so students have a visual reminder to your verbal instructions (or have the instruction card document on the whiteboard).
7 If you want to do a ‘vote with the feet’ in stage 12, write the three voting options onto three large sheets of paper – Disagree; Agree, and Not Sure.

Lessons 1 and 2

Step 1: Introducing Democs to the students

Introduce to the students that they are going to participate in a series of activities about a controversial area of science. This will lead them towards making policy decisions. It is useful to show the multimedia presentation in this step on a whiteboard or computer, so students know what they will be doing.

Their decisions will be fed back to the policy makers in government.

Step 2: What are policies and why do we need them? Policy making positioning activity.

Key stage 3 students may need some help in understanding what we mean by a policy and policy stance. You could introduce this in the following way:

a Explain that Policies are like rules for people, such as scientists, to follow. We need them, because otherwise people would be doing things that we would not be happy with, and that could even be harmful.

b Carry out the activity outlined below. The use of mobile phones in the classroom can cause disruption to learning and can even lead to cheating in examinations.

What should we do?
Think about the following solutions (rules or policies)

- Mobile phones should not be permitted in school.
- Mobile phones should be turned off when you enter the school gates at the start of the day and remain turned off until you leave at the end of the day.
- Mobile phones can only be used for emergencies.
- Mobile phones can be used outside the school buildings during breaks and lunch.
- Mobile phones can be used anytime and anywhere.

Stand next to the statement you agree with.
You have made a policy stance.
As a group you have made a policy decision.

**Step 3: Conversation guidelines**

With some groups of students it is important to set ground rules.
You can either introduce the set of conversation guidelines to the students, OR they can develop their own by using the Conversation guidelines activity.

Students match the captions with the pictures, and then put them in order of priority to produce a set of ‘Conversation guidelines’. Instructions are provided with the activity.

When the conversation guidelines are agreed, introduce the yellow cards. These help students to return to the conversation guidelines if someone is not following them, or if someone is disrupting the Democs process for the group as a whole.

- Each group is given one yellow card. Each player can use it once in a session.
- The card is used if someone breaks one of the conversation guidelines, for example, they keep interrupting.
- No one gets sent off if they are yellow carded, it is a pause in the proceedings.
- Ask the students what should happen if someone keeps breaking the conversation guidelines.
- Ultimately the teacher/facilitator holds an imaginary red card and can send someone out if they are being really disruptive.

**Step 4: Developing the background knowledge and understanding of the students**

These utilise activity sheets 1 and 2. Follow the instruction sheets. These activities engage the students in a number of active reading activities. The students work in pairs on these activities in the classroom, or individually if they are done as homework activities.

These will help them to develop their knowledge and understanding of the basic science and issues underpinning the topic.
Step 5: Initial Policy Voting

*Activity sheet 4 (and 5 in the Neuroscience kit) and Vote before voting grid*

- The students read a short passage about the current situation.
- They discuss as a group (of four) the four policy statements.
- They then decide as individuals what they think and complete the Vote before voting grid.

Lesson 3

You may want to show the students the Democs process again, using the multimedia presentation.

Step 6: Using the story cards

*Activity sheet 3 and the story cards*

You can either use the structured activity provided OR the students are given the eight story cards in their groups of four OR use the multimedia presentation.

- The dealer deals two story cards to each student.
- They read their cards.
- They take it in turns to read their two story cards out to the group.
- They then discuss the characters on the story cards in terms of what they think and feel about them, in relation to the topic.

Step 7: Information cards

*Utilise the information cards*

- Give each group of four a set of the information cards.
- The dealer deals out all the cards.
- Each student reads their cards. They choose two cards that are important to them and/or relate to the policy positions.
- They place the unwanted cards to one side, face down (or in the bag).
- They take it in turns to read their 2 cards to the group.
- When everyone has read their cards they are placed in the middle of the table so everyone can see them.
- Students discuss whether there are any connections between the cards, and start to group them.
Step 8: Issue cards

Issue cards

- Give each group of four a set of the issue cards. The dealer deals out all the cards.
- They read their cards, choose 2 that are most important to them and/or relate to the policy positions.
- They pass the unwanted cards to the person on their left. They only pass the cards once.
- They receive new cards from the player on their right.
- They select 2 cards that are most important to them and/or the policy positions. They may be different or the same as the cards they chose first.
- Place the unwanted cards to the side face down, or in the bag.
- Each person reads their 2 chosen cards to the group.
- They place the chosen cards on the table.
- They discuss why the cards are important and their thoughts and feelings about them.
- Students also discuss if any of the cards are on the same theme, and whether they link with any of the chosen information cards.

Step 9: Challenge cards

Challenge cards (a fun, active stage)

- Give each group a challenge card, or read out one challenge card to all the groups.
- Emphasise that they are working together as a group.
- Give a few minutes for them to work on the challenge.
- If all the groups are doing the same challenge, quickly go round asking what different responses they came up with.

Step 10: Grouping the cards

Big issue cards

- Ask the students to work together to group their chosen information and issue cards to identify the ‘BIG issues’.
- Do not include the discarded cards.
- Students are building a picture of what is important to them as a group on the topic. This emerges from the cards chosen, or from their discussions.
- Include the story cards too if they are relevant.
- They can have as many groups of cards as they want.
Step 11: Identifying the big picture

- For each group of cards students fill in a BIG issue card. Make sure that students work together as a group and fill in the cards together.
- Ask students the question ‘What is the big picture for your group?’ Students identify and record their BIG issues. These are sent to nef.
- Ask the students what conclusions as a group they come to. They take it in turns to talk about this. As a group on each of their BIG issue cards they finish the sentence ‘We talked about this and together we think that ...’
- Note down the numbers of the information, issue, and story cards at the bottom of the BIG issue card.

Step 12: Policy voting

Vote after voting grid Activity 4

- Ask each group to collect together all the information, issue, story and Big issue cards. Label the Big issue cards with a group number, for ease of entry on the teacher feedback form.
- Give each student a Vote after voting grid to complete on each of the four policy statements. Have a spare one for yourself.
- Students can also ‘vote with their feet’. To do this you will need to stick the three large sheets of paper with the voting options – Disagree; Agree, and Not Sure – into three corners of the room. After students have individually completed their voting grids, read out each policy position one at a time. After each policy, students stand next to the statement they agree with for that policy position. It’s similar to the mobile phone example. Write down the voting for the students as a whole on your Vote after voting grid. You will send these results to nef, along with the BIG issue card names.
- Another variation is to get students to ‘vote with their hands’ with a show of hands for each policy position. Read out the first policy, and then ask who Agrees, is not sure, and disagrees with it. Mark the results on your Vote after voting grid. Read out the other policies in turn, and record them in a similar way.

Step 13: Debriefing

Vote after voting grid Activity 4

- Ask three or four groups to present their BIG issues.
- Ask them to describe the BIG issue and why it was so important to them, What their thoughts and feelings were about the BIG issue.
- Also ask the students to look at their Vote Before and Voting after voting grid. Ask if there are any students who have changed their voting and ask them to say why.
- Summarise the feedback on the BIG issues and voting.
- You may also have to sensitively correct any misconceptions on the topic that have arisen during the activity.
Lesson 4

Step 14: Follow-up

*Follow-up activity sheet*

It is important to consolidate the learning by using a follow-up activity which enables the students to individually, or in their groups, communicate their ideas, thoughts and feelings about the issue.

- Give out a follow-up activity sheet to each student.
- In their groups, students decide which follow-up activity they are going to undertake e.g. write a letter to the secretary of state, a newspaper article, a public information leaflet or poster. In each case the students should:
  - Outline the background science
  - What the issues are
  - What different people think about the issue
  - What they think and why.
- Each group presents its work to the class, and the presentation is evaluated against the group’s criteria for success.

Step 15: Have your say. Sending results to nef.

*Participant feedback form, teacher feedback form*

- Participant's fill in a participant feedback form. Photocopy the forms if you want to use them for assessment purposes.
- Teacher/facilitator fills in a teacher/facilitator feedback form. Write the names of the BIG issues cards and results from the Vote after voting grid onto this form.
- Send all forms to:

  Democs, new economics foundation, 3 Jonathan Street, London SE11 5NH

Voting results and BIG issue card names are put on the nef website, and are linked with policy making when possible. Kits are revised and updated from participant feedback.

Thanks for your help.
D Democs – additional information

a) Quality assurance statement

nef (new economics foundation) aims to publish Democs games with a minimum of content bias, presenting a wide spectrum of viewpoints. It has a standard procedure of involving three topic experts from across the spectrum. They: advise on sources; review a first draft; and review a final draft. In practice, achieving this aim may involve adapting these procedures.

The kit is not finished when the experts sign it off. Feedback from participants is invaluable. Democs is revised in the light of that feedback as and when staff time and funding allows.

b) Sources of information by topic

i) Stem cell research
This was the first Democs kit developed, mostly between December 2001 and April 2002. The content was written by Donald Bruce, an ethicist who runs the Science, Religion and Technology Project of the Church of Scotland. He drew on his involvement in national debates on the ethics of stem cell research and on his acquaintance with many of the scientists involved. Checking was by nef staff. Contents were updated in January 2005.

ii) GM food
The kits were prepared and printed in three weeks during May 2003 to fit with the GM Nation? timetable. The content was written by Donald Bruce, an ethicist who runs the Science, Religion and Technology Project of the Church of Scotland. Much of it was based on the official stimulus material provided for the GM Nation? debate. It was checked by nef staff.

iii) Climate change
This kit was prepared by the climate change working group of the Herefordshire Partnership between March and November 2004. It drew on the knowledge of the group, with some additional research. The Herefordshire Partnership printed their kits and have not changed them since, but nef have continued to evolve the cards in the light of further trials and comments.

The activity sheet on climate change used as a source the Ideas and Evidence CD (written by CSE as part of Pupil Researcher Initiative) published by Collins Educational, activity entitled “Climate on trial”.

iv) Use of animals in medical research
Two main sources were used for the trial version: Lives in the Balance, The Ethics of Using Animals in Biomedical Research, ed. Jane A Smith and Kenneth M Boyd, OUP, 1991. This book produced by a working group of the Institute of Medical Ethics.
Other sources that were significantly used were:

- Agriculture and Environment Biotechnology Commission (AEBC): report on Animals and Biotechnology, 2002
- Animal Procedures Committee (APC)
- British Union for the Abolition of Vivisection (BUAV)
- Home Office statistics on the use of animals in scientific procedures
- Medical Research Council (MRC)
- Observer Special Report on animal testing, 12th December 2004

The animal experiments kit was written by Perry Walker of nef, drawing on research by nef volunteer Martin Köhring, and by consultant, Jane A Smith. Jane is Secretary of the Boyd Group, a UK based forum for open exchange of views on issues related to the use of animals in science. Members of the Boyd Group include scientists using animals, members of animal welfare organisations and anti-vivisectionists. Jane also provided specialist advice to the House of Lords Select Committee on Animals in Scientific Procedures.

The material was reviewed by Patrick Bateson, Professor of Ethology at Kings College Cambridge, who is broadly in favour of animal experiments when regulated by law as they are in the UK, and by the BUAV, which is against animal experiments. The trial version of the kit was revised following feedback from players. nef retains responsibility for the content.

**v) Vaccination policy**

This kit was written by Celi Barberia and by Perry Walker of nef, in late 2004 and early 2005. It used three main sources.

1. The Health Protection Agency, created in April 2003 to provide better protection against infectious diseases and other dangers to health.
2. The Health Promotion Agency, whose mission is ‘to make health a top priority for everyone in Northern Ireland’.
3. ‘MMR The story so far, a comprehensive review of the MMR vaccination/autism controversy’, produced by Private Eye in May 2002 and written by Heather Mills.

There was also input from Professor Melissa Leach of the Institute of Development Studies, Sussex, and Fiona Barlow, a tutor and course facilitator for the National Childbirth Trust (NCT). The cards were checked by a government immunisation expert and by a GP.

**vi) Neuroscience**

The material was written in the spring of 2005 by Karin Rondia, a Belgian science journalist. She has worked extensively on brain issues with the King Baudoin Foundation in Brussels, and their reports were the main source. It was tested in several countries in May 2005 and then extensively revised by the project team of Decide, an EU-funded project working with science centres across Europe.
The neuroscience Democs for schools was abbreviated from Karin Rondia’s work, to fit with the Y Touring play Mind the Gap (visit www.ytouring.org.uk for more details). The play itself, by Abi Brown, and the Mind website (www.mind.org.uk) were also sources of information.

c) Disclaimer
All of the characters on Story Cards and in Democs are fictional and have been created specifically for use in Democs. Any similarities between them and reality are coincidental.

Every effort has been made to contact the holders of copyright material, but if any have been inadvertently overlooked the publishers will be pleased to make the necessary arrangements at the first opportunity.

d) Copyright
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nef works with organisations to develop new Democs topics all the time. Contact us on 010 2820 6300 if you want to find out more.

e) Funders and supporters
Democs was developed by nef (new economics foundation), a charitable think and do tank, as a method to involve everyday folk in the decisions that affect their lives. nef's motivation is to stimulate democracy.

Democs has been adapted for schools by nef and staff at the Centre for Science Education, Sheffield Hallam University.

Democs is supported by a DTI Sciencewise grant, and grants from the Wellcome Trust.
Participants in a MORI discussion group

I don't want to eat animals but I don't want my child or family members or my friends to die of diseases, and if that means testing on animals... I think it's horrible but I just can't see a way out of it.

One of these things that I think's really difficult... is this idea that they are breeding pigs specifically for liver transplants. My first thought about it is that's horrendous, that's awful.

But then I think why should people suffer because I am squeamish?

John Marks, an animal rights campaigner.

Vivisection is not about choosing between saving a person's life or a rat. It is about inflicting suffering and death on millions of animals with the hope that, maybe, this suffering may lead to a greater understanding of a given disease.

This basic premise is fundamentally flawed. It is based on the assumption that extrapolating test results from biologically and physiologically distinct animals is a reliable, credible and robust method of scientific endeavour. It is not.
Carol, an employee of Pharmagene

My name is Carol and I work for the world’s first drug development company wholly committed to using human tissue for its studies.

We use no animals for any of our work. Our clients are 10 drug companies, including some of the world’s largest.

It has demonstrated that, where other testing companies resort to animal experiments, it can do the same work without the animal experiments – and produce results that are actually applicable to human patients.

Uncaged Campaigns website

...on why prevention is better than cure.

Only 0.33% of Government health spending is devoted to health education. Prevention is not only effective, it is humane. Logically, it is in our interests that we do not become ill in the first place.

Yet health care continues to concentrate on expensive, painful and sometimes ineffective curative approaches based on pharmaceutical products tested on animals. Sadly, many of us rely on these, with all their limitations, rather than accept responsibility for our own health.
Elaine
Animal technician

You can get attached to 500 rats. It is hard to see them go, but it has to be done. What would be really wrong would be to treat these animals badly just because we know that in the end they are going to be put down as part of an experiment or a drug trial.

We owe it to them to care for them; that is why we have the highest care standards in the world.

Laura Cowell
Spokesperson for SIMR ( Seriously Ill for Medical Research)

I don't know what 'normal' is. To control my cystic fibrosis and diabetes, I take between 50 and 70 tablets, plus two insulin injections and two nebulised drugs, every day.

Those medicines have all been tested on animals so I'm very grateful to the people and the animals.

Without them, I'd be dead.
Professor Chris Higgins
Director of the Medical Research Council's clinical sciences centre

Most research is carried out on cells grown in laboratory culture dishes. But, the trouble with relying totally on this approach is that we simply don't know enough about the way in which cells interact inside the body.

If you are going to understand how all these cells talk to each other in a neurological condition like depression, you have to look at whole brains and this means studying – and experimenting on – whole animals.

Tom Regan
Animal rights philosopher

What's wrong – fundamentally wrong – with the way animals are treated isn't the details that vary from case to case. It's the whole system... the system allows us to view animals as our resources, here for us – to be eaten, or surgically manipulated, or exploited for sport or money.

In the case of the use of animals in science, whether and how we abolish their use... are to a large extent political questions. Enough people, especially those elected to public office, must believe in change – must want it – before we will have laws that protect the rights of animals.
In 2003, the suffering in research projects was roughly graded as follows:

- Mild: 40%
- Moderate: 58%
- Substantial: 2%

Substantial suffering can include poisoning, psychological stress, infection with disease, brain damage, burning and lack of food, water or sleep.

More than 100 million animals are used in laboratory experiments worldwide every year.

Around 10 to 11 million of these animals are used in the European Union.

The numbers of animals used in research is falling due to:

- Scientific advances enabling studies to use fewer or no animals.
- Changes in regulation.
- Increased cost of buying and maintaining animals.
- Public opinion and pressure from critics.
- Stricter controls on laboratory animal use.
Medical advances developed using animals include: antibiotics, anaesthetics, vaccines, insulin for diabetics, blood transfusions, heart surgery, organ transplants, kidney dialysis and treatments for asthma, leukaemia and high blood pressure.

Recent advances developed or tested using animal experiments include:
- A vaccine against meningitis C.
- Drugs against cancer, such as tamoxifen, which is used against breast cancer.

What are laboratory animals used for?
- 30% Developing and testing treatments or preventative measures for human or animal medicine.
- 30% Fundamental biological research.
- 5% Safety testing of non-medical products.
- 32% Breeding of genetically altered animals.
- 3% Other – mainly diagnosis of diseases.
The law requires a variety of toxicity tests including:

- Single dose and repeated dose studies.
- Eye and skin irritancy tests.
- Cancer or allergy effects.
- Reproductive effects, e.g. fertility, development of foetus.

Toxicity testing fell by 30% from 1995 to 2000 but has changed little since then.

These factors affect a laboratory animal's suffering.

1. The difference between the test conditions and its normal way of life.
2. The pain, distress or anxiety it can feel.
3. How well it is looked after.
4. Whether the harmful side effects of the experiment are relieved.

'Vivisection' was originally used to describe cutting live animals without anaesthetic. It is now used by critics to cover all animal experiments.

Genetically modified mice (GM) can be better models than non-GM animals for research into human diseases and their treatment.

Also, genetic modification can help researchers investigate the relationship between genes and disease.
The law makes scientists minimise harm to animals by:

1. Replacing the use of protected animals where possible.
2. Reducing the number of animals used.
3. Refining procedures to minimise suffering.

Possible alternatives to animal experiments include:

- Better use of information from experiments already carried out.
- Use of mathematical and computer models and simulations.
- Use of donated human organs and tissues.
- Patient and other volunteer studies.

No computer can yet model the human cell because of its astonishing complexity and the number of interactions involved between cells but there have been notable successes.

UK law requires at least three separate licences before work can begin.

1. A project licence for the programme of work.
2. Personal licences for every researcher.
3. A licence for the research establishment.

Licenses are only given to suitably qualified and trained people.
The Animals (Scientific Procedures) Act 1986 regulates use of vertebrates in laboratories. It is enforced by around 26 Home Office Inspectors. They make around 2,500 inspection visits a year to roughly 250 establishments, of which half are unannounced.

In 1997 the laws were tightened up and the following bans were introduced:

- the use of animals for:
  - development or testing of alcohol or tobacco products, and of offensive weapons.
  - testing cosmetic ingredients and finished products.

- the use of Great Apes, e.g. chimpanzees.

Under the 1986 Act every licensed establishment must have a Named Veterinary Surgeon and Named Animal Care and Welfare Officers, responsible for day-to-day care.

Animal research has been used to benefit animals, e.g. vaccines for dogs. But it is also done for economic reasons, for example farm animal research aimed at increasing yields.
Sometimes non-animal research methods are used as replacements for animal tests. More often, they are used alongside animal methods within a broader research programme.

Examples of replacements for animal tests include:

- Batch testing yellow fever vaccine with cell culture (43,000 mice spared since 1976).
- Improving the chemical methods used in required batch testing of insulin (33,000 mice a year in Britain saved).
- The introduction of test-tube methods to safety-test injectable medicines has reduced rabbit use from 78,000 per year in 1985 to 194 in Britain.

17,000 rabbits a year were once used in Britain in painful procedures to mass-produce monoclonal antibodies (proteins used for diagnosis in research).

By 2003, it was all done with cell cultures.
Can animal experiments hinder medical progress?

Research on Multiple Sclerosis (MS) could have been set back by decades because MS in animals is less similar to MS in humans than previously supposed.

The House of Lords Select Committee on Animals in Scientific Procedures (2002) concluded that:

'On balance, we are convinced that experiments on animals have contributed greatly to scientific advances, both for human medicine and for animal health'.

Do you agree?

Are some animal toxicity tests unnecessary?

Some people argue that some animal toxicity tests are unnecessary and unethical because the household products being tested are themselves unnecessary.

But can we agree what is meant by 'unnecessary'?

Commercial competition means that companies keep their data confidential. This can lead to duplication of animal tests.

Is this extra suffering justified for commercial reasons?
With increased resources, greater commitment and more imagination, scientists could develop alternatives. Others reply that this cannot happen – not quickly enough for current research programs. What do you think?

A 1999 MORI survey found that only 35% of those surveyed trusted Governments to make decisions on their behalf about regulating the biological sciences. If not government who should we trust to make these decisions?

Some animal rights activists believe that vivisection is a form of slavery. They are campaigning to end this on behalf of animals who cannot defend themselves. Are we treating animals as slaves?

UK law only permits animal experiments when:

- The aim is worthwhile.
- There is a strong possibility of achieving it.
- It cannot be achieved without the experiment.
- Likely benefits outweigh likely suffering.

But who decides on the answers to these questions?
Some people argue that more focus be placed on education (e.g. promoting healthier eating and more exercise) and prevention of disease rather than animal experiments. Would this be more effective and more humane?

It is because animals are like us that they are useful for biomedical research. The more similar, the more useful. But if they are so like us, why do we treat them so differently?

Treating animals in ways we would not treat humans has been called 'speciesism'. Is this a form of prejudice like racism and sexism?

One argument is that it is morally wrong to knowingly inflict suffering on animals other than in their own interests. Is it ever right to inflict suffering?
Will public opinion to become more restrictive? Could it reverse if, for example, a terrible new plague appeared for which vaccines could only be developed on animals very similar to humans?

Is there any morally significant characteristic which all humans possess, but no animals possess? Are animals really that different to us? What do you think?

MORI asked people what would improve their trust in the system of regulation:

1. 33% said honesty and openness
2. 21% said having better information about it.

In polls on GM animals, 'going against nature' was a common concern.

Many people have a concern for the 'intrinsic nature of animals, including the need for animals to retain their dignity'.

But what does 'going against nature' mean?
Some people argue that animal experiments cannot be justified because the benefits 'outweigh' the harm done to animals. It is fundamentally wrong to harm animals, whatever benefits might result.

What is your view?

Jewish-Christian thought believes that only humans are created in the image of God, and possess souls. Eastern philosophies teach compassion for all beings and reincarnation, e.g. any human could have been an animal in a past life.

One reason why people are concerned about experiments on animals is that they project their own feelings about pain and suffering onto the animals. Is this just being squeamish?

In some countries, public opinion has shifted against some forms of animal testing (e.g. using chimpanzees – not permitted in UK) that were previously thought acceptable. Is this a step forward?
Instructions for Democs

“The clock on the bottom right hand corner of each page is the time for each card section.”

Playing Democs

By now, your teacher will have introduced you to Democs.

You will have

- tried out a 'policy making activity'
- developed your own conversation guidelines
- found out some background information on a topic
- taken part in an initial vote.

Now it's time to play and have your say!
**Instructions for Democs**

**Story cards**

- Dealer deals one card to each person.
- Read your card.
- In turn, read your card out to the group.
- Your teacher may help to read out some of the cards or play a special 'soundbite'.

Discuss the characters on the story cards. What are your thoughts and feelings? Make sure that everyone has a say, and that you observe the conversation guidelines.

**Information cards**

- Dealer deals out all the cards.
- Read your cards. Select two that are important to you and/or relate to the policy positions.
- Place unwanted cards in the bag.
- In turn, read out your chosen two cards to the group.
- When everyone has read out their cards, place the chosen cards in the middle of the table where everyone can see them.

Discuss the chosen cards as a group. Are there any connections between them? Has everyone had an equal chance to contribute to the discussion?

**Information card**

The drugs used today for the treatment of Alzheimer's disease appear to have a (limited) slowing effect on the progression of a beginning dementia, but they cannot stop the process.

**Pharmogene**

This is the world's first drug development company wholly committed to using human tissue for its studies. It uses no animals for any of its work. Its clients are 10 drug companies, including some of the world's largest. Pharmogene recognises that the most promising compounds from its early-stage screening will go on to be tried on animals. It has though demonstrated that, where testing companies resort to animal experiments, it can do the same work without the experiments – and produce results that are actually applicable to human patients.

**Talking Point**

Discuss the chosen cards as a group. Are there any connections between them? Has everyone had an equal chance to contribute to the discussion?
**Issue cards**

1. Dealer deals out all the cards.
2. Read your cards.
3. Select two that are important to you and/or relate to the policy positions.
4. Pass the cards to the player on your left.
5. Receive new cards from the player on your right.
6. Select two cards that are important to you and/or relate to the policy positions.
7. Place unwanted cards in the bag.
8. In turn, read your chosen two cards to the group.
9. When everyone has read out their cards, place the chosen cards in the middle of the table where everyone can see them.

**Challenge cards**

1. **Challenge card 1**
   - Who is going to benefit?
   - Who will lose out?
2. **Challenge card 2**
   - Explain to your fellow players what you think future generations might think of this topic.
3. **Challenge card 3**
   - Tell the group about a personal experience that relates to the topic.
4. **Challenge card 4**
   - Are there any risks involved here?
   - Think of some and tell the group.

**Talking Point**

In your group, discuss why these cards are important to you – what are your thoughts and feelings about them? Do any of your chosen issue cards on the same theme? Do they link with your chosen information cards?
Grouping the cards

- Work together to group your chosen Information and Issue cards to identify the 'big issues'.
- Do not include the discarded cards!
  The 'big issues' reflect what is important to you (collectively) about this topic.
- The 'big issue' may emerge from the cards chosen just by grouping them together, or you can remember the main points of your conversation, and use the cards to describe that. You can include the story cards too if they are relevant.
- For each group of cards, fill in a 'Big issue card'.
- Give your group of cards a name. What is the 'big issue?'
- What conclusions do you all come to? Take it in turns to talk about this. Is there a conclusion that people are all willing to go along with? Write this down.
- Note down the story, information and issue card numbers for each group of cards, at the bottom of the Big issue card.

Still lost? There’s an example on the next page.

Completing the Big issue card

- Subject: Climate change

What’s Big Issue?
Name for this group of cards: Stopping climate change

We talked about this, and together we think that:
*We talked about this, and together we think that new technology can help. Large government – led interventions can really make a difference.

Write information card numbers here: 10

Write issue card numbers here: 4, 8, 16

Write any story card numbers here: 4
**Vote after!**

- One person read out the policy positions. Are there any more you want to add? Do so now.

- Read out the policy positions one at a time. Everybody votes once for each policy position.

- Briefly discuss why you chose to vote that way. If you voted at the start, was there a change in your voting?

**Debrief**

- Your teacher will choose one of your group to present their 'big issue'.

- Describe your 'big issue' to the rest of the class.

- Explain why it is so important to your group.

- If anyone in your group changed how they voted, ask them to say why.
Follow up activity

Choose from the range of writing tasks to summarise what you have learned by playing Democs.

Include:
- the background science
- the key issues
- what people think about the issue
- what you think.

Have your say

- Participants fill in a Participant Feedback form each.
- The teacher/facilitator fills in a Teacher/Facilitator Feedback form. Write the names of the Big issue cards and results from the Vote after voting grid onto this form.
- Send all forms to:

  Democs, nef, 3 Jonathan Street, London SE11 5NH

What happens next?

We make changes to Democs from your feedback

nef collates all the voting results and cluster card headings on each topic. We place the summary on our website, so you can find out what other people said on your topic. The summary is updated regularly.

If there is a public decision making process on that topic, we will share the results of Democs with decision makers.
For more information

You can download Democs from the website for free

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E: democs@neweconomics.org
W: www.neweconomics.org
You have been discussing and making decisions about a controversial topic in science. It is important that we communicate our thoughts to other people, either policy makers or the general public. In this activity you will be communicating the views of your group.

1 **Choosing your task**

Working in your group, you should communicate your views in one of the following ways:

- EITHER write a letter to the Secretary of State
- OR write a newspaper article with editorial comment
- OR write a public information leaflet
- OR design a poster.

In each case you should outline:

- The background science
- The main issues
- What different people think about the issue and why
- What you think should be done/what action should be taken.

2 **Organising your group**

Before you start your group should:

1. Choose an editor who will make all final decisions and help everyone plan the writing of their section.
2. Agree who is going to work on each section.
3. Decide what your letter, article, leaflet or poster is supposed to do. What are you trying to achieve?
4. List six criteria which say what the final product should look like. These will help you judge the success of your finished product. Below are some ideas to help you, but you may think of some others.
Follow-up Activity

Communicating your thoughts

The letter, article, leaflet or poster should be:

- informative
- clearly presented
- well illustrated
- easy to read and understand
- accurate
- up to date
- pitched at the right audience.

Draw up an action plan for producing your letter, article, leaflet or poster and make sure you stick to it!

3 Evaluating your achievement

When you have finished get other groups in your class to review and evaluate it using your criteria. Good luck!
Choose one person in the group. That person is to play ‘devil’s advocate’ and disagree with the viewpoint of the person on their left hand side for a few minutes.

As a group, have a discussion on the topic with each person stating their view, with your ‘devil’s advocate’ in role.

Think of one major disruptive event that would require you to change your viewpoint on this topic e.g. a global disaster, innovations in technology, limitless money, or a change in legislation.

How would you revise your opinion on this topic as a result?

As a group, pick a celebrity that you think will have an opinion on this topic.

What would their opinion be?

How strongly do you hold your viewpoint? What would you be prepared to do for it?

Would you:
- Write a letter?
- Participate in a public demonstration?
- Join a local group?
- Find out more yourself about the topic?
- Break the law?

How far will you go to support your opinion?
What's the Big Issue?
Name for this group of cards:

We talked about this, and together we think that:

Write information card numbers here:

Write issue card numbers here:

Write any story card numbers here:
What's the Big Issue?
Name for this group of cards:

We talked about this, and together we think that:

Write information card numbers here:

Write issue card numbers here:

Write any story card numbers here:
Instructions

Conversation Guidelines Activity

1. Collect the sheet Conversation cartoons.
2. Cut up the page along the dashed lines.
3. Match each cartoon with its correct caption and stick them into your exercise book.
4. Now select the five most important guidelines and draw a box around them to make them stand out.
5. Put a tick next to the ones you think you do well. This shows how you help to make a conversation work.
6. Pick three things that you need to work on. These may be good things you don’t do or some bad things you do!

How did I do?
Tick these off when you feel you have done them.

☐ I matched the cartoons with the correct captions and stuck them into my book.
☐ I selected the five most important guidelines.
☐ I selected three things I will try to do better in my next conversation.
Resource for
Conversation Guidelines
Activity

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Conversation cartoons

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Get one member of the group to write down the most important points discussed and any decisions made.

If you do not understand anything ask for it to be explained.

Be ready to change your mind if you need to.

Even if you do not agree with someone - don’t shout!

Listen carefully to what everyone says.

There’s no need to show off!

Remember that discussion helps you and other people learn new things.

Remind the group if someone has said something important.

Always let other people finish speaking, even if you want to say something.

Use a paper and pencil to note down ideas or what you want to say during the discussion.

Take part - even if you feel a bit shy at first.

Explain things again if people don’t understand.
A conversation works well when people follow these guidelines:

- interrupting people destroys the conversation
- only one person to speak at a time
- listen carefully
- respect each other
- remember it’s OK to change your mind
- ask questions if you need to
- speak calmly and clearly.

It is also useful for one member of the group to write down the most important points discussed and any decisions made on a BIG Issue card.