

Food Chains

Sciences – Planet Earth

I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design or conservation of a wildlife area. (SCN 2-02a)

Background Information Food chains show how energy locked into organisms passes from one species to another until it reaches an animal on which no other feeds. All the species within the chain are therefore dependent on each other. If any of these species is significantly reduced or removed from the chain, for example by pollution or over fishing, then species further up the chain are also affected. Gannets feed on large muscular fish e.g. herring or mackerel. These fish feed largely on sandeels which in turn feed on plankton. Plankton are microscopic creatures and plants. Animal plankton feed on plant plankton which get their energy from the sun, through the process of photosynthesis.

Resources – Gannet sculpture
Activity sheet, card
Crayons, coloured pencils, pens
Thread, scissors, hole punch, glue

Activities (Key questions are identified in **bold type**).

- Stimulate discussion about feeding relationships by asking and exploring questions
 - **How do we get the energy to be active?**
 - **Where does a gannet get its energy? What do fish eat? On what do sandeels feed? How do plankton get energy?**
- Ask a group of children to make up the gannet sculpture. Punch two holes at the base, on opposite sides so that the mobile will balance.
- Other groups of children can colour and cut out two fish, four sandeels and eight circles of plankton.
- Construct the mobile to show the feeding relationships. Punch holes carefully to ensure the mobile balances!
- Use the completed mobile to explore interaction more fully
 - **What might happen if part of the food chain fails? Why might this happen? How can humans influence this in positive and negative ways?**

Marine Food Chains



Puffins eat sandeels. This is their source of **energy**. Sandeels get their energy from plankton. We can show this as part of a **food chain**.

→ means gives energy to.



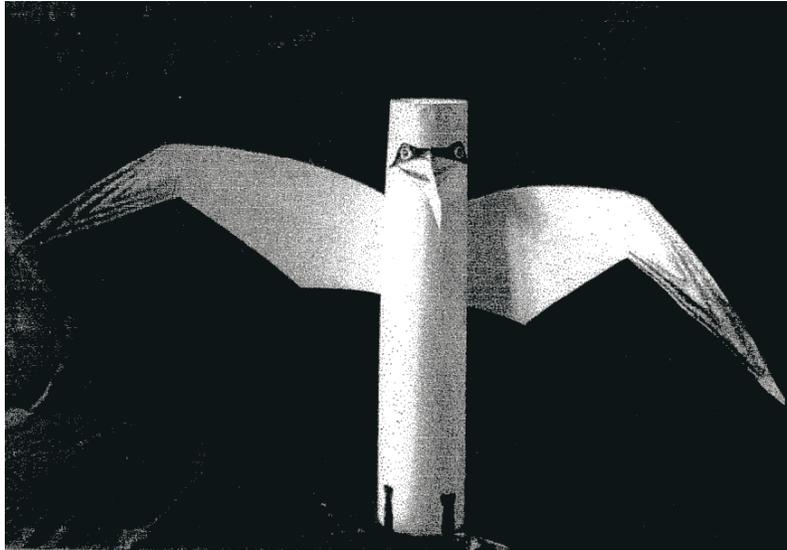
The table below gives information about food sources which provides energy for different marine creatures. Use the information to make some more food chains of your own. Find pictures to help you illustrate them and then display!

Creature	Food Source
sandhopper	seaweed
herring	sandeel
eider duck	mussel
shore crab	mussel
limpet	seaweed
mussel	plankton
turnstone	sandhopper
sandeel	plankton
seal	herring
oystercatcher	limpet

Where does the first link in your food chain get its energy?

Find out more!

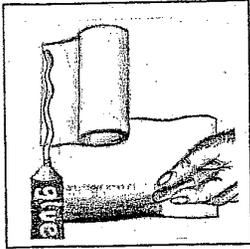
Gannet Food Chain



Materials

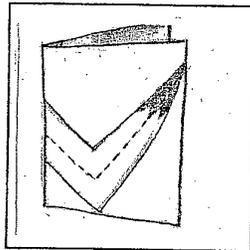
A4 white card/cartridge paper
Scissors
Glue
Pastels / coloured pencils
Photocopy of 2 fish
Photocopy of 4 sandeels
Photocopy of 8 plankton
Colouring pens, Glitter etc to decorate,

What to do... to make the Gannet



Colour the top of the A4 paper with yellow pastel, softly blending edges.

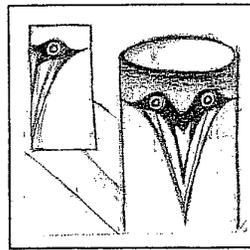
Roll into a cylinder and glue down one side.



Fold the other piece of A4 in half and draw on a diving wing shape.

Cut out wings, then score down the centre, to the tip of the wings and bend to create a more 3D form.

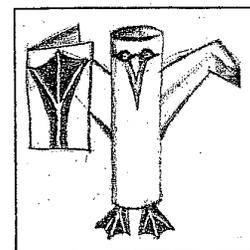
Colour the tip of the wings in a dark tone and glue on to the body.



Fold the A5 paper in half and draw on the beak and eye shape.

Colour appropriately with icy blues and blacks looking closely at gannet resources for details.

Glue the middle of the beak together, and attach to the gannet body with the eyepiece.



Finally, make a pair of gannet feet from the last piece of paper.

Fold the paper in half to make 2 at once and observe the large size of real gannet feet. Note the linear markings in turquoise blue for the female and greeny yellow for the male.

Score and fold the feet along these lines for extra 3D then glue on body.

Now you have your gannet you will need two fish, four sandeels and eight plankton. Photocopy the pictures below onto card. Colour or decorate them. Interesting and realistic effects can be achieved with decorative foil or silver pens. You could laminate them to strengthen. Then cut them and use to construct the mobile.

