

## 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 weigh up the necessity of using animals for a specific piece of research.  
To explore the possibility of using non-animal research methods.  
To gain an understanding of UK regulations governing research using animals.

#### **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 for 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 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.