

BIOLOGY

Sunny Meadows

Brief summary of activity:

This activity requires the user to 'manage' a sustainable food chain between foxes, rabbits and plants.

Specific Curriculum Area:

Year 7- Unit 7C: Environment and feeding relationships, Section 7: b. What is a feeding relationship? Section 9: b. What do food webs tell us? Section 10: c. What do food webs tell us?

Assessment method:

The pupil could manually record the results depicted on the graph view within the puzzle and submit a hand-drawn graph to be marked.

Differentiation:

There is no evident differentiation within this task.

Learning objectives:

Children should learn: that all the organisms in a habitat can be linked together in food webs; about characteristics of predator and prey species; that all the organisms in a habitat can be linked together in food webs; that food webs are made up of a number of food chains which start with plants; that factors influencing the number of organisms in one part of a food web have an effect on other parts of the web.

Use of Activity in a lesson:

This task could be set as a homework activity, assuming Internet access is possible. Alternatively, the teacher could demonstrate the task to the class (via an Interactive Whiteboard) and the pupils could then repeat the first level as shown by the teacher, thereafter trying levels on their own.

Hints and tips for teachers:

1. Tell pupils not to get frustrated if they do not succeed until having had many attempts—encourage trial and error.
2. As the pictures represent large numbers of each organism, it can be better to look at the graph or biomass view to get a more accurate picture of the numbers of each.

URL:

The screenshot shows a simulation interface for a food chain. The main area displays a landscape with a fox, a rabbit, and plants. On the right, a panel lists the number of each organism: Foxes (20), Rabbits (1000), and Plants (90000). Each number has red and green buttons to adjust it. Below this panel, there's a 'Start Game' button and a 'Sound Effects' checkbox. At the bottom, there are controls for 'Choose View' (Picture, Graph, Biomass) and 'Game Speed' (1x, 2x, 4x). A 'Years' counter is also present.

Number of each organism is altered with these buttons

Pictures representing each organism in the food chain

The number of years that the food chain survives is indicated here.

Buttons for selecting one of three views: PICTURE, GRAPH and BIOMASS

Speed of activity can be altered here

Once the user has decided on numbers of organisms, clicking here generates the results

Biomass view

Graph view

Troubleshooting:

If the simulation runs too quickly, ensure that it has not been set at the fastest speed setting. The number of plants depicted in graph view often goes beyond the range of the graph. If this causes a problem try reducing all three organism numbers in proportion eg. by 50%.

Other links:

http://www.standards.dfes.gov.uk/schemes2/secondary_science/sci07c/07cq4b

http://www.standards.dfes.gov.uk/schemes2/secondary_science/sci07c/07cq5b

http://www.standards.dfes.gov.uk/schemes2/secondary_science/sci07c/07cq5c