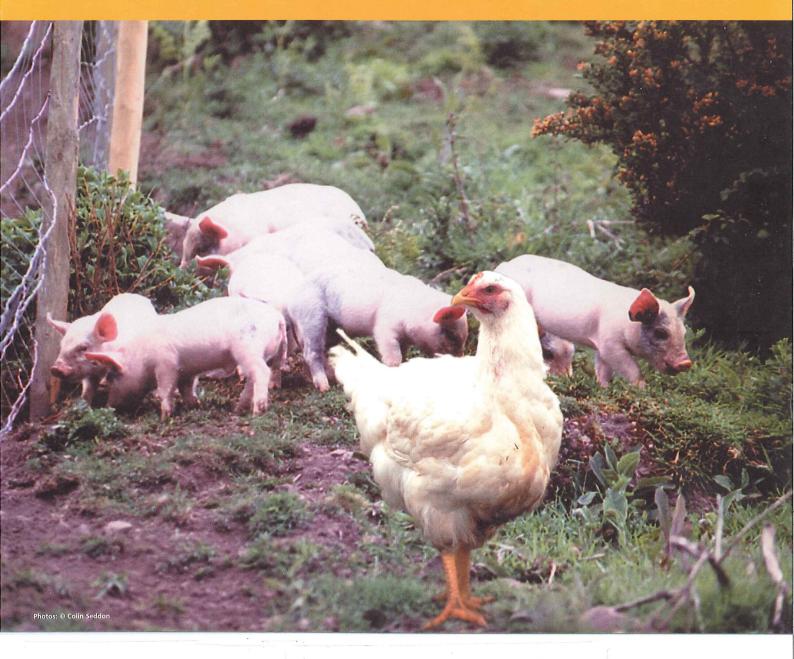
Farm Animals & Us



Teachers' Pack

For Secondary Schools and Colleges



Science • Citizenship • Religious Studies • PSHE • Geography • English Media Studies • Food Technology • Environmental Studies • Agriculture • Animal Care

Farm Animals & Us

Teachers' Pack for Secondary Schools & Colleges



Resources for Science, Citizenship, General Studies, Key Skills, PSHE, Religious Studies, English, Geography and Media Studies in Secondary Schools

Suitable also for Agriculture, Animal Science, Animal Care and other animal-related courses in Colleges and Universities

CONTENTS:

- Where Do You Draw the Line? (opinionforming and small group discussion exercise in both colour and black and white versions)
- *How Do Animals Matter?* (quotations exercises for small group discussion)
- *Opinions, Religious and Secular* (small group discussion exercise)
- *Personality Test* (attitude testing and opinion-forming exercise)
- Science Worksheets:

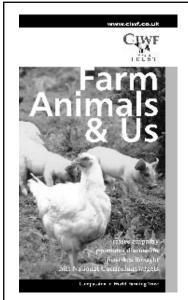
 Selective Breeding of Farm Animals

 Food Chains and Farm Animals
- Sources of further information

EDUCATIONAL OBJECTIVES:

To develop empathy and respect for farm animals, a greater understanding of their needs and of the effects the choices we make have on their welfare. Meets specific national curriculum objectives in science and citizenship, but adaptable to any subject where the object is to provoke thought, stimulate discussion and develop a sense of responsibility towards animals and the environment.

This pack complements the CIWF Trust video Farm Animals & Us which is aimed at students aged 10-16. These resources are suitable for a wider age-range and can also stand on their own



This pack complements the CIWF Trust video Farm Animals & Us which is aimed at students aged 10-16. These resources are suitable for a wider agerange and can also stand on their own.

AN EVOLVING RESOURCE:

The contents of this pack may be liable to change. We hope to add additional resources over the course of time. Comments and suggestions for improvements or additions to this pack would be most appreciated. Please write to Education Department, CIWF Trust, 5a Charles St, Petersfield, Hants GU32 3EH;

Tel 01730 268070; Email ciwftrust@ciwf.co.uk.

ACKNOWLEDGEMENTS:

Text:	Phil Brooke BSc(Hons) PGCE CBiol MIBiol
Line drawings:	Sarah Blair BA(Hons)
Photographs	
and clip-art:	Various
Design:	Lucas Fernleigh Ltd - 02392 526895

CIWF Trust would like to thank all the teachers who have used these materials in school trials, and to everyone whose comments and suggestions have helped in the preparation of this pack.

© CIWF Trust 2001.

COMPASSION IN WORLD FARMING TRUST (UK)

5a Charles Street Petersfield Hampshire GU32 3EH UK Tel: +44 (0)1730 268070 Fax: +44 (0)1730 260791

Email: ciwftrust@ciwf.co.uk Website: www.ciwf.org

COMPASSION IN WORLD FARMING TRUST (IRELAND)

c/o Compassion in World Farming Salmon Weir Hanover Street Cork Republic of Ireland

Tel: +353 (0)21 4272441 Fax: +353 (0)21 4274984 Email: info@ciwf.ie Website: www.ciwf.ie

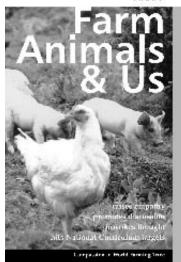
CIWF Trust is a registered charity no. 1095050, a company limeted by guarantee, Registered number 4590804

Farm Animals & Us Video





Science, Citizenship, Religious Studies, PSHE, Geography, English and Media Studies for students aged 10-16.



"Gave me a really good lesson ... superb for stimulating discussion ... pupils have asked to see it again!"

Special School Science Teacher

VIDEO OUTLINE:

Pigs play computer games, escape from slaughterhouses and save the lives of their human companions; chickens attempt assault courses and learn from watching television; Salford teenagers act out what it is like to live like intensively

farmed chickens. This film is entertaining, yet thought-provoking.

Using some remarkable and empathy-raising footage, the video looks at the needs and the often surprising abilities of farm animals. It examines intensive animal farming systems used to produce eggs, chicken and pork and discusses the social and economic context in which they came about. For the science curriculum, the efficiency of human food chains and selective breeding are discussed, the latter with a remarkable visual comparison of the growth rate of meat and egg-laying chickens. For citizenship, there is a section on campaigns about intensive farming in Britain and the European Union.

The film discusses the decisions we take which affect the welfare of farm animals, and outlines the choices we can make.

CONTENTS LIST AND APPROXIMATE CUMULATIVE TIMINGS (code: minutes.secs):

Introduction (0.00)

Instinct & Intelligence in Farm Animals (1.21)

How Intensive Farming has Developed (6.02)

Selective Breeding * (9.01)

Free-range Farming (12.22)

Food Chains and Efficient Food Production * (13.27)

You Choose What to Eat (14.46)

Campaigns About Intensive Farming ** (16.20)

* Aimed at National Curriculum Targets in Science (*) and Citizenship (**) at KS3 and KS4

The film lasts 19 minutes in total.

POSSIBLE LESSONS USING THE VIDEO FARM ANIMALS & US:

The film can be used in conjunction with any one or more of the other educational activities in this pack:

- Personality Test (attitude testing and opinionforming exercise)
- Where Do You Draw the Line? (opinion-forming and small group discussion exercise)
- How Do Animals Matter? (quotations exercises for small group discussion)
- Science Worksheets:

Selective Breeding and Farm Animals Food Chains and Farm Animals

Lesson plans incorporating the video can be found in the teachers' notes which accompany each of these activities.

The video can be used on its own or as a stimulus for discussion. There are seven sections, laid out in the video, providing natural breaks for discussion.

"Informative, interesting, thought-provoking and well-presented ... would be useful for PSHE"

Head of PSHE

"Useful link between literacy and science"

Head of Science

"It gave a calm, well-argued view of animals in Biology processes that made the pupils think"

Biology Teacher

"...entertaining, but also educational"

PSHE Teacher

"Excellent stimulus resource for year 9"

Head of RE

"My classes thoroughly enjoyed the video. It stimulated discussion and was superb material for a discursive essay" English Teacher

Where Do You Draw the Line?



An opinion-forming exercise for General Studies,
PSHE & Citizenship, Science, English, Religious
Studies and Geography - designed to promote small
group discussion

HOW IT WORKS:

Each page contains four "cards" like the one in the diagram. Each explores different sides of a farm animal welfare issue. Students discuss how far they agree or disagree with the subject on the card.

A FLEXIBLE RESOURCE:

This exercise can be photocopied for use as cards or as student worksheets. It is available in:

- colour for colour-photocopying and laminating as individual cards or worksheets
- black and white for photocopying as student worksheets

Use this resource as:

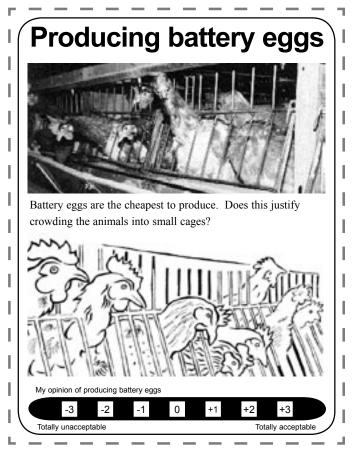
- cards to encourage group discussion and the sorting of ideas which relate to each other
- cards in role-play exercises
- worksheets for students to formulate their own views
- worksheets for homework
- background information for student research

Extra copies of the colour version can be obtained from CIWF Trust at £2 per set (not laminated). A students' summary sheet is also provided if you want to save on photocopying costs!

A RANGE OF ISSUES COVERED:

- Farm Animal Welfare (4 sheets including factory farming of chickens and pigs, free-range and organic production and long-distance animal transport)
- Scientific and Ethical Issues (2 sheets including genetic engineering, selective breeding, organic production, and the use of antibiotics and hormones)
- Ethics of Diet (2 pages including vegetarian and intensive farming issues)

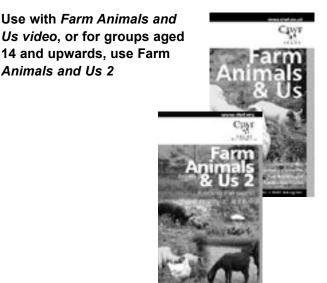
Use all the sheets, or be selective, according to your needs.



A sample card

SUITABLE FOR THE NATIONAL CURRICULUM

See separate sheet for each subject for ideas about using this exercise to help teach your syllabus.



Please see next page for lesson plan suggestions

Where Do You Draw the Line?



Some ideas for using Where Do You Draw The Line? cards in class:

POSSIBLE LESSON PLAN (50 minutes):

- 1. Class brainstorms foods we get from animals (2 minutes)
- Class brainstorms ways in which animals are kept for food (2 minutes)
- Where Do You Draw the Line? card exercise completed in groups (10-15 minutes according to how many of the cards/worksheets you choose to use; it doesn't matter if only part of the exercise is completed)
- 4. Watch Compassion in World Farming Trust video *Farm*Animals & Us (20 minutes), or for groups aged 14 and upwards, use Farm Animals and Us 2 (21 minutes)
- 5. Groups briefly consider if they wish to change any of their opinions (4 minutes)
- 6. Whole group discussion of issues raised (approx 5 minutes)

VARIATIONS:

- Use Where Do You Draw the Line? after the video. If the lesson is an hour or more, use the Personality Test exercise at the beginning.
- Each group prepares an example they agree or disagree with and presents their views to the rest of the class. Follow with whole class discussion (likely to require two lessons).
- 3. Use in role-play exercise. Groups to take on roles eg animal rights, animal welfare, farmers, meat industry, battery cage manufacturers, conservationists etc. Provide with range of literature. Research using the internet try www.ciwf.org! Use cards to help work out standpoints of own groups and likely opposition. See separate sheet on Source of Further Information for useful addresses and Websites.
- Use CIWF Trust booklet *Intensive Farming and the Welfare of Farm Animals* for further research. Can be photocopied for class use and homework.
- 5. Use as a whole class exercise with the class sitting in a circle. Give each student one card. Each presents their view and places the card in the appropriate place in the middle of the circle (totally acceptable at one end; totally unacceptable at the other). Provide opportunities for whole class discussion after every five cards or so. In this case, it can promote a long discussion (in small groups, it is usually quite quick). Best used in conjunction with the video.

USING AS CARDS:

Preparation: photocopy originals, preferably in colour. Cut up into cards, discarding page headings. Laminate if possible. Do enough sets for groups of three or four and place in envelopes.

In class:

Groups sort cards by discussion:

- Totally unacceptable (-3) on left hand side of table
- Totally acceptable (+3) on right hand side
- Others in between

Consider - Where do you draw the line?

USING AS WORKSHEETS OR WORKCARDS:

Preparation: photocopy the sheets in black and white, enough either for one each or one per group.

In class:

Groups discuss their views and tick boxes. Can be done individually.

Variation:

Photocopy in colour and laminate. Groups fill in results on separate summary sheet.





Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

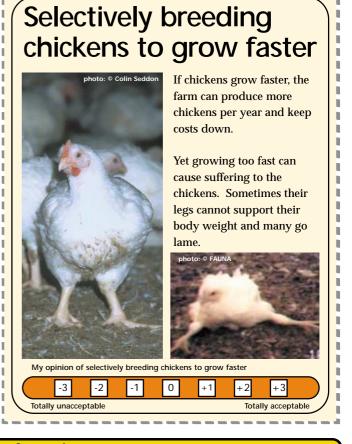




0

-3

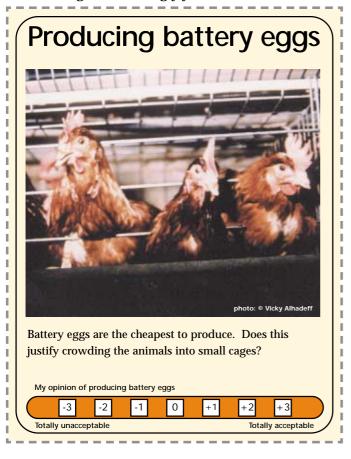


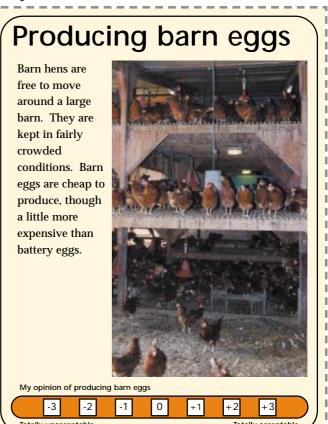


How should we treat farm animals? - 2 Egg production



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.





Debeaking hens



Hens kept in crowded conditions often attack and sometimes kill each other. Cutting off the tip of the beak can discourage this.

Debeaking is stressful. It works by making it painful for hens to peck, but pecking is an important activity for hens. One kinder, but more expensive, way of reducing their aggression would be to give them more space.

My opinion of debeaking hens

-3 -2 -1 0 +1 +2 +3

otally unacceptable

Totally acceptable

Producing free-range eggs from chickens kept in small groups



Free-range hens can exercise and perform natural behaviours such as nest-building and dust-bathing.

Eggs produced by this system are more expensive.

My opinion of producing free-range eggs from chickens kept in small groups

How should we treat farm animals? - 3 Pig rearing



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

Rearing pregnant pigs in sow stalls



At present, most European sows kept indoors spend their pregnancies in sow stalls. The purpose is to make pigs easier to manage.

This system is illegal in the UK. The sows cannot turn round. They are caged for months without a break. Is this cruel?

My opinion of rearing pregnant pigs in sow stalls

-3 -2 -1

0 +1 +2 +3

Totally acceptable

Using farrowing crates



Sows which live indoors are penned in small crates before they give birth. The object is to reduce the number of piglets which are lain on and accidentally killed, though well-designed alternatives can achieve the same purpose.

This prevents the sow from exercising or relating fully with her young. Piglets born outdoors often survive as well as those born in crates.

My opinion of using farrowing crates

-3 -2

+

+2

Totally acceptabl

Breeding pigs outdoors



This has proved to be economical, as well as being a kinder way of keeping sows. It is labour intensive and may provide more employment.

Not all land is suitable for keeping pigs outdoors. The piglets may be kept intensively after being removed from their mother.

My opinion of breeding pigs outdoors

-3 -2 -1 0 +1 +2 +3

otally unacceptable

Totally acceptable

Organic pig production



Both mother and piglets are kept free-range for most of their lives, which is kinder to animals. The food the pigs eat is produced without chemicals for the sake of the environment and human health.

It is more expensive. Could everyone afford organic food?

My opinion of organic pig production

-3 -2

0

+1

+2 +3

otally unacceptable

Totally acceptable

How should we treat farm animals? - 4 Live exports & free trade



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

Live export of sheep for slaughter (or further fattening)



Sheep are exported live from the UK to France, Belgium, Italy, Greece and Spain. Some farmers believe live exports mean they get more money for their lambs.

Long lorry journeys cause stress and discomfort. Some sheep do not survive the journey. With breaks, the total trip can last up to 80 hours.

-3 -2 -

Totally acceptable

Live export of calves for veal production



Calf exports from the UK are currently suspended due to BSE. If they start again, dairy farmers may get higher prices for their calves.

Long journeys are stressful for young calves who have just been separated from their mothers. Until 2007, it will still be legal on the Continent to keep these calves in narrow crates which have been banned in the UK.

My opinion of the live export of calves for veal production

-3 -2 -1 0
Totally unacceptable

+2 +3

Totally acceptable

Subsidies for cattle exports



Cattle are exported live from Ireland and Germany to the Middle East. This trade is subsidised by the European taxpayer to help cattle farmers.

The cattle suffer long journeys and may be killed by cruel slaughter methods. Should we pay for this?

My opinion of subsidies for cattle exports

-3 -2 -1 0 +1 +2 +3

otally unacceptable

Totally acceptable

Banning the import of cruel food



When the battery cage is banned in 2012, we will still import battery eggs from the rest of the world. This is because of free trade rules decided by the World Trade Organisation.

Which is more important - the prevention of cruelty, or the freedom to buy and sell what you like?

My opinion of banning the import of cruel food

-3 -2 -1 0 +1 +2 +:

How should we treat farm animals? - 5 Scientific & ethical issues - A



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

Routine use of antibiotics in farming



Crowded conditions on farms can lead to a spread of disease among animals. Antibiotics help to prevent illness and can increase growth rates.

Dangerous bacteria can become resistant to antibiotics if they are over-used. This means that vital antibiotics used for people no longer work. An alternative might be to keep animals in less crowded conditions.

My opinion of the routine use of antibiotics in farming

-3 -2 -1 0 +1 +2 -

tally unacceptable Tota

Using hormones in beef production



Hormone implants are used in the US to make cattle grow faster and leaner. This provides cheap beef of a quality which some consumers want.

Hormone implants are banned in Europe because of worries about human health and animal welfare. Should we interfere with an animal's body chemistry to make it grow faster?

My opinion of using hormones in beef production

-3 -2 -1 0 +1 +2

ally unacceptable

Totally acceptable

Keeping animals in cages or small pens



Animals kept in small cages use less energy in exercising so they need less food to grow. Their meat, milk or eggs can be cheaper.

Exercise is good for an animal's health. It also makes life more enjoyable. Is it cruel to prevent an animal from behaving naturally?

My opinion of keeping animals in cages or small pens

-3 -2 -1 0 +1 +2 +3

otally unacceptable

Totally acceptable

Crowding animals together



Keeping animals crowded together can make meat production cheaper. Crowded animals take up less room and may use less energy keeping warm.

Crowded conditions can lead to the spread of disease. Is it good for our health, or kind to animals, to keep them in crowded conditions?

My opinion of crowding animals together

-3 -2 -1 0 +1 +2 +3

How should we treat farm animals? - 6 Scientific & ethical issues -



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

Selectively breeding cows to produce more milk



Cows are selectively bred to produce very large quantities of milk. This helps to keep milk cheap.

The cow's udders may contain over 20 litres of milk at a time. Supporting this weight can make the cow lame. Producing so much milk can cause painful infections in their udders.

-3 -1 0

Rearing Belgian Blue cattle

Belgian Blue cattle have inherited a mutant gene which makes their muscles larger. They produce plenty of meat and bigger steaks.

Producing a larger calf can make giving birth more painful and difficult for the Belgian Blue cow. The calves often have to be born by caesarean section.



-3 -2 0

Genetically engineering animals to grow faster & leaner



This pig has been genetically modified with a cattle gene in an attempt to produce an animal which grows faster and with less fat.

In experiments like this, genetically modified animals suffered many disabilities and did not live for long.

My opinion of genetically engineering animals to grow faster and leaner

Growing food organically



Organic food is produced without using synthetic chemicals. It can be kinder to the environment and may be better for health. Organically reared animals are usually kept for most of their lives in free-range, more natural conditions.

Organic food is more expensive in the shops. Should we all be expected to pay more for animal welfare and the environment? Can we feed the world organically?

My opinion of growing food organically

What should we eat? - Farm animals & the ethics of diet - A



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

Eating meat from factory farms



Meat is a useful source of protein and of some vitamins and minerals. Intensively reared meat is cheaper to produce.

Intensive rearing can be bad for animal welfare and the environment. Is it right to keep animals like this?

My opinion of eating meat from factory farms



Totally unacceptable

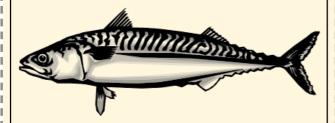
Eating meat from free-range farms

Many people want to eat meat, and this way people feel that the animals they eat have had a happier life.

Free-range meat is often more expensive to produce. The animals still have to be killed so that we can eat them.



Eating fish



Fish is a healthy source of protein. Wild fish have had free lives until they are caught.

Death in a fishing net from injury, suffocation or crushing may be extremely stressful. There is evidence that fish can feel pain, fear and distress.

My opinion of eating fish



Eating farmed salmon

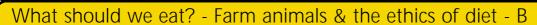


Salmon are reared in cages in lochs or by the coast. Intensive farming has made salmon cheap to buy.

Salmon swim backwards and forwards in their cages; naturally they would swim hundreds of miles out to sea. Fish faeces, and the chemicals used to prevent disease, pollute the marine environment.

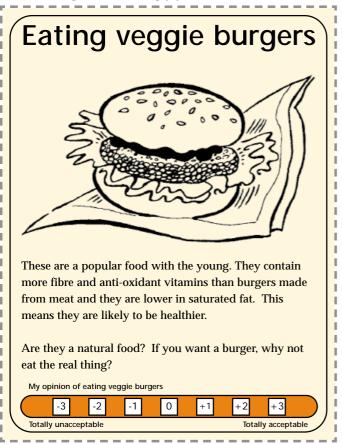
My opinion of eating farmed salmon

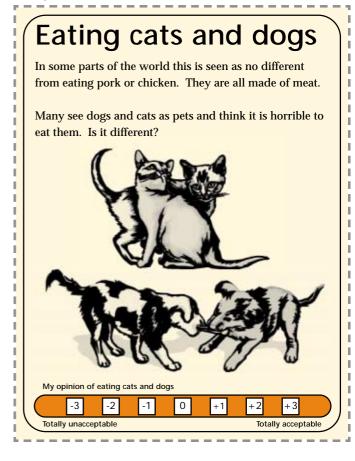
-3

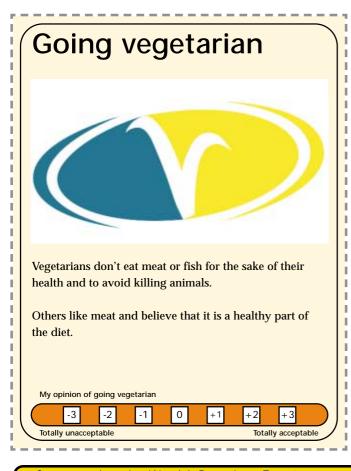


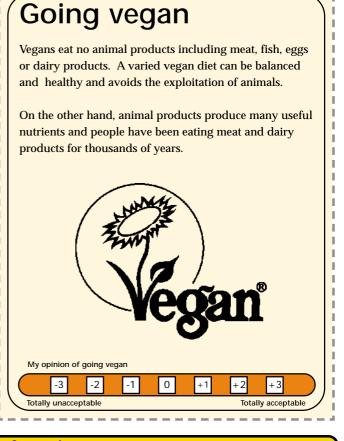


Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.





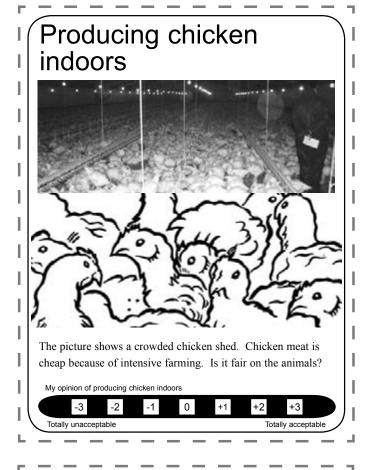




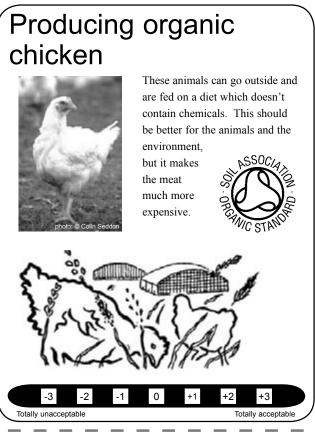
How should we treat farm animals? - 1 Chicken production

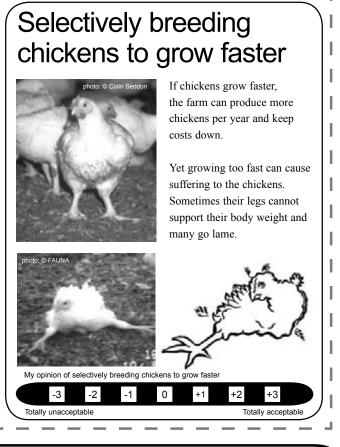


Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.





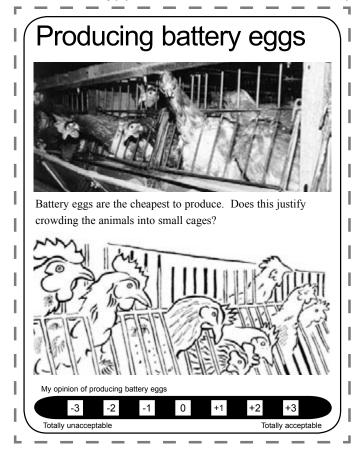


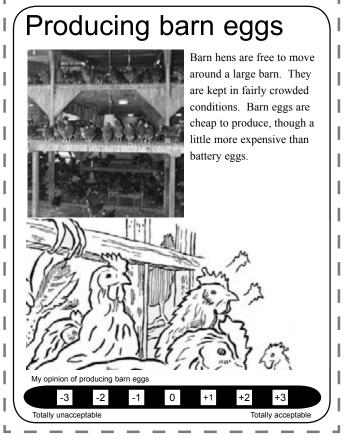


How should we treat farm animals? - 2 Egg production



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.









Hens kept in crowded conditions often attack and sometimes kill each other. Cutting off the tip of the beak can discourage this.

Debeaking is stressful. It works by making it painful for hens to peck, but pecking is an important activity for hens. One kinder, but more expensive, way of reducing their aggression would be to give them more space.

My opinion of debeaking hens

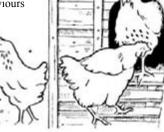
-3 -2 -1 0 +1 +2 +3

Totally unaccentable

Producing free-range eggs from chickens kept in small groups

Free-range hens can exercise and perform natural behaviours such as nest-building and dust-bathing.

Eggs produced by this system are more expensive.





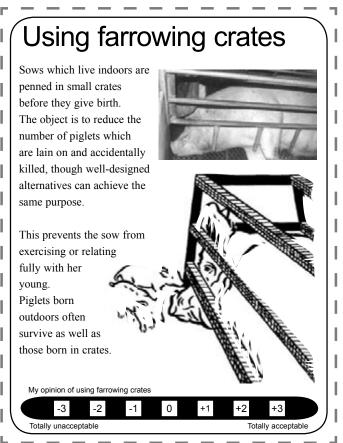
Totally acceptable

How should we treat farm animals? - 3 Pig rearing



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.



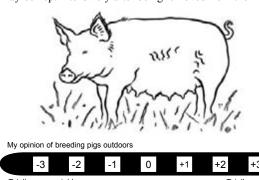






This has proved to be economical, as well as being a kinder way of keeping sows. It is labour intensive and may provide more employment.

Not all land is suitable for keeping pigs outdoors. The piglets may be kept intensively after being removed from their mother.



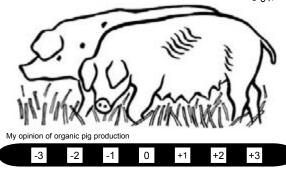
Organic pig production

Both mother and piglets are kept free-range for most of their lives, which is kinder to animals. The food the pigs eat is produced without chemicals for the sake of the environment and human health.



It is more expensive. Could everyone afford organic food?





How should we treat farm animals? - 4 Live exports & free trade



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

Live export of sheep for slaughter (or further fattening)

Sheep are exported live from the UK to France, Belgium, Italy, Greece and Spain. Some farmers believe live exports mean they get more money for their lambs.

Long lorry journeys cause stress and discomfort. Some sheep do not survive the journey. With breaks, the total trip can last up to 80 hours.





My opinion of the live export of sheep for slaughter (or further fattening)

-3 -2

Totally acceptable

Live export of calves for veal production

Calf exports from the UK are currently suspended due to BSE. If they start again, dairy farmers may get higher prices for their calves.



Long journeys are stressful for young calves who have just been separated from their mothers. Until 2007, it will still be legal on the Continent to keep these calves in narrow crates which have been banned in the UK.



My opinion of the live export of calves for veal production

-1 0 +1

Subsidies for cattle exports



Cattle are exported live from Ireland and Germany to the Middle East. This trade is subsidised by the European taxpayer to help cattle farmers.

The cattle suffer long journeys and may be killed by cruel slaughter methods. Should we pay for this?

My opinion of subsidies for cattle exports

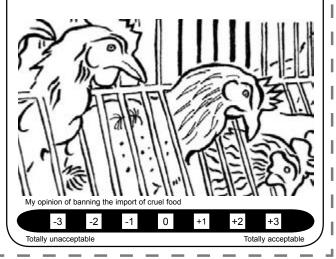
-3 -2 -1 0 +1 +2 +3

Totally unacceptable

Banning the import of cruel food

When the battery cage is banned in 2012, we will still import battery eggs from the rest of the world. This is because of free trade rules decided by the World Trade Organisation.

Which is more important - the prevention of cruelty, or the freedom to buy and sell what you like?



How should we treat farm animals? - 5 Scientific & ethical issues



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

Routine use of antibiotics in farming



Crowded conditions on farms can lead to a spread of disease among animals. Antibiotics help to prevent illness and can increase growth rates.

Dangerous bacteria can become resistant to antibiotics if they are over-used. This means that vital antibiotics used for people no longer work. An alternative might be to keep animals in less crowded conditions.

My opinion of the routine use of antibiotics in farming

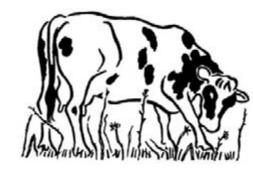
-3 -2 -1 0 +1 +2 +3

ally unacceptable Totally accepta

Using hormones in beef production

Hormone implants are used in the US to make cattle grow faster and leaner. This provides cheap beef of a quality which some consumers want.

Hormone implants are banned in Europe because of worries about human health and animal welfare. Should we interfere with an animal's body chemistry to make it grow faster?



My opinion of using hormones in beef production

Crowding animals

-3 -2 -1 0

together

+2 +3

Totally acceptable

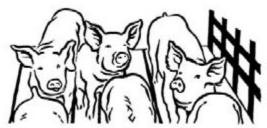
Keeping animals in cages or small pens



Animals kept in small cages use less energy in exercising so they need less food to grow. Their meat, milk or eggs can be cheaper.

Exercise is good for an animal's health. It also makes life more enjoyable.

Is it cruel to prevent an animal from behaving naturally?



My opinion of keeping animals in cages or small pens

-3 -2 -1 0 +1 +2 +3

Totally unaccentable

Keeping animals crowded together can make meat production cheaper. Crowded animals take up less room and may use less energy keeping warm.

Crowded conditions can lead to the spread of disease. Is it good for our health, or kind to animals, to keep them in crowded conditions?

My opinion of crowding animals together

-3 -2 -1 0 +1 +2 +3

Totally unacceptable

Totally acceptable

How should we treat farm animals? - 6 Scientific & ethical issues



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

Selectively breeding cows to produce more milk



Cows are selectively bred to produce very large quantities of milk. This helps to keep milk cheap.

The cow's udders may contain over 20 litres of milk at a time. Supporting this weight can make the cow lame. Producing so much milk can cause painful infections in their udders.

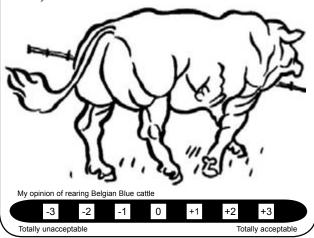
My opinion of selectively breeding cows to produce more milk

-3

Rearing Belgian Blue cattle

Belgian Blue cattle have inherited a mutant gene which makes their muscles larger. They produce plenty of meat and bigger

Producing a larger calf can make giving birth more painful and difficult for the Belgian Blue cow. The calves often have to be born by caesarean section.



Genetically engineering animals to grow faster & leaner



This pig has been genetically modified with a cattle gene in an attempt to produce an animal which grows faster and with less

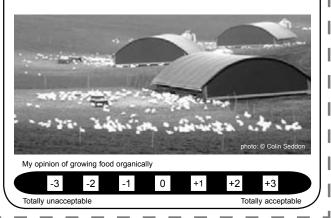
In experiments like this, genetically modified animals suffered many disabilities and did not live for long.

My opinion of genetically engineering animals to grow faster and leaner

Growing food organically

Organic food is produced without using synthetic chemicals. It can be kinder to the environment and may be better for health. Organically reared animals are usually kept for most of their lives in free-range, more natural conditions.

Organic food is more expensive in the shops. Should we all be expected to pay more for animal welfare and the environment? Can we feed the world organically?



What should we eat? - Farm animals & the ethics of diet - A



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

Eating meat from factory farms



Meat is a useful source of protein and of some vitamins and minerals. Intensively reared meat is cheaper to produce.

Intensive rearing can be bad for animal welfare and the environment. Is it right to keep animals like this?

My opinion of eating meat from factory farms

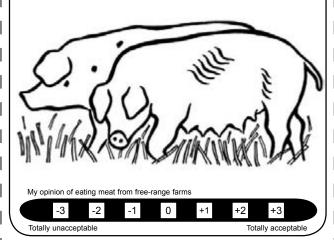
tally unaccentable

ly unacceptable Totally acce

Eating meat from free-range farms

Many people want to eat meat, and this way people feel that the animals they eat have had a happier life.

Free-range meat is often more expensive to produce. The animals still have to be killed so that we can eat them.



Eating fish



Fish is a healthy source of protein. Wild fish have had free lives until they are caught.

Death in a fishing net from injury, suffocation or crushing may be extremely stressful. There is evidence that fish can feel pain, fear and distress.

My opinion of eating fish

-3 -2 -1 0 +1 +2 +3

Eating farmed salmon



Salmon are reared in cages in lochs or by the coast.

Intensive farming has made salmon cheap to buy.

Salmon swim backwards and

forwards in their cages; naturally they would swim hundreds of miles out to sea. Fish faeces, and the chemicals used to prevent disease, pollute the marine environment.

My opinion of eating farmed salmon

-3 -2 -1 0 +1 +2 +3

Totally unacceptable

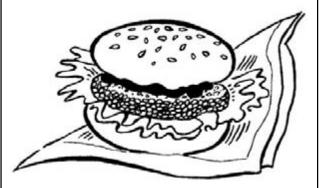
Totally acceptable

What should we eat? - Farm animals & the ethics of diet - B



Do you think the following are unacceptable or acceptable? Use the scale from -3 to +3 according to how strongly you feel about each card. Choose 0 if you are neutral about the issue.

Eating veggie burgers



These are a popular food with the young. They contain more fibre and anti-oxidant vitamins than burgers made from meat and they are lower in saturated fat. This means they are likely to be healthier.

Are they a natural food? If you want a burger, why not eat the real thing?

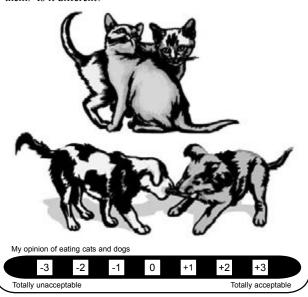
My opinion of eating veggie burgers



Eating cats and dogs

In some parts of the world this is seen as no different from eating pork or chicken. They are all made of meat.

Many see dogs and cats as pets and think it is horrible to eat them. Is it different?



Going vegetarian



Vegetarians don't eat meat or fish for the sake of their health and to avoid killing animals.

Others like meat and believe that it is a healthy part of the diet.

My opinion of going vegetarian

-3 -2 -1 0 +1 +2 +3

Totally unacceptable Totally acceptable

Going vegan

Vegans eat no animal products including meat, fish, eggs or dairy products. A varied vegan diet can be balanced and healthy and avoids the exploitation of animals.

On the other hand, animal products produce many useful nutrients and people have been eating meat and dairy products for thousands of years.



My opinion of going vegan

-3 -2 -1 0 +1 +2 +3

Totally unacceptable

Totally acceptable

How Do Animals Matter?



Opinion-forming exercises for English, Religious Studies, General Studies, PSHE & Citizenship and Geography - designed to promote small group discussion

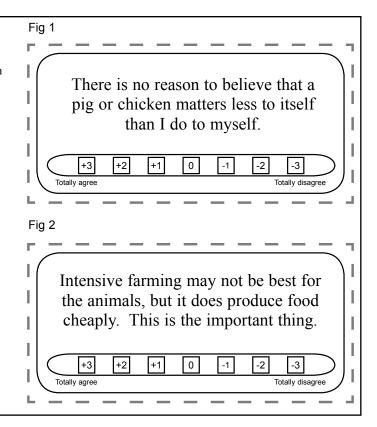
HOW IT WORKS:

Each page contains eight "cards" like the two in the diagrams. Each card contains an opinion about how we should treat farm animals. Students discuss how far they agree or disagree with the statement on the card.

The exercise is divided into two sections. There are 3 pages each with quotes on:

- philosophical issues relating to our treatment of food animals (as in Fig 1)
- more practical viewpoints relating to animal welfare, and the economic and environmental consequences of animal farming (as in Fig 2)
- religious and secular viewpoints (see separate sheet of Teachers' Notes which discuss these in more detail)

These opinions encompass a wide range of views. Use the two parts separately or together.



A FLEXIBLE RESOURCE:

The exercise can be photocopied for use as cards or as student worksheets. Use this resource as:

- cards to encourage group discussion
- cards to encourage students to sort ideas which relate to each other
- cards in role-play exercises
- worksheets for students to formulate their own views
- worksheets for homework
- background information for student research into alternative viewpoints as preparation for essays, projects and dissertations

Use with Farm Animals and Us video or, for groups aged 14 and upwards, use Farm Animals and Us 2.



SUITABLE FOR THE NATIONAL CURRICULUM

See separate sheet for each subject for ideas about using this exercise to help teach your syllabus.

Please turn to the next page for lesson plan suggestions

How Do Animals Matter?



Some ideas for using *How Do Animals Matter?* exercise in class:

POSSIBLE LESSON PLAN (50 minutes):

- 1. Class brainstorms foods we get from animals (2 minutes)
- Class brainstorms ways in which animals are kept for food (2 minutes)
- 3. How Do Animals Matter? A range of philosophical viewpoints (1-3) exercise completed in groups (10 minutes)
- Watch Compassion in World Farming Trust video Farm
 Animals & Us (20 minutes) or for groups aged 14 and upwards,
 show Farm Animals and Us 2
- Groups briefly consider if they wish to change any of their opinions. Are there other arguments which should be added? (4 minutes)

6. Either: Whole group discussion of issues raised

Or: Complete second exercise - How Do

Animals Matter? A range of viewpoints (1-3)

(12 minutes)

VARIATIONS:

- 1. Use *How Do Animals Matter?* after the video. If the lesson is an hour or more, use the *Personality Test* exercise at the beginning.
- Each group prepares an example they agree or disagree with to present to the rest of the class. Encourage them to consider which other arguments relate to their card. Follow with whole class discussion (likely to require two lessons).
- 3. Use in role-play exercise. Groups to take on roles eg animal rights, animal welfare, farmers, meat industry, battery cage manufacturers, conservationists etc. Provide with range of literature. Research using the internet try www.ciwf.co.uk! Use cards to help work out standpoints of own groups and likely opposition. See separate sheet on Sources of Further Information for useful addresses and Websites.
- 4. Use CIWF Trust booklet *Intensive Farming and the Welfare of Farm Animals* for further research. Can be photocopied for homework.

USING AS CARDS:

Preparation: photocopy originals. Cut up into cards, discarding page headings. Laminate if possible. Do enough sets for groups of three or four and place in envelopes.

In class:

Groups sort cards by discussion:

- Totally agree (+3) on left hand side of table
- Totally disagree (-3) on right hand side
- Others in between

Extension:

Put the cards into groups of statements that relate to each other. You may get pairs that are clear opposites. Sometimes several go together. Do any of your views change?

USING AS WORKSHEETS OR WORKCARDS:

Preparation: photocopy the sheets, enough either for one each or one per group.

In class:

Groups discuss their views and tick boxes. Can be done individually. Can be done as a homework exercise.

- 5. Use as a whole class exercise with the class sitting in a circle. Give each student one card. Each presents their view and places the card in the appropriate place in the middle of the circle (totally agree at one end; totally disagree at the other). Provide opportunities for whole class discussion after every five cards or so. In this case, it can promote a long discussion (in small groups, it is usually quite quick). Best used in conjunction with the video.
- 6. See separate teachers' notes for discussion of *How Do Animals Matter? Opinions, Religious and Secular.*

A range of philosophical viewpoints - 1



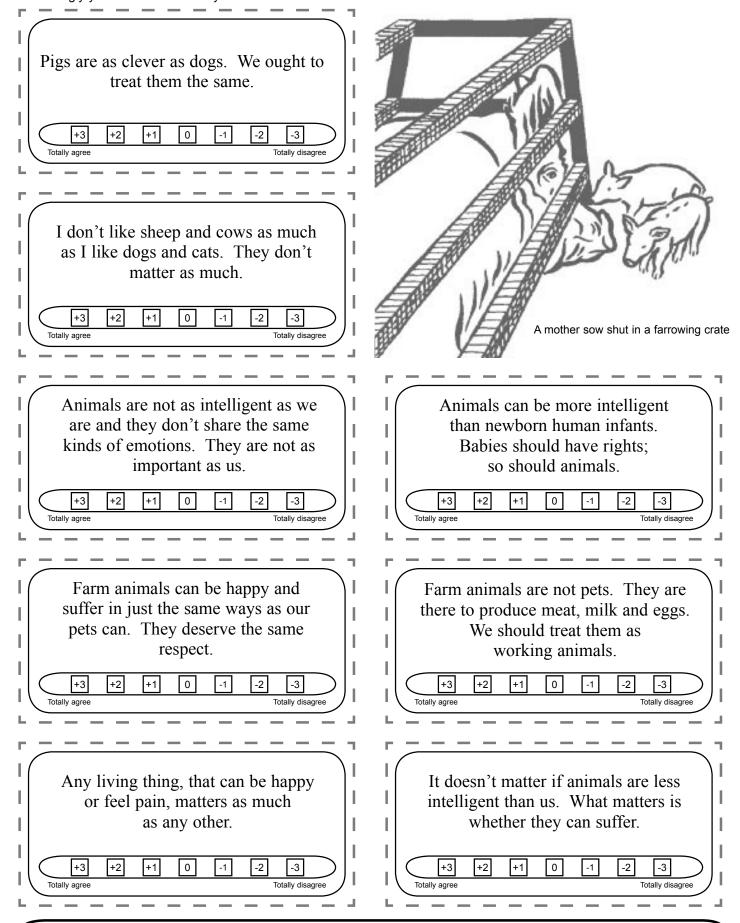
Do you agree or disagree with the statements below? Use the scale from +3 to -3 according to how strongly you feel. Choose 0 if you are neutral about the issue.

We shouldn't worry about animals when there are people suffering in the world.	
We are animals ourselves. We can't expect rights for humans if we don't accept that animals should also have rights.	A calf shut in a veal crate
A world that is kinder to animals treats people better too. +3 +2 +1 0 -1 -2 -3 Totally agree Totally disagree	Animals are not things, they are sentient beings. We must treat them with respect.
Only humans can have rights because we are the only species to respect the rights of others.	It is wrong to discriminate on grounds of race, sex or creed. All people matter. In the same way, other species of animal are important too. All animals matter. 1
Hens may not like being in cages, but it doesn't matter. They're only animals. +3 +2 +1 0 -1 -2 -3 Totally agree Totally disagree	There is no reason to believe that a pig or chicken matters less to itself than I do to myself. 1

A range of philosophical viewpoints - 2



Do you agree or disagree with the statements below? Use the scale from +3 to -3 according to how strongly you feel. Choose 0 if you are neutral about the issue.



A range of philosophical viewpoints - 3



Do you agree or disagree with the statements below? Use the scale from +3 to -3 according to how strongly you feel. Choose 0 if you are neutral about the issue.

Animals should have a right to life, freedom and an absence of suffering. +3 +1 0 -1 -2 -3 Totally agree Totally disagre It's ok to kill an animal so you can eat it, but it's not ok to let it suffer. Free-range pig 0 -2 Totally agree We should do as we would be done by. There's no point in keeping meat chickens in better conditions. If you wouldn't like it done to you, They are going to die anyway. don't do it to an animal. +3 +1 0 -1 -2 +2 +1 0 -1 +3 -2 Totally agree Totally disagree Totally disagree Some animals eat each other, so it's ok Meat is murder. for us to eat animals. +2 +3 +3 -1 -2 Pigs, chickens, cows and fish wouldn't If we expect animals to work for us, exist if we didn't eat them. We are we should see that they have doing them a favour by keeping them to a good life. produce food. +3 0 -2 +2 -2 -3 +3 0 -1 -3 Totally agree Totally agree Totally disagree Totally disagree

How Should We Treat Farm Animals?

A range of viewpoints - 1



Totally disagree

Do you agree or disagree with the statements below? Use the scale from +3 to -3 according to how

strongly you feel. Choose 0 if you are neutral about the issue. Intensive farming may not be best for the animals, but it does produce food cheaply. This is the important thing. 0 -3 Totally agree Totally disagre If you kept a pet in the way we keep some of our farm animals, you would be prosecuted. We shouldn't be allowed to keep any animal like this. 0 +3 A sow shut in a sow stall. This Totally agree system is illegal in the UK, but is common in many other countries If piglets weren't happy, they Animals are programmed by their genes wouldn't grow properly. It's in the to grow. A fast growing animal isn't farmers' interests to look after necessarily a happy one. their animals. +1 +2 +1 0 +3 +3 -2 Totally agree Totally disagree Totally disagre Animals in intensive farms are kept Life in a cage removes all that makes warm, well-fed and watered. life worth living. What more could they want? +2 +3 -2 When a hen is about to lay an egg, her Animals in intensive farms don't know instincts tell her she must find a safe place a better life. What they don't miss, they to make a nest. Battery cages contain no don't suffer from. nests. It is cruel to frustrate her maternal instincts in this way. 0 +3 -3 +3

Totally agree

Totally disagree

Totally agree

How Should We Treat Farm Animals?

A range of viewpoints - 2



Do you agree or disagree with the statements below? Use the scale from +3 to -3 according to how strongly you feel. Choose 0 if you are neutral about the issue.

One person cannot make much difference to the way farm animals are treated.	
+3 +2 +1 0 -1 -2 -3 Totally agree Totally disagree	Con My
One person can make a difference, for good or bad, to many animals.	
Totally agree Totally disagree	Battery hens
A hen lays an egg per day. A free-range egg costs one or two pence more to produce. This is not a lot to ask for a day's freedom for a hen. 1	Battery eggs are cheaper than free-range eggs. We shouldn't expect poor people to pay more money for free-range. 1
Some people want cheap food, some want it organic or welfare-friendly. We should leave it to the consumer to decide.	No-one should have a right to eat food which is produced in a way which is cruel to animals or bad for the environment.
Totally agree Totally agree Totally disagree	Totally agree Totally disagree Totally disagree
r - <u></u> -1	r
Most people eat more than a thousand animals in their lifetime. Choices you make about food make more difference to the animal suffering in the world than any other decision you are likely to make.	The greatest mistake is to do nothing because you can only achieve a little.
Totally agree Totally agree	Totally agree Totally disagree

How Should We Treat Farm Animals?

A range of viewpoints - 3



Totally disagree

Do you agree or disagree with the statements below? Use the scale from +3 to -3 according to how strongly you feel. Choose 0 if you are neutral about the issue.

г — — — — — — — — — — — — — — — — — — —	
Free-range egg production uses more land. There isn't enough to go round. 1	
L Totally disagree	Free-range hens
r	r
If we want to feed a rising population in the world, we need to keep animals more intensively, not less. 1	It takes less land to grow crops for people than to grow animals for them to eat. If we want to feed more people, we need to keep fewer animals.
If we give animals more space and freedom, they will be healthier. Our food will be healthier too. 1	Keeping large numbers of animals in sheds can cause great pollution problems. We should keep animals in smaller groups and it would be kinder to the environment. 1
We should grow our food intensively to leave more land for other purposes like parks and housing.	You find more wildlife on organic fields because they are farmed without poisonous chemicals. We should grow our food organically.
(+3 +2 +1 0 -1 -2 -3)	[(+3 +2 +1 0 -1 -2 -3)

Totally agree

Totally disagree

Totally agree

How Do Animals Matter? Opinions, Religious and Secular



A small group discussion exercise for Religious Studies or General Studies.

How Animals Matter – Opinions, Religious and Secular is one of three quotation-discussion exercises in this pack. The others cover *Philosophical Issues* and a more general *Range of Viewpoints* about our treatment of animals, especially those which are reared for food. Please see the separate sheet of Teachers' Notes which discusses the other two exercises.

HOW IT WORKS:

Each page contains eight "cards" like the two in the diagrams. Each contains an opinion about the status of animals or how they should be treated. In this exercise these opinions come either from a religious or secular (non-religious) point of view. Views from a range of world religions are represented.

Students can:

- Discuss how far they agree or disagree with the statement on the card
- Sort the cards into groups of world religions
- Role play how followers of different religions might sort the cards

This is a **flexible resource** which can be photocopied for use either as cards or as worksheets for discussion, individual opinion-forming, research or as general background information about the range of religious and non-religious views about animals. Individual cards can also be used in turn to stimulate lengthy whole class discussions.

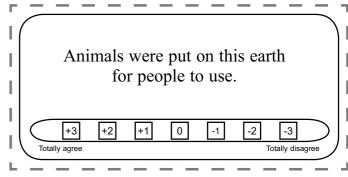


Fig 1

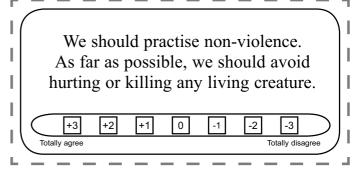


Fig 2

Use with Farm Animals and Us video or, for groups aged 14 and upwards, use Farm Animals and Us 2.



Please turn over for lesson plan suggestions, and to the separate sheet on Animals in Religion for background information.

How Do Animals Matter? Opinions, Religious and Secular



POSSIBLE LESSON PLAN (see separate sheet on *Animals in Religion* for reference; it may be useful to have photocopies of this for more able members of the class to use, but it is primarily written for the teacher).

- Brainstorm a list of world religions (eg Christianity, Judaism, Islam, Buddhism, Hinduism, Jainism and Taoism). Sort religions into groups such as *Monotheistic* ("Religions of the Book") and Eastern Religions (whole class activity).
- Brainstorm how different religions teach us to treat animals (whether we should eat them, whether they have souls etc).
- 3. (Small group activity) Hand out the activity *How Do Animals Matter? Opinions Religious and Secular* as cards or as a worksheet. Ask groups to discuss their opinions.
- 4. Ask groups when they finish to see which religions they feel each card goes with. They could sort the cards into piles for:
 - Monotheistic Religions ("Religions of the Book")
 - Eastern Religions
 - Secular non-religious views (will contain a range of opinions!)
- Encourage them also to consider whether some cards might fit into more than one category.
- 6. Briefly discuss the results, if appropriate. Please be clear that there may be legitimate differences of opinion as to which card goes with which group of religions. Followers of any one religion may not always agree with each other! Whilst several of the cards are based on specific teachings of particular religions, others are more general; some are non-religious philosophical statements. The separate sheet on *Animals in Religion* should help to categorise many of them.
- 7. Extension ask more able groups to compare their results with a photocopy of the section on *Animals in Religion*.
- 8. Watch all or part of the video Farm Animals & Us, or for groups aged 14 or above, use Farm Animals & Us 2.
- 9. Discuss.
- Return to the card exercise to see if any opinions have changed.

ALTERNATIVE LESSON SUGGESTIONS:

- If more than one lesson is available, use these cards
 in a follow-up lesson. We suggest you try the video
 with the activity How do animals matter? A range of
 philosophical viewpoints, which is also about quotations,
 in a previous lesson. The Personality Test exercise also
 examines different ways of looking at animal issues.
- 2. Divide the class into groups. Get each one to research, using the library and the Internet, the attitude of a different religion to animals, vegetarianism etc. Can they find some of the original quotes on which the card statements were based?
- 3. Follow the research with a role-play exercise. Ask each group to consider a particular religion, and decide how they think the followers of that religion would complete the card exercise. Encourage groups to look at each other's results.
- 4. Use the cards for a whole class discussion. Sit the class in a circle and share one set of cards between them. Ask each in turn to choose one of their cards and read it out. They then suggest which religions or viewpoints would agree or disagree with this card, and state their own opinion. They then place their card in the centre of the circle on a line from totally agree to totally disagree. If appropriate, the issues can be opened to general discussion at suitable times. This method can promote long discussions!
- 5. Survey people from different religious groups (and people who are not religious). Do the views vary between the different groups, or are opinions similar?
- 6. Diamond ranking system. Choose a criterion for ranking the cards in order (eg the one I agree with most). Choose any 9 related statements, re-photocopy and cut them into cards. Groups of 2-4 students put their favourite statement at the top; the two next best in the second row; 3 in the third row; then two; then the least pertinent at the bottom. The result looks like a diamond. The principle also works with 16 statements (2 pages).

How Do Animals Matter? Opinions, Religious and Secular



ANIMALS IN RELIGION.

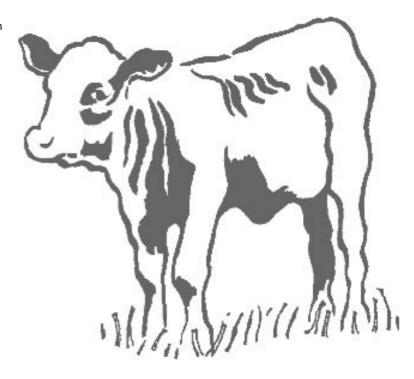
Should we be kind? The cards reflect the fact that all modern religions have teachings that support kindness to animals. In Luke Chapter 12, the New Testament states that even sparrows "are not forgotten before God." The prophet Mohammed made a number of statements to the effect that there is a reward in heaven for every act of kindness to an animal. The Eastern religions contain many references encouraging kindness and non-violence.

Can we eat meat? You will find both vegetarians and meat eaters amongst the supporters of most religions. Some religions actively promote vegetarianism. No religion actively encourages meat eating, but some allow it. There are usually rules attached, some of which are designed to prevent cruelty.

The three "Religions of the Book" (the monotheistic religions Judaism, Islam and Christianity) teach the concept of **stewardship**. We were put here to look after the earth and we must manage it properly. People may use animals for food, but we have a responsibility to look after the animals' welfare. The Bible starts with a description of a vegetarian paradise (the Garden of Eden); then permission to use animals is given after the flood (the Second Covenant), subject to conditions partly designed to reduce suffering; another vegetarian paradise is described in Isaiah after the Second Coming (the leopard lying down with the kid and the lion eating straw like the ox). The prophet Mohammed preached that animals should not be killed without a rightful reason. He argued that if you must kill, you must kill without torture.

Some Eastern religions (Buddhism, Hinduism and Jainism especially) encourage vegetarianism. They preach non-violence (ahimsa) with the idea that, as far as possible, we should avoid hurting or killing any living creature. To the Hindu, the man who does not eat meat is a friend of all creatures; the Buddha taught that to harm one creature is to harm all; the Jains, in particular, argue that we should avoid harming even insects. The Taoists believe that people should live in harmony with nature.

There is a range of opinions and practices, within any one religion, on animal issues. As stated before, supporters of most religions include both meat eaters and vegetarians. Two more examples follow.



Do animals have souls? Some Roman Catholics, following St Thomas Aquinas, believe that animals do not have souls and that man does not have any duties towards other creatures. On the other hand, St Francis preached that animals were our fellow creatures and his followers often have a very caring attitude to animals. The Bible doesn't answer this question directly, though the reference in Isaiah to animals at the Second Coming might suggest that they do have souls. Another point of disagreement refers to man being given dominion over animals in the Garden of Eden. Some scholars think this means that animals are there for us to use; others believe it means we have to look after them (after all, the Garden of Eden is vegetarian).

For Moslems, the prophet Mohammed preached that other animals form communities like we do, that each one knows its prayer and psalm, that Allah is aware of what they do and that the earth's resources are to be shared between man and other animals. The Eastern religions generally believe in reincarnation, that we may have been animals in previous lives and, that if we sin, we may be reincarnated as animals again in the future.

Opinions, religious and secular - 1



Do you agree or disagree with the statements below? Use the scale from +3 to -3 according to how strongly you feel. Choose 0 if you are neutral about the issue.

People who don't eat meat are the friends of all creatures.	
People are superior to all other animals. We can use them as we like.	
Humans evolved from other animals. This means that we are animals too. Other animals must matter in the same	People are more important than other animals, but animals matter too.
way as we do. +3 +2 +1 0 -1 -2 -3 Totally agree Totally disagree	+3 +2 +1 0 -1 -2 -3 Totally agree Totally disagree
To harm one creature is to harm all creatures.	Animals are God's creatures. We may use them, but never abuse them. We have no right to be cruel.
+3 +2 +1 0 -1 -2 -3 Totally agree Totally disagree	+3 +2 +1 0 -1 -2 -3 Totally agree Totally disagree
The resources of the earth are not just for people, but to be shared with other creatures.	We should care about all creatures, including animals and even insects, as we do about ourselves.

Opinions, religious and secular - 2



Do you agree or disagree with the statements below? Use the scale from +3 to -3 according to how strongly you feel. Choose 0 if you are neutral about the issue.

Animals were put on this earth for people to use. +3 +1 0 -2 -3 Totally agree Totally disagre People were put on this earth to look after God's creation, including all living things. 0 We should tread lightly on the earth, We should practise non-violence. As far as possible, we should avoid and try to live in harmony with nature and other creatures. hurting or killing any living creature. +1 0 +2 +1 0 +3 +3 -1 -2 Totally agree Totally disagree Totally disagr We should not waste time helping God cares even about small birds animals. Our duty is towards our like sparrows. fellow human beings. +2 +3 +1 +3 -2 -3 At the start of the Old Testament, The Old Testament states that, after the the Garden of Eden is described as a flood, God gave people permission to eat vegetarian paradise. This suggests it meat (the Second Covenant). This means must be good to be a vegetarian. people should eat meat. +3 0 +3 +2 0 -3 -3 Totally agree Totally disagree Totally agree Totally disagree

Opinions, religious and secular - 3



Do you agree or disagree with the statements below? Use the scale from +3 to -3 according to how strongly you feel. Choose 0 if you are neutral about the issue.

There is a reward in heaven for every act of kindness to an animal. Animals don't have souls. We do not need to worry about them too much. Totally agree Totally disagree Totally disagree Totally disagree	
If animals don't have immortal souls, then this life and its suffering matters even more to them. It is the only life they have got.	Other animals do have souls. They are no different from us in this respect. 1
All animals praise the creator in their own way.	The suffering you cause in this life, you will reap in the next.
Some religions believe in reincarnation. You might be an animal in a future life. This means that if you kill an animal, you could be killing one of your ancestors. 1	We could all be reincarnated as a cow or as a chicken in another life. We should treat them as we would want to be treated. Totally disagree Totally disagree

Personality Test



A differentiated opinion-forming exercise for General Studies, PSHE & Citizenship, Religious Studies, Geography, Science and English.

People love doing personality tests! Actually, this is an exercise in analysing attitudes to animal issues.

Fig 1

- The number of whales in the sea has been declining because they have been killed for their meat and oil.
 Some species are close to extinction.
- a) It is wrong to kill whales. They are highly intelligent and sensitive creatures.
 We have no right to exploit them for our own gain.
- b) The methods used to kill whales are often cruel. They should be left alone at least until more humane methods can be found of killing them.
- c) Whales should be left alone until their numbers have returned to normal. Then we should control the numbers killed so that whale populations do not drop again.
- d) Whales are a good source of food and oil and whaling is important in the traditions of some cultures. Scientifically-controlled whaling should be allowed.



HOW THE PERSONALITY TEST WORKS:

The first question is shown in Fig 1. Students have to choose which of four statements they most agree with.

With each question:

- the a) statement comes from an animal rights viewpoint.
 Animals should have the right to life, happiness and freedom
- the b) statement comes from an animal welfare viewpoint.
 If we use animals, we must do so in a way which does not cause unnecessary suffering.
- The c) position argues for sustainable development.
 If people use animals, they must do so in a way that doesn't spoil the environment for future generations or squander the earth's resources.
- The d) position argues that animals matter, but human interests always come first.

Don't explain the principle in advance! It is, of course, inevitably an over-simplification. Many conservationists, for example, think that whales should be left alone rather than harvested sustainably. They may believe that sustainable exploitation, even if desirable, is not enforceable.

This exercise works at many levels. The simpler version has a reading age of nine, and can be used with a wide range of ages. The Personality Test is particularly effective at sixth-form and College level, but students of all ages will enjoy the exercise and learn from it.

It is best used as an introduction to a session which includes a video and discussion.

A DIFFERENTIATED ACTIVITY:

There are two versions of the Personality Test, both of which cover the same issues.

Version 1 has a reading age of about 12. It will work well with any age group with good reading skills. It works particularly well with the sixth form (and, incidentally, with adult, college and university groups).

Version 2 has a reading age of about 9. Use with younger students, or for groups with lower reading ages.

A great lesson starter for students aged 9 to adult! A fun, yet thought-provoking exercise, which students will be happy to get going on as soon as they arrive.

Late arrivals who don't finish will still be able to get a result.

Teachers' Notes

Personality Test



POSSIBLE LESSON OUTLINE:

- Hand out *Personality Test* and ask them to start. Instructions should be self-explanatory, but it doesn't matter too much how precisely they are followed. Encourage discussion, though people should fill in their own answers. (10-15 minutes)
- Extension activity for early finishers (announce when the first have finished). You may have noticed a pattern to a), b), c) and d) statements. What does each have in common? What does each view represent? (No extra time allowance required)
- When most or all have finished, ask them to work out which answer they have most commonly gone for. (It doesn't matter if some have not finished – their results will still be valid). (2 minutes)
- 4. Do a show of hands for each position (students should vote twice if two are equal). Does anyone feel no position is suitable? (2 minutes) Alternatively, hand out sheets which allow students to work out their own position.
- Explain/discuss the viewpoints represented by each position (a-d). (5 minutes)
- 6. Optional further discussion, eg comparison of answers to q 3,5 and 6 discussed opposite. (This can take any amount of time!) This could also be done after watching the video.
- 7. Watch a video, eg CIWF Trust's *Farm Animals & Us*, or for groups aged 14 and above, use *Farm Animals and Us 2*, pausing for discussion at appropriate points.

FOLLOW-UP ACTIVITIES:

- Research one or more of the issues in more detail. This
 could include an internet search. The CIWF Trust booklet
 Intensive Farming and the Welfare of Farm Animals is likely to
 be useful here. All CIWF Trust resources may be photocopied.
- Conduct a survey. Try out the questionnaire on a range of people. How do results vary with age, sex, occupation etc? Can you explain the results?
- Devise questions which would separate views on other animal issues (eg animal experiments, circuses, zoos, pet keeping, hunting, shooting, fishing etc). It is possible to make each of the statements equally sympathetic?
- Could similar "Personality Tests" be devised to analyse other ethical, political or theological issues.

FURTHER NOTES AND DISCUSSION POINTS:

Conduct the exercise flexibly. Allow students to decide that no statement is appropriate for them, or two are equal. When they finish, they work out which answer they go for most often. Don't tell them how the exercise works in advance!

Emphasise that there is no right or wrong answer.

Compassion in World Farming Trust staff have used the exercise on many occasions and found audiences in which each of the four positions pre-dominates. There are interesting variations with age and school/college type. It is important to emphasise that all four positions are intellectually respectable. You could almost certainly find several academic philosophers in each of the four categories. Be clear, if necessary, that it does not follow that "d) people" are uncaring or that "a) people" are in any way extreme or impractical. It is entirely a matter of opinion.

Compassion in World Farming Trust is a farm animal welfare charity. Our concerns might be thought to be primarily in the "b-category." It is important to note, however, that much of the farm animal welfare message is favourably received by audiences of all four persuasions.

The exercise can raise further discussion points. How many people, for example, gave the same answer for questions 3 and 5? How many gave the same also for 6? Are these three really the same question? Or are there fundamental differences? To what extent are our answers culturally determined? Many Britons would be happy to eat beef, but not cat or dog. What line would you expect a member of the Hindu community to take? Why do some people care more about mammals than they do about fish? Are people consistent? Should they be?

Further questions relate to issues of realism and practicality. The questionnaire is principally designed to take "theoretical" positions, though people often take a compromise position. It may be worth asking people if they want to improve the lot of farm animals and the environment (and/or the lot of consumers, farmers and other interested groups), which issues would they concentrate on? Does this give the same answer (animal rights, animal welfare, conservationist or human orientated) as they got when filling in the questionnaire?

How do you think about animals? Version 1

CIWF

advancing

farm animal welfare

For each of the following examples, put a tick by the statements you agree with. When you have finished a question, put an extra big tick by the statement you like most. Continue over the page.

1	1.	The number of whales in the sea has been declining because they have been killed for their meat and oil. Some species are close to extinction.	
â	a)	It is wrong to kill whales. They are highly intelligent and sensitive creatures. We have no right to exploit them for our own gain.	
ł	b)	The methods used to kill whales are often cruel. They should be left alone at least until more humane methods of killing them can be found.	
(c)	Whales should be left alone until their numbers have returned to normal. Then we should control the numbers killed so that whale populations do not drop again.	
(d)	Whales are a good source of food and oil and whaling is important in the traditions of some cultures. Scientifically-controlled whaling should be allowed.	
7	2.	Most of our eggs are still produced in battery cages, though the system is to be banned in Europe from 2012. Battery hens do not have room to spread their wings. Their waste can cause pollution if it gets into our rivers. On the other hand, battery eggs are cheap.	
8	a)	The battery system is outrageous. No animal should be imprisoned in a cage.	
ł	b)	The battery system is cruel. People should buy eggs from hens kept in systems that allow the birds to express their natural behaviours.	
(c)	Battery farms should be shut down if they cannot process their waste without causing pollution.	
(d)	Battery farms produce cheap eggs. They are more efficient. Poor people will suffer when the battery cages are phased out.	
3	3.	In many parts of the world, dogs and cats are reared for food. They are often killed very cruelly.	
8	a)	Dogs and cats are loving animals and can live to 15 years or more. They should be allowed a long and full life.	
ł	b)	In principle it is up to people what they eat, but cruelty is always wrong. They should be taught more humane ways of killing these animals.	
(c)	We may not like this, but it is better than killing wild and endangered animals such as monkeys to eat.	
(d)	I wouldn't like to eat dog, but I happily eat lamb. It is up to people in other countries to choose what they eat.	
_			
_	4.	Animals like mink and arctic foxes are farmed for their fur. These wild animals are kept in small cages to keep costs down. Being carnivores, other animals must often be killed to feed them.	
8	a)	It is fundamentally wrong either to imprison or to kill animals for their fur.	
ł	b)	Fur farming is cruel. Wild animals are not suited to life on farms.	
(c)	Fur farming is unnecessarily wasteful of scarce resources such as energy and fishmeal.	
·	d)	Fur farming provides jobs and great pleasure for those who appreciate the luxury of fur.	
_			
4			
	5.	Vegetarians refuse to eat meat or fish. Some think it is cruel or wrong to kill. It also takes more land to produce meat than cereals and vegetable foods.	/
ä	5. a)	· 11.	/ ∮□
		It also takes more land to produce meat than cereals and vegetable foods.	/ /

d) Meat is good for you, it tastes nice and it creates jobs. There is nothing wrong in eating it.

How do you think about animals? Version 1



For each of the following examples, put a tick by the statements you agree with. When you have finished a question, put an extra big tick by the statement you like most.

6.	Cod is a useful source of protein and a very traditional food. However, cod stocks are being over-fished. The process of catching cod is likely to be stressful – rapid pressure changes as the net pulls the cod up from the bottom of the sea causing the air-filled swim bladder inside the fish to burst.	
a)	Fish have a right to life. They should be left alone.	
b)	Fishing is cruel. People should eat less fish, preferably none.	
c)	People should eat less cod so that the stocks can recover.	
d)	Cod is good for you and people like it. The fishing industry is important to the economy.	
		\leq
7.	Scientists have genetically engineered pigs with growth-hormone genes from other animals. The hope is to produce pigs which grow faster and leaner, but no commercial animal has yet been produced. The pigs reared so far have suffered from conditions such as lameness, sterility and a tendency to ulcers.	
a)	We have no right to mess around with the bodies of animals like this.	
b)	These experiments cause unnecessary suffering and should be banned.	
c)	We don't know the risks involved in these experiments. They should be banned.	
d)	This technology could help produce cheaper and healthier meat; it should be encouraged to develop in a sensible way.	
\geq		\leq
8.	Salmon and trout are now reared intensively in fish farms. This has greatly reduced the price of both in the shops. Salmon, which would normally migrate many hundreds of miles, swim backwards and forwards in their cages. Fish wastes and chemicals used to control disease pollute the environment and damage other aquatic life.	s
a)	Fish are sensitive and feeling creatures which should live wild, not enclosed in farms.	
b)	There is evidence that fish can suffer from stress. Intensive fish farming is cruel.	\Box
c)	Intensive fish farming is damaging to wildlife. We should look for less intensive ways of increasing fish production.	
d)	Fish farming provides jobs and a cheap form of tasty protein.	
		\leq
9.	Sheep are transported live from Britain for slaughter in countries as far as Italy and Greece. Total journey times can last over 50 hours.	_ `
a)	Sheep are sentient beings, not agricultural goods. We have no right to treat them like this.	Ш
b)	Long distance transport causes unnecessary suffering. We should slaughter them here and transport the meat in refrigerated lorries.	
c)	Transporting food over long distances is wasteful of energy. We should encourage people to eat more local food.	Ц
d)	The live export market provides Continental consumers with the fresh meat they like and provides better sheep prices at market for our hard-pressed farmers.	
_		
10.	. Organic meat is produced from animals which are mostly fed on food produced without synthetic chemicals. Disease is controlled by, for example, giving animals more space rather than through routine use of antibiotics.	`
a)	These poor animals still have to be slaughtered. Why not eat organic vegetarian food?	
b)	Organically produced meat comes from animals which live in less crowded conditions. It can be kinder.	
c)	We should eat organic meat because it is better for the environment.	
d)	People should eat organic meat if they want to, but it is not a practical way of feeding the poor and the hungry.	

How do you think about animals? Version 2



For each of the following examples, put a tick by the statements you agree with. When you have finished a question, put an extra big tick by the statement you like most. Continue over the page.

	1.	Whales are in danger. They have been killed for their meat and oil.	
	a)	It is wrong to kill whales. They are intelligent animals. We should leave them alone.	
	b)	The methods of killing whales are cruel. We should stop the slaughter until we can find a kinder way of killing them.	
	c)	We must stop whales becoming extinct. We should only kill a few so the species can survive.	
	d)	Killing whales is important to other cultures. We should let other people kill whales if they want to.	
\ _			=
	2.	Most eggs are laid by hens which live in battery cages. This system will be banned in Europe by the year 2012.	
	a)	Hens should be allowed to live freely. No animal should be imprisoned in a cage.	_
	b)	The battery system is cruel. The hens are cramped and cannot even spread their wings.	
	c)	Large farms can cause pollution. We should keep animals in smaller groups to help the environment.	
	d)	Battery hens produce cheaper eggs. We shouldn't expect poor people to have to pay to give hens a better life.	
\			
	3.	In many parts of the world, people eat cats and dogs. They are often killed very cruelly.	
	a)	It is wrong to kill cats and dogs. They are our friends. They should be allowed a long and full life.	
	b)	Cruelty is always wrong. These people should be taught kinder ways of killing animals.	
	c)	We may not like this, but it may be better than eating endangered species like monkeys.	
	d)	I would not like to eat dog, but that is the way I was brought up. People should eat what they like.	
	4.	Wild animals like mink and arctic foxes are farmed for their fur. They are kept in small cages.	•
	a)	Wild animals should be free. No creature should be killed for its fur.	
	b)	Fur farming is cruel. Wild animals are not suited to life on farms.	
	c)	It is a waste of the world's food resources to feed to animals just to make fur coats.	
	d)	Fur farming provides jobs. Fur coats give a lot of pleasure to people who enjoy luxury.	
	5.	Vegetarians don't eat meat or fish. People become vegetarian for lots of different reasons.	
	a)	We should live without killing. Animals have a right to life too.	
	b)	We should only eat meat from animals which have been given a good life.	
	c)	We should eat less meat. This would mean more land for wildlife.	
	d)	Meat is good for you and it tastes nice. There is nothing wrong in eating it.	

How do you think about animals? Version 2



For each of the following examples, put a tick by the statements you agree with. When you have finished a question, put an extra big tick by the statement you like most.

6.	Cod is a popular food. So many are being caught that it is getting rarer. Fishing may cause suffering to the fish.
a)	Fish have a right to life too. We should leave them alone.
b)	Fishing is cruel. People should eat less fish unless they can find a kinder way killing them.
c)	People should eat less cod until their numbers increase again.
d)	Cod is good for you. If you like it you should eat it.
_	
7.	Pigs have been genetically engineered. They have been given genes from cows in experiments to see if they will grow faster. This has made some of them ill.
a)	Genetic engineering of animals is wrong. We shouldn't mess around with their bodies.
b)	These experiments cause unnecessary suffering. They should be banned.
c)	Genetic engineering could be damaging to humans and to the environment. We shouldn't take a chance.
d)	Genetic engineering could produce meat which is cheaper and healthier. It's all right if we do it in a sensible way.
8.	Salmon and trout used to be caught from the wild. Now they are grown in fish farms.
a)	Fish are wild animals. They should be allowed to live free, not imprisoned in tanks or cages.
b)	Fish can suffer stress if they are enclosed. Intensive fish farming is cruel.
c)	Fish farming causes pollution. It produces wastes which damage wildlife. We should find less intensive ways of farming fish.
d)	Salmon and trout are now cheap foods. Fish farming provides jobs and tasty food for people.
9.	Sheep are often taken on long journeys to Italy or Greece to be killed. The journeys can take days.
a)	We have no right to make animals go on long journeys like this. Long distance transport should be banned.
b)	These long journeys make sheep suffer. They should be killed as close to home as possible.
c)	People should eat food which is grown locally. Long journeys in lorries waste fuel and cause pollution.
d)	Farmers need to make a living. Live exports means higher prices for their sheep. It also means that people abroad can enjoy fresh meat from Britain.
10	Organic meat comes from farms which do not use artificial chemicals and which allow the animals to go outside for part of their lives.
a)	Animals still have to be killed to make meat, even if it is organic. Why not eat organic vegetarian food?
b)	It is better to eat meat which is organic. It can be kinder to animals.
c)	We should eat organic meat. It is kinder to the environment.
d)	Organic meat is more expensive. It is ok to eat it, but don't expect the rest of us to.

Assessing your score



1.	Count how many times you have chosen an a) statement.	
2.	Count how many times you have chosen a b) statement.	
3.	Count how many times you have chosen a c) statement.	
4.	Count how many times you have chosen a d) statement.	
Whi	ich did you choose most often? Or did you choose two or i	more of them much the same?
Did	you notice that all the a) statements have something in con	mmon? The same is true for b), c) and d) statements.
Belo	ow is one way of putting these statements into categories.	
a)	Animal Rights position. If we believe in human rights, we must also believe in animal rights. It is wrong to hurt or kill a healthy animal. Animals should be given freedom to live in a natural way.	b) Animal Welfare position. The important thing is that animals mustn't suffer. Like us, animals can be happy or unhappy. This is what matters most. Animal welfarists are not necessarily against killing animals
	If it is wrong to do something to a human, you shouldn't do it to an animal either. We are animals	or restricting their freedom, but it is wrong to hurt animals deliberately.
1	ourselves, after all.	Animals should have good lives.

c) Conservationist position. We don't inherit the earth; we borrow it from our children.

If we want to use animals, we must protect their habitats. We must not kill so many that their numbers go down. We must develop the planet sustainably, and protect it for future generations of people and animals. We must preserve endangered species.

d) "Humans Come First" position. Humans are always more important than other animals.

Animals do matter and we shouldn't be cruel, but while people are suffering in the world we should concentrate on them. Sometimes it may be necessary for animals to suffer for the benefit of people.

There is no right or wrong answer. You will find people from all walks of life who believe in any of these. It is a matter of opinion.

You will also find people from each of these groups who support animal causes.

It is possible to believe in more than one of these. They are not necessarily alternatives. Most people care about humans, animals and the environment.

Teachers' Notes: Science Worksheets

Selective Breeding of Farm Animals; Food Chains and Farm Animals



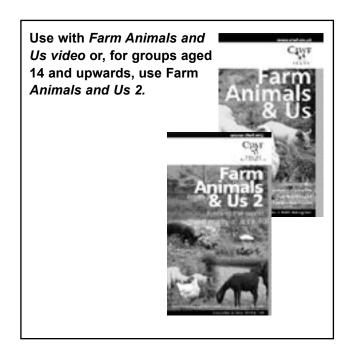
KS4 SCIENCE NATIONAL CURRICULUM TARGETS:

- 4h the basic principles of ... selective breeding ...
- 5g how food production and distribution systems can be managed to improve the efficiency of energy transfers

The first worksheet reinforces other biological concepts including genetic and environmental causes of variation, mutations and natural selection; the second reinforces pyramids of numbers and energy losses in food chains. Both raise ethical issues relating to science and technology and encourage students to formulate their own opinions.

SELECTIVE BREEDING WORKSHEET – SUGGESTED LESSON PLAN:

- 1. Introduction. Explain an example of selective breeding, eg wheat plants have been selectively bred for yield, protein content, resistance to disease, flavour, to be good for making biscuits etc. Discuss the advantages of some of these. (2-3 minutes)
- 2. Discuss (small groups, then whole class) what chickens might be selected for (meat, fast growth, more breast meat, eggs, higher egg production, colour of eggs, larger or smaller eggs etc). (5-8 minutes)
- 3. Hand out worksheet. Read in silence, but allow discussion when they reach ethical points. (allow 10 minutes; they are not expected to finish at this stage)
- 4. Watch all or part of the video. (up to 20 minutes; more if you include breaks for discussion)
- 5. Discuss.
- 6. Complete worksheet in lesson or for homework.



CROSSWORD SOLUTION

\otimes	∞	m	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	₩	₩	$\otimes\!\!\!\otimes$	₩	\bowtie	₩	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	₩
\otimes	$\otimes\!\!\!\otimes$	u		S	е	1	е	C	t	i	٧	е	\otimes
\otimes	∞	t	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	n	\otimes	$\otimes\!\!\!\otimes$	₩	\otimes	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	₩
燚	$\otimes\!\!\!\!\otimes$	a	***	\otimes	٧	888	\otimes	n	\otimes	***	\otimes	\otimes	b
a	r	t	i	f	i	С	i	a	1	\otimes	\otimes	\otimes	r
\otimes	$\otimes\!\!\!\otimes$	i	\otimes	\otimes	r	\otimes	$\otimes\!\!\!\otimes$	t	\otimes	q	е	n	е
燚	\otimes	0	\otimes	\otimes	0	***	$\otimes\!\!\!\otimes$	u	\otimes	***	\otimes	\otimes	е
\otimes	е	n	g	i	n	е	е	r	i	n	g	\approx	d
\approx	\otimes	\otimes	\otimes	\otimes	m	***	$\otimes\!\!\!\otimes$	a	\otimes	\otimes	\otimes	\bowtie	i
\otimes	\otimes	\otimes	\otimes	\otimes	е	٧	0		u	t	i	0	n
\otimes	\otimes	*	\otimes	\otimes	n	\otimes	\otimes		\otimes	\otimes	\otimes	\bowtie	g
燚	a	d	a	р	t	a	t	i	0	n			\otimes
燚	***	***							₩				₩
XX	888	888	888	888	888	888	888	888	888	888	$\times\!\!\times\!\!\times$	888	\otimes

Teachers' Notes: Science Worksheets

Selective Breeding of Farm Animals; Food Chains and Farm Animals



FOOD CHAINS AND FARM ANIMALS WORKSHEET - SUGGESTED LESSON PLAN:

- Discuss/brainstorm human food chains.
 (5 minutes)
- 2. Hand out worksheet. Read in silence, but allow discussion when they reach ethical points. (Allow 10 minutes; they are not expected to finish at this stage)
- 3. Watch all or part of the video. (*Up to 20 minutes; more if you include breaks for discussion*)
- 4. Discuss.
- 5. Complete worksheet in lesson or for homework.

VARIATION (ESPECIALLY FOR GROUPS WITH LOW READING AGES):

These worksheets have reading ages of 11-12. If your students have lower reading ages than this, we suggest either that they are encouraged to read all or part of it aloud in pairs or small groups, or that it is read aloud in class. It may help understanding in this case if you show and discuss the video before using the worksheet, perhaps in an earlier lesson.

Potatoes → Human
Rice → Human
Grass → Cow → Human
Grass → Sheep → Human
Wheat → Chicken → Human
Com → Pig → Human
Phytoplankton → Zooplankton → Sand eel → Salmon → Human
Examples of human food chains

CROSSWORD SOLUTION

888	***	**	8	**	b	888	**	888	***	**	***	**	8	XX
b	a	t	t	е	r	V	\otimes	\otimes	$\otimes\!\!\!\otimes$	***	***	₩	\otimes	\otimes
888	***	$\otimes\!\!\!\otimes$	**	$\otimes\!\!\!\otimes$	0	\otimes	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	W	a	r	m	\otimes
е	х	е	r	С	i	S	е	$\otimes\!\!\!\otimes$	\otimes	е	***	$\otimes\!\!\!\otimes$	\otimes	₩
₩	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	е	$\otimes\!\!\!\otimes$		$\otimes\!\!\otimes$	n	u	m	b	е	r	S	\otimes
**	b	***	S	888	е	888	е	\bowtie	***	**	***	₩	₩	₩
**	r	₩	р	888	r	888	r	\bowtie	h	е	a	t	\otimes	\otimes
***	е	***	i	888	***	888	g	\bowtie	***	х	***	₩	е	\otimes
***	а	***	r	$\otimes\!\!\!\otimes$	\otimes	\otimes	У	XX	***	С	***	***	g	88
***	t	***	a	$\otimes\!\!\!\otimes$	**	\otimes	***	***	***	r	***	**	е	₩
р	h	0	t	0	S	Y.	n	t	h	е	s	i.	s	88
\bowtie	i	$\otimes\!\!\!\otimes$	i	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	\otimes	888	\otimes	t	***	$\otimes\!\!\!\otimes$	t	\otimes
\otimes	n	\otimes	0	$\otimes\!\!\!\otimes$	р	Y.	r	a	m	i	d	**	i	88
***	g.	₩	n	₩	$\otimes\!\!\!\otimes$	\otimes	***	888	\otimes	0	***	s	0	W
***	***	\otimes	\otimes	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	C	h	a	i	n	S	\otimes	n	₩

Use with Farm Animals and Us video or, for groups aged 14 and upwards, use Farm Animals and Us 2.



Selective Breeding of Farm Animals

Chickens - bred for eggs or meat







The chickens on the left are egg-laying hens. They have been selectively bred to lay lots of eggs, but they grow at a normal rate. Most are still kept in battery cages, though this system is to be banned in 2012. The chickens on the right are broiler chickens. They have been bred for meat. They grow twice as quickly and are usually slaughtered at six weeks old. Most meat chickens are kept intensively in large sheds.

All of these chickens have the same common ancestor. They are descended from the jungle fowl, which can still be found in the wild in the forests of India and South-East Asia. Chickens were first domesticated at least 3400 years ago.

Farmers have been selectively breeding chickens for thousands of years. The basic method is quite simple. If you breed from the hen which lays the most eggs, the chances are that her daughters will also be good layers. This is because the number of eggs which a hen lays is partly controlled by the genes which a hen inherits from her parents. Meat chickens have been selectively bred using the same principle.

Selective breeding has become a complex scientific business. A wild jungle fowl might lay 20-30 eggs in a year. Today's hens each lay over 300 eggs a year on average.

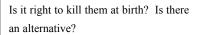
Eggs have become a cheap food, but at a cost to the hen. Even with good food, her bones may be depleted by the calcium she uses to make all those egg shells. Brittle bones are a common problem for hens. Battery hens suffer particularly since a lack of exercise can also weaken their bones.

Our demand for cheap food has caused us to make our farm animals work harder. As we shall see over the next two pages, this is not always good for them.

Casualties of selective breeding

Each year, in the UK, over 30 million day-old chicks are killed at birth. These are the males of egg-laying breeds.

Only hens lay eggs. 70 years ago, these male chicks would have been reared for meat. Today, they do not grow fast or meaty enough to produce chicken meat economically.





Egg production and the hen's environment

A chicken's **environment** is also important. It takes energy to make eggs. However they have been bred, chickens won't lay more eggs unless they are given extra food.

Chickens also lay more eggs when the days are longer. This is an old adaptation to encourage the hen to lay eggs in summer when there will be more food for her chicks. Nowadays, lights are kept on in chicken houses for part of the night to increase egg production.

Chickens may be kept in cages, in barns or free-range. Intensive production may be slightly cheaper, but free-range environments like the one on the right can be better for the welfare of the birds. How do you think they should be kept?



Selective Breeding of Farm Animals

Is selective breeding good for animals? - 1







This broiler chicken cannot stand. His body has grown too fast for his legs. Soon he will be unable to reach food or water.

Many meat chickens go lame. This is a result of selective breeding for meat. The chicken in the picture above has been bred to grow fast. He has been bred to put on a lot of meat. Unfortunately, his legs have not grown as fast as his muscle.

Some scientists believe that a third of meat chickens suffer pain whilst standing. 2% may end up unable to walk at all. A further 1-2% die of heart problems, since their hearts cannot keep pace with their bodies.

Few animals which have been selectively bred would survive in the wild. This is certainly true of the meat chicken. Broiler chickens which are spared from slaughter often die young.

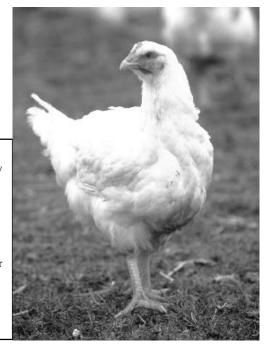
This is a problem for those who wish to breed broiler chickens. To keep the parent birds healthy, they have to be restricted to a quarter of their normal diet while they are growing. They have been bred to be hungry so they grow fast, but to keep them healthy they have to be kept hungry. Is this fair?

Artificial Selection is another name for selective breeding. In the wild, natural selection weeds out animals which are not adapted to their environment. Artificial selection may be useful to us, but it may produce animals which are more likely to suffer.

Selective breeding can be used to help to put this problem right. We can breed animals with stronger hearts and legs. Nevertheless, the more we breed animals to be productive, the more they are likely to suffer from the side-effects of working too hard.

This broiler chicken is being kept free-range. You can buy free-range chicken in many supermarkets. You can also buy free-range chickens from slower growing breeds (it says on the pack that they have lived for at least 80 days, rather than the usual 42).

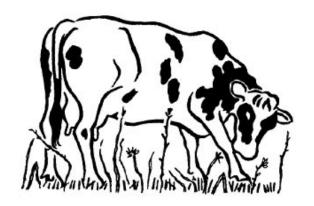
You will notice that these chickens cost more but, as they grow more slowly, they have lower levels of lameness. Which do you think is more important – cheap meat or healthier animals who are not in pain?



Selective Breeding of Farm Animals

Is selective breeding good for animals? - 2

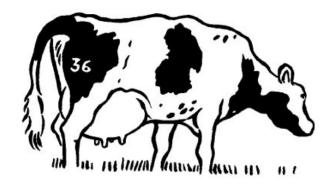




Cows - bred for meat or milk

The cow above has been selectively bred for meat. She produces enough milk to feed one calf. Her calf will milk her six times per day. She only needs a small udder.

The picture below shows a dairy cow. She has been bred for milk. She has been selectively bred to produce enough milk for ten calves, but her calf is removed from her shortly after birth. Most cows are only milked twice a day.



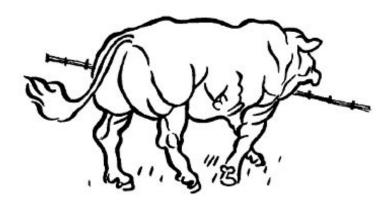
Notice the size of the dairy cow's udder. It may have to carry over 20 litres of milk. Many cows go lame through carrying all this milk.

Producing such a large quantity of milk requires a massive amount of energy. It has been said that the metabolic rate of a dairy cow is equivalent to that of a Tour de France cyclist! This can cause health problems for the cow. Naturally, a cow can live for thirty years, but many dairy cows are in poor health after three or four years of milking and are sent to slaughter because they no longer produce milk economically.

The Belgian Blue

An ancestor of this animal had a mutation. This is a spontaneous change in a gene. The mutant gene caused an effect called "double muscling." The animal's large muscles produce a substantial amount of beef.

Both Natural Selection and Selective Breeding depend on mutations which occasionally produce new characteristics which are helpful. Evolution through Natural Selection wouldn't happen without beneficial mutations.



The double-muscling gene, however, is not beneficial to the Belgian Blue. It causes difficulties when the Belgian Blue cow is giving birth. The extra muscle gets in the way of her cervix, making it smaller. Meanwhile, the extra muscles make the calf larger. Many Belgian Blue calves therefore have to be born during caesarean operations.

Scientists say that genetic engineering techniques could be used to pass the double-muscling gene into other animals like sheep, pigs and chickens.

The Pig

Pigs are descended from the wild boar. Wild boars give birth to litters averaging around five piglets. The modern sow produces 12 piglets at a time. Litters of over 20 have been known.

This can put a strain on the mother. Partly to overcome this, the piglets are removed from their mother at three to four weeks old, much earlier than is natural. This causes stress and health problems for the piglets, but most survive. The mother is able to recover and become pregnant again more quickly. The result is cheaper pork, ham and bacon. It may not be so good for the sow and her piglets.

Selective Breeding of Farm Animals What do you think? - What do you know?



Test your opinions

Use what you have read, and your own knowledge, to decide what you think about the following examples of selective breeding. Tick those you approve of, put a cross by those you disapprove of, and put a question-mark by those for which you would need more information to decide. More information is available from CIWF Trust's Website which you can find via www.ciwf.org.

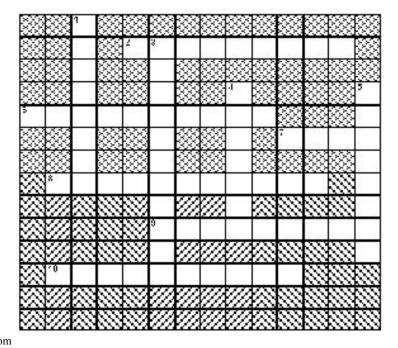
•	Selectively breeding hens to lay more eggs	
•	Selectively breeding wheat plants so that you get a larger crop	
•	Selectively breeding chickens to grow faster for meat	
•	Genetically engineering pigs to grow faster	Jan 7 11 3388
•	Selectively breeding a prettier rose	60 1 May 2011 =
•	Selectively breeding a Bulldog with a snub-nose	
•	Selectively breeding Belgian Blue cattle with double-muscling genes	The same of the sa
•	Selectively breeding people to be better at Science tests	
•	Selectively breeding an apple tree to be resistant to pests and diseases	\ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
•	Selectively breeding pigs to produce larger litters of piglets	Ž.,
•	Selectively breeding cows to produce more milk	

Test your understanding of the terms used in this worksheet

(hint – words in bold in the text are likely to appear!)

Ac	ross
2)	(with 5 down) produces animals
	which grow faster, lay more eggs etc. (9)
6)	Selection is where people select the genes of
	animals or plants which are passed on from one
	generation to the next (10)
7)	Inherited from your parents (4)
8)	Genetic transfers genes from one species to
	another (11)
9)	happens as a result of Natural Selection (9)
10)	An helps an animal survive or
	reproduce in its environment (10)
Do	wn
1)	A spontaneous change in a gene (8)
3)	Your characteristics are controlled by your genes and
this	s (11)
4)	Selection controls which genes are passed on fro
	e generation to the next without interference by man. (7)

5) (with 2 across) (8)



Human food chains and energy efficiency



Humans are at the top of the food chain.

Here is an example:



When we eat toast we are at the top of a very short food chain. We are absorbing energy which a wheat plant originally absorbed from the sun in **photosynthesis**.

If we eat meat, we are at the top of a longer food chain:



When we eat chicken we obtain energy from the chicken which obtained it from the wheat which in turn absorbed it from the sun.

However, we only get a small amount of that energy. This is because energy gets used up at each stage of a food chain (see box below).

You aren't everything that you eat!

You may have heard the term "You are what you eat." Luckily, this is not entirely so!

In a lifetime, the average human will eat several tonnes of food. Happily, no-one gets to weigh that much!

What happens to it all? Firstly we don't digest everything. Half of it ends up going down the toilet. In other words we **egest** it as faeces.

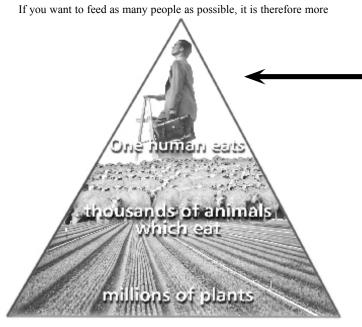
Most of the rest we use for energy, maintaining our bodies, keeping warm, exercising and so on. This food is changed by **respiration** into carbon dioxide and water which we **excrete**, for example by breathing. The **energy** is ultimately lost as **heat**.

Only a tiny proportion is retained in our body as muscle, bones and other tissues

It is a similar story with animals. Less than 30% of what an animal eats ends up as meat. The rest is disposed of by **excretion** or **egestion**.

efficient to eat plant foods like cereals, fruit and veggie-burgers than animal foods like meat, milk and eggs.

Meat production can be made more efficient by keeping the animals more intensively. However, some people feel this is cruel to animals. In the next two pages we will consider this.



Human pyramid of numbers

The human pyramid of numbers

In your lifetime, if you eat meat, you are likely to consume 1000 chickens, 45 turkeys, 30 sheep, 20 pigs*, 4 beef cattle*, the life's work of 35 laying hens and of one dairy cow. This is over a thousand animals, and each will have consumed hundreds or thousands of plants. Most people also consume thousands of fish. This idea is shown in the diagram of the pyramid of numbers.

People make many choices about their food. For example, you can eat the cheapest meat, pay extra for free-range or organic meat, or you can go vegetarian.

These choices make a difference to the efficiency of food production. They also make a difference to the welfare of a very great number of animals.

*Unless for religious reasons you don't eat pork or beef.

Making food chains more efficient - what do you think?



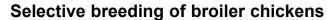
Reducing energy loss

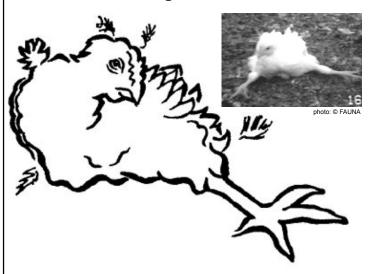
Farm animals, like chickens and pigs, use up a lot of the food they eat. They use it for energy, for exercise, to keep warm and to maintain their bodies. In addition, much food is also wasted in their faeces. This means that only a small amount of their food is turned into meat or eggs. Can we reduce the amount of energy they need?

The animals can be kept warm by crowding them into sheds. They can be prevented from exercising by confining them into cages. If they are bred to grow faster, they can be killed younger and use less energy living and maintaining themselves.

All of this would leave more energy to make meat and eggs. We could produce them more cheaply. However, some people think it is cruel to treat animals like this. Read the examples below, and see what you think. Tick the box underneath each example to express your opinion.

The battery cage





This broiler chicken has been selectively bred to grow very fast. He will reach slaughter weight in about 6 weeks. This is twice as fast as it is normal for chickens to grow.

Halving the length of the chicken's life means that it will need less energy to maintain itself, keep warm and exercise. Crowding them into sheds also keeps them warm.

Broiler chickens have been bred to grow so fast that their legs cannot always keep up. This results in difficulty standing or walking. They may also find it difficult to eat or drink. One chicken in three may suffer pain as a result of growing too fast, and up to 2% can end up unable to walk at all.



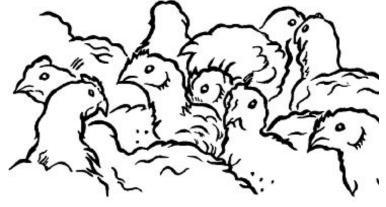
Around 80% of the eggs produced in Britain in the year 2000 came from hens kept in cages. Up to five hens can be kept in a cage and up to 15,000 cages in a shed. The cage prevents exercise and the crowding keeps them warm. This reduces the amount of food they need and helps to keep eggs cheap.

Is it right to keep hens like this? In a cage, they cannot stretch their wings, scratch around for food, take a dustbath or lay their eggs in a nest

(The battery cage is to be banned throughout the EU, but not until 2012).

My opinion of the battery cage





My opinion of the selective breeding of broiler chickens

-3 -2 -1 0 +1 +2 +3

Totally unacceptable Totally acceptable

Can alternatives to intensive farming be efficient?



Vegetarian and vegan diets

Vegetarians don't eat meat or fish. Vegans are vegetarians who don't eat any animal products including milk and eggs.



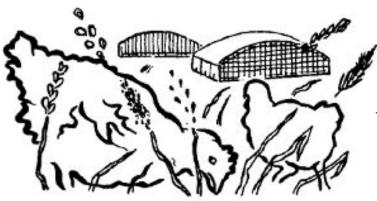
It takes less land to feed a vegetarian because they live lower down the food chain. Less food energy gets used up by animals. People also go vegetarian because they don't want to kill animals or because they think intensive farming is cruel. Others believe it is a healthier diet, with a lower risk of heart disease and some cancers.

A vegetarian diet can supply all nutritional needs. It is one way of increasing the efficiency of the food chain.



My opinion of vegetarian and vegan diets

	-3	-2	-1	0	+1	+2	+3	
Totally u	unaccepta	hle				Tot	ally accepta	hle



Free-range and organic meat, milk and eggs

Free-range animals use more energy. They need it for exercise and for keeping warm. If they grow more slowly, and live longer, they will use more energy for body maintenance.

Yet people want to buy free-range meat, milk and eggs because they believe this is kinder to animals. They would like animals to have longer lives. They also want to buy organic foods, produced without the use of artificial fertilisers or pesticides, for the sake of the environment.

My opinion of eating free-range and organic meat, milk and eggs



Can a free-range or organic diet be made efficient? Some people address this problem by eating less meat, whilst making sure that what they do eat is kinder to animals and to the environment.

Eating grass-fed meat and milk

Chickens and pigs are normally fed on grains and other crops. It would be more efficient if these were directly fed to people.

Cattle and sheep are grazing animals which eat foods like grass. This means that they can be kept free-range on land that isn't used to grow food crops, eg the Welsh hills. Productivity is not very high, but the animals are eating grass that we wouldn't eat!

(Cattle are usually fed some grain as well – this is not an efficient way of producing meat).

My opinion of eating grass-fed meat and milk





What do you think? - What do you know?



What do you think about the following? Tick those you approve of, put a cross by those you disapprove of, and put a question-mark by those for which you would need more information to decide. More information is available from CIWF Trust's Website which you can find via www.ciwf.org.

	_	_	_						
 Keeping pregnant sows (pigs) in sow stalls in which they cannot 	turn around	_	_		7				
Becoming vegetarian			_		\prod	m	1	J.	g l
Selectively breeding cows to produce more milk			_			Щ	AP	1	ŽĮ.
Keeping hens in battery cages]		117		L		\geq
• Eating less meat]		卅	Ш	3		_
Selectively breeding chickens to grow faster for meat production	ı]		III	$\parallel\parallel\parallel$	M	TOTAL	<u>~</u>
Keeping meat chickens free-range]		111	Ш	M	W	
Eating grass-fed free-range lamb)		Ш	T			
Genetically engineering pigs to grow faster and leaner)		'₹/	Ш			
Producing meat organically)		1	ч	M	Z	6
Using fertilisers and pesticides to increase crop production)				ı Ú	P	
Test your knowledge of food chain te (hint – words in bold in the text are likely to appear!)	erms		1		ystem			n the l	
	erms		1	This s	ystem				
	erms		1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7)	erms		1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across	erms	**	1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7)	erms		1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are	erms	₩	1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are allowed to do this (8)	erms	<u> </u>	1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are	erms	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are allowed to do this (8)	erms	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are allowed to do this (8) 7) Pyramid of shows how populations get smaller	erms	\$\$\$ \$\$ \$	1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are allowed to do this (8) 7) Pyramid of shows how populations get smaller along a food chain (7)	erms	\$\text{\$\exitt{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\exitt{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\exitt{\$\text{\$\exitt{\$\text{\$\}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are allowed to do this (8) 7) Pyramid of shows how populations get smaller along a food chain (7) 9) Energy is lost from the food chain in this form (4)	erms	=	1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are allowed to do this (8) 7) Pyramid of shows how populations get smaller along a food chain (7) 9) Energy is lost from the food chain in this form (4) 12) Process by which plants make food (14)	erms		1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are allowed to do this (8) 7) Pyramid of shows how populations get smaller along a food chain (7) 9) Energy is lost from the food chain in this form (4) 12) Process by which plants make food (14) 13) of biomass shows loss of matter along a food chain (7)	erms	:	1	This s	ystem				
(hint – words in bold in the text are likely to appear!) Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are allowed to do this (8) 7) Pyramid of shows how populations get smaller along a food chain (7) 9) Energy is lost from the food chain in this form (4) 12) Process by which plants make food (14) 13) of biomass shows loss of matter along a food	erms		1	This s	ystem				
Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are allowed to do this (8) 7) Pyramid of shows how populations get smaller along a food chain (7) 9) Energy is lost from the food chain in this form (4) 12) Process by which plants make food (14) 13) of biomass shows loss of matter along a food chain (7) 14) Female pig (3)	erms	:	1	This s	ystem				
Across 2) chicken - kept in cage (7) 3) If animals are kept they use less energy to generate heat (4) 4) Farm animals use more energy, but are healthier, if they are allowed to do this (8) 7) Pyramid of shows how populations get smaller along a food chain (7) 9) Energy is lost from the food chain in this form (4) 12) Process by which plants make food (14) 13) of biomass shows loss of matter along a food chain (7) 14) Female pig (3)	erms		1	This s	ystem		n oth		

- 1) Chicken kept for meat (7)
- Inter-connected food chains make up a food 3)
- 5) Process by which energy is released from food (11)
- Gradually used up as it passes through a food chain (6)
- Obtaining oxygen and excreting carbon dioxide (9)
- 10) Disposal of wastes made in respiration and other body processes (9)
- 11) Disposal of faeces (8)

BSE - a disease spread by the food chain

Cattle are naturally vegetarian animals. It was found that they could grow more efficiently if they were fed some meat. Beef was included in the feed. When BSE developed, it quickly multiplied in an ever-cycling food chain. More than 170,000 animals became

infected, and the disease spread to people. Should meat ever have been fed to a vegetarian animal?

