



Crop Marks

Aerial photographs are photos taken from the air, usually from a plane, that show up marks in either the crops or the soil indicating where buried archaeological sites are. They are particularly good at showing where ditches, walls and landscape features were in the past.

In this activity you will find out how archaeologists discover archaeological sites from the air, and try making your own “site” in a tray of cress.

You will need:

- Photographs of objects taken from above
- Worksheet explaining how crop marks are made
- Laminated aerial photographs – you can get these from English Heritage’s National Monuments Record in Swindon (contact details below). Aerial photographs of Roman, Saxon or Viking sites are ideal
- Non-permanent OHP / white board pens
- Seed trays
- Cress – approx 2 packets per seed tray if using a tray 25cm x 25cm
- Small stones / gravel
- Compost
- Labels
- Pencils
- Water spray
- Cling film – if the trays are to be taken home

Activity:

Begin by asking the children what a plan view is. Hand out the photographs of objects taken from above and challenge the children to guess what they are pictures of. You could also use maps or room plans to get across the idea of seeing places from above.

Next hand out the aerial photographs and ask the children to describe what they can see. Ask them to use the white board pens to draw over any shapes or unusual features they can see; reiterate the idea that these are pictures taken from above and discuss what they think they are seeing. Compare each group’s findings and ask the children how they think these patterns/shapes were made and what they might be showing.

Show the children the worksheet explaining how crop marks, shadow marks and soil marks are made, is this what they thought was happening? For crop marks reiterate that where there is deeper soil containing more moisture and nutrients crops will grow better, so over buried ditches plants grow taller and more healthily; over buried walls crops become stunted and may be a different colour. Ask the children when they think is the best time for taking aerial photographs; crop marks show up best in dry conditions because there is greater contrast between the stunted and healthy plants; shadow marks are best seen first thing in the morning or at dusk; whereas soil marks are evident when fields have been freshly ploughed.

Finally create your own crop mark by building a miniature wall of stones across the seed tray. Fill the tray with compost ensuring that there is an extremely thin layer of compost over the top of the wall. Scatter cress over the tray and spray with water. The seeds should germinate within 2 – 5 days and the crop mark should become evident by 5 – 10 days. You can discuss what the result would have been if you had created a ditch, not a wall, in the seed tray.

Useful questions:

- What do plants need to grow healthily?
- Why is it useful for archaeologists to take pictures of fields from above?

Research Opportunities:

- Research further the different types of marks seen on aerial photographs and build up a collection of photographs showing the different types.
- Develop a picture glossary of the different types of things seen from the air for different periods e.g. Iron Age enclosures, buried Roman villas etc

Useful Websites:

<http://www.english-heritage.org.uk/server/show/nav.1506> has information on how to order aerial photographs of your area.

www.answers.com/topic/aerial-archaeology

www.britarch.ac.uk/yac/index.html

This activity was donated by the Young Archaeologists Club.

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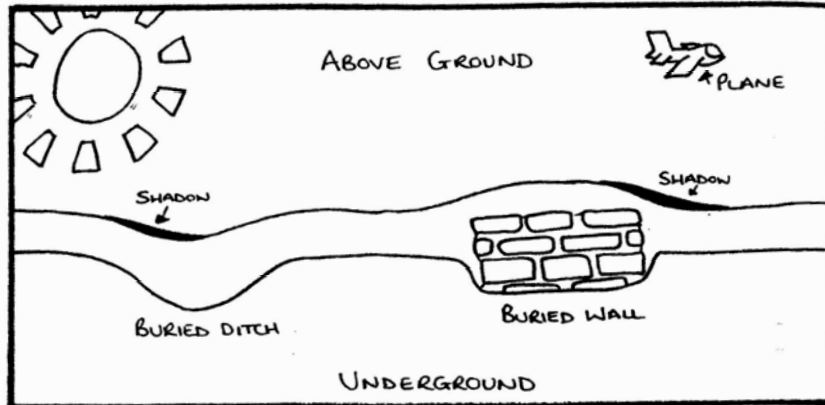
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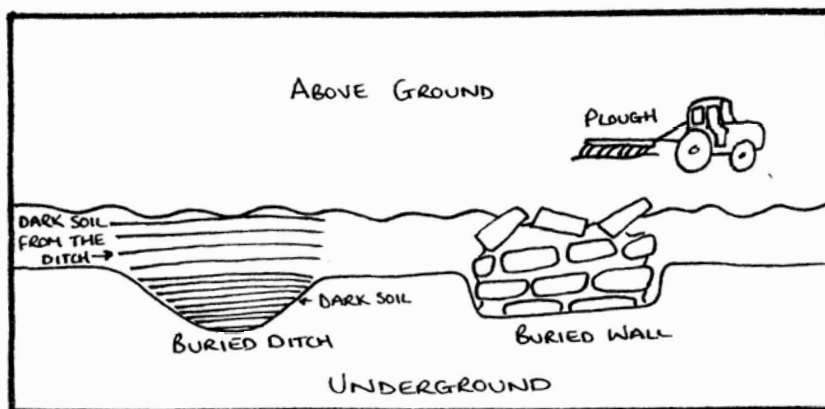


The Creative Minds project works with museums libraries and archives across the Yorkshire region, to provide young people with learning opportunities in Science, Technology, Engineering & Maths (S.T.E.M.). This ground-breaking project is the first of its kind in the country and is managed by MLA Yorkshire. This pack was developed by Creative Minds with funding from Yorkshire Forward.

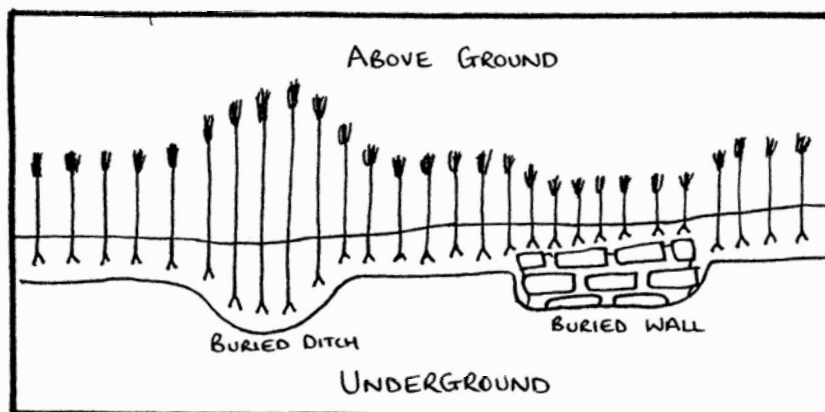
	National Curriculum	QCA Unit
KS 1	Science: Sc1, Sc2 History: 4a, b Geography: 2b, c, d	Science: 1b; 2b
KS 2	Science: Sc1, Sc2 History: 4a, b Geography: 2c, d; 4a, b	Science: 3b, 3d History: 6 Geography: 9



①How A Shadow Site Is Made



②How A Soil Mark Is Made



③How A Crop Mark Is Made