Teachers' Notes: Science Worksheets

Selective Breeding of Farm Animals; Food Chains and Farm Animals

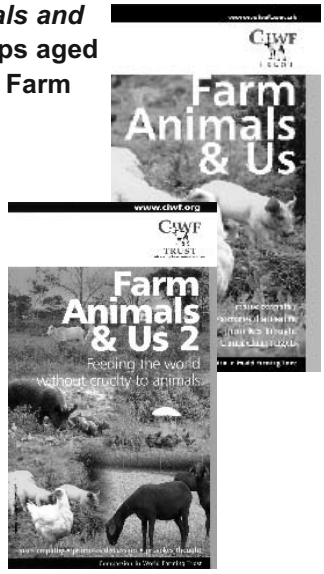
KS4 SCIENCE NATIONAL CURRICULUM TARGETS:

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.

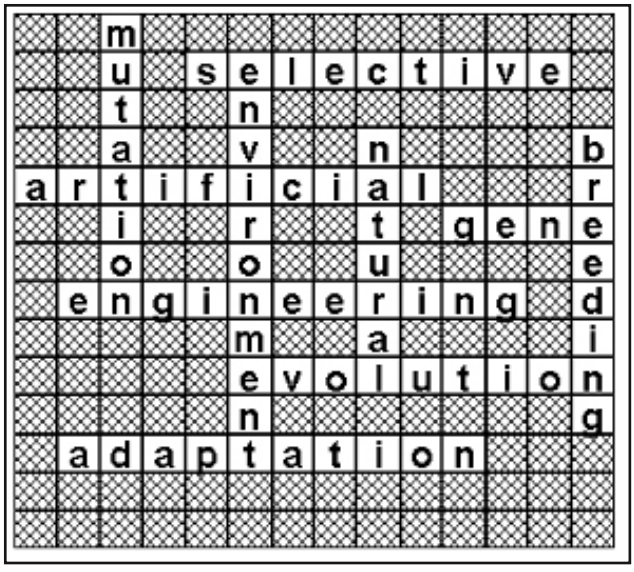
Use with *Farm Animals and Us video* or, for groups aged 14 and upwards, use Farm *Animals and Us 2.*



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



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CIWF advancing farm animal welfare

FOOD CHAINS AND FARM ANIMALS WORKSHEET – SUGGESTED LESSON PLAN:

1. 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

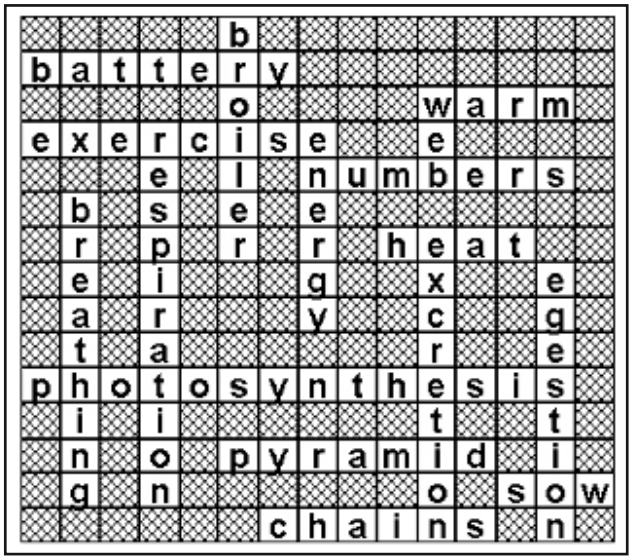
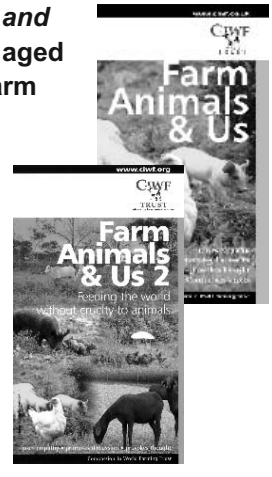
Wheat → Chicken → Human

Corn → Pig → Human

Phytoplankton → Zooplankton → Sand eel → Salmon → Human

Examples of human food chains

CROSSWORD SOLUTION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