



Investigating factors affecting farming

Curriculum themes

Geography Farming
 Investigating the local area
 A contrasting locality

Science Environmental enquiry

Resources required

Factors affecting farming - Information sheet
 Factors affecting farming - Resource sheet
 5 x thermometers
 5 x gun clinometers
 5 x trowels
 5 x tape measures
 Clipboards and pencils

Background information

Best time of the year for the activity

Anytime, but late Spring to early Autumn is best.

Timing

This activity will take approximately 2 hours.

Location on the farm

This activity can be introduced from the farm. The measurements will take place in 3 locations – the allotment (site 1) the pasture (site 2) and the hay meadow (site 3). See the map on the 'Factors affecting farming - Information sheet'.

Introducing the activity

The aim of this activity is to look at how environmental factors vary across the farm and how this influences how the land is used.

Introduce this activity by using the information sheet to discuss the farm. Animals are farmed where the land is not good enough to grow crops (i.e. colder, wetter, steeper and higher land), but how do the conditions vary on this farm? Look at the map on the Information sheet. There are three main blocks of land – the allotment (higher land used for grazing animals), the pastures (lower land used for grazing animals) and the hay meadows (land used to grow grass to make hay to feed to the animals in the winter).

Use the map on the Information sheet and the view you have of the farm to think about how the environmental factors might be different at the 3 sites marked on the map. Are the three sites at the same height? Will they be the same temperature? Are the slopes the same steepness? Is the soil the same? Which site has the best growing conditions? **(Complete the Activity 1 on the Resource sheet)**

Undertaking the activity

The pupils will be detectives and see if they have answered the questions in Activity 1 correctly. To do this the measurements/recordings listed below need to be made at each of the three sites. Describe how to undertake the measurements/recordings and what different conditions might mean for growing.

Describe the land

Is the vegetation lush green grass or poor grassland, is the land steep or more level, is it cold and exposed or sheltered, is it high up or lower down the valley and is the ground wet or dry?

Temperature

Use a thermometer to take the temperature. Leave the thermometer in the open whilst the other measurements are made and then record the temperature in degrees Celsius. The warmer the temperature the better it is for growing.

Height

Record the height in metres from the contours or spot heights on the map. Generally the lower the land the warmer it is and the better it is for growing.

Slope

Measure the slope angle in degrees using a gun clinometer. Measure out 10m down slope using a tape measure or pace out 10 strides. Get 2 people of the same height to stand at the top and bottom of the measured slope. The person at the top of the slope looks along the top of the gun clinometer and holds it level with the person's eyes at the bottom of the slope. Allow the dial to swing and once it has stopped swinging release the trigger. The angle of slope can be measured from the arrow. The gentler the slope the better it is for growing as steep slopes have thin soils. However, also think about the description of the land as in some cases flatter land may become waterlogged and this is not good for growing grass.

Soil texture

Use a trowel to take a sample of soil (this is probably easiest from a molehill if available). Find the texture of the soil using the 'Feel Test' described on the Information sheet. Grass for grazing animals or growing hay or silage needs a soil with some sand, some silt and some clay in. The best soil for grazing on this farm will have some sand, some silt and the highest percentage of clay. Is the soil gritty, smooth or sticky? How much clay is in it?

Record the information in the table in Activity 2 on the Resource sheet.

Complete Activity 3 using the results.

