

### Picturing Landforms - 3

#### Visualise and draw landforms from a verbal description

Encourage pupils to look carefully at landforms and to describe them verbally so that another person can visualise them from the description.

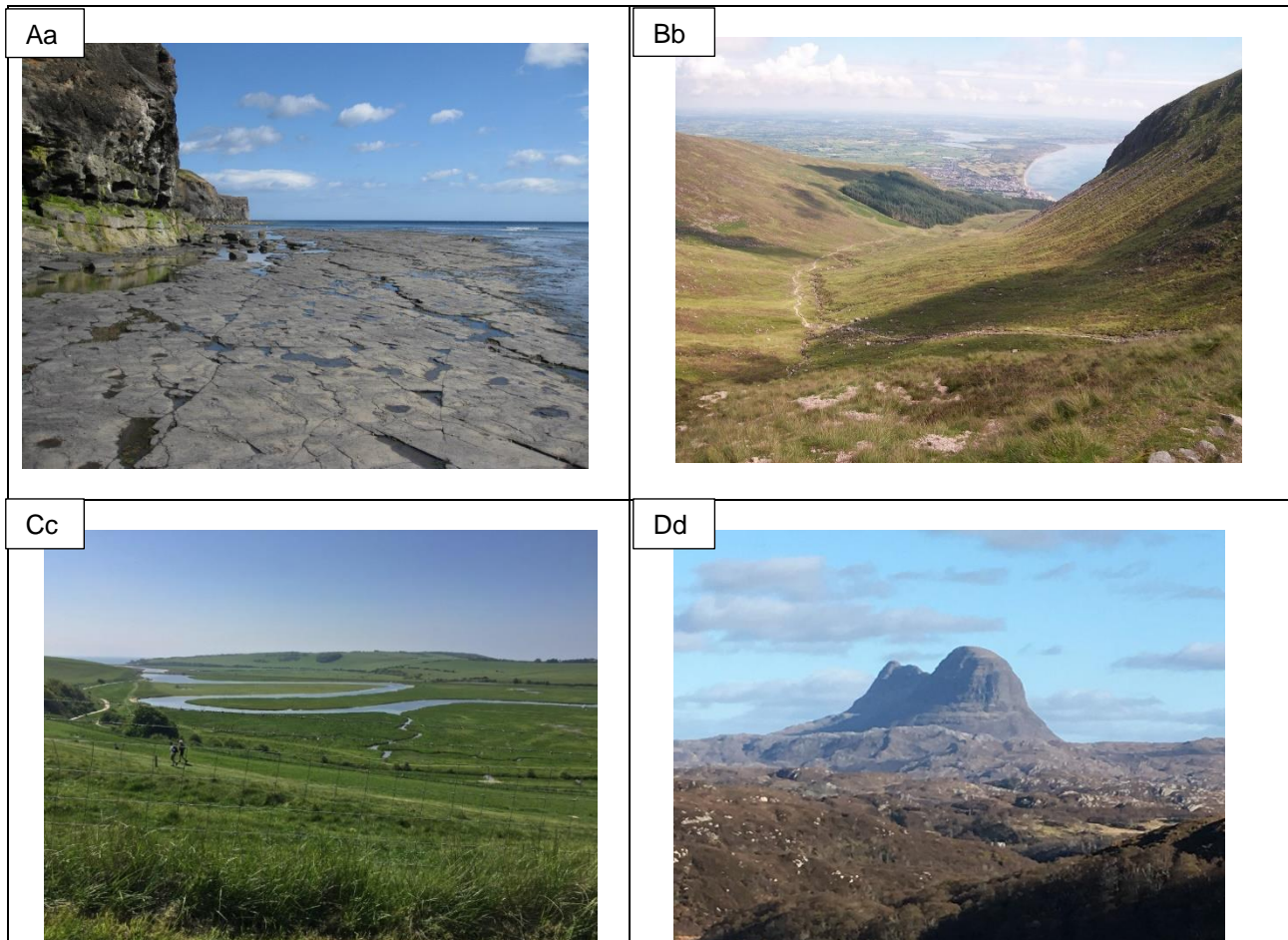
Seat pupils in pairs, with each person holding half of the photograph cards showing landforms, printed and cut up from those shown below. The photographs are all taken in the British Isles. Pupils should NOT show each other what cards they have in their hands.

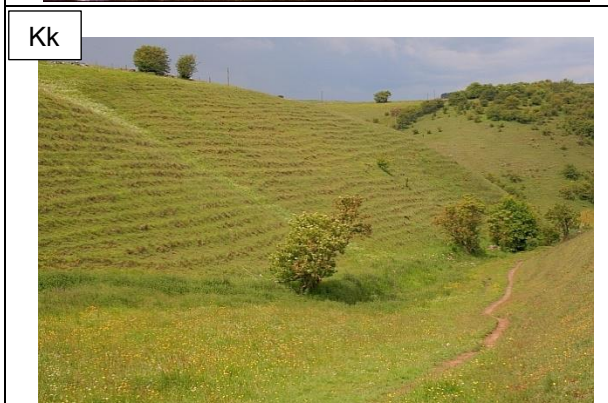
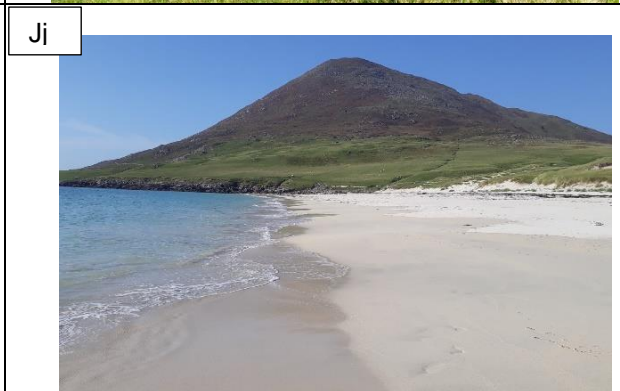
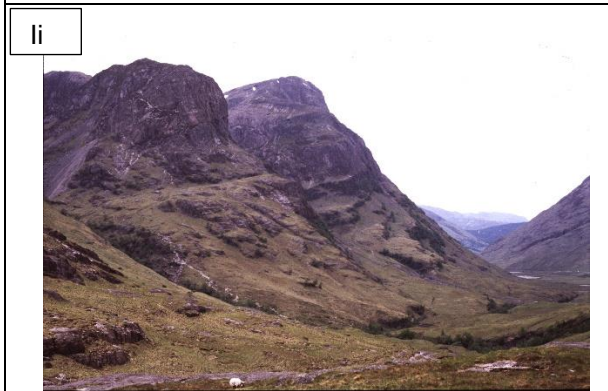
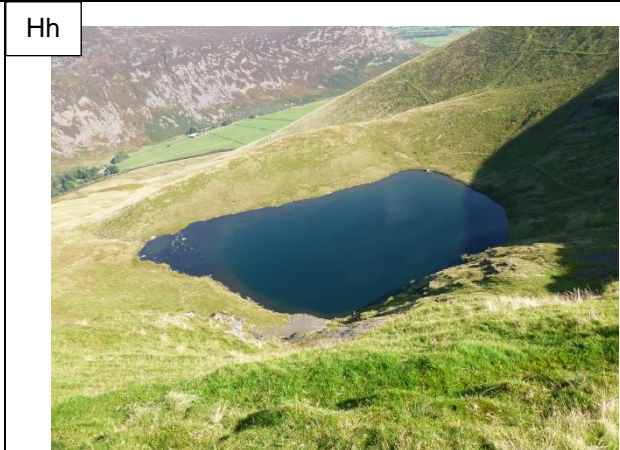
Pupil A then examines one photograph and describes it as fully as possible to Pupil B, who listens carefully and then tries to draw it. Pupil B must listen in silence and not ask any questions. Pupil B then takes a turn with another card, with Pupil A doing the drawing, also in silence. Pupils should then compare their hand-drawn efforts with the photographs.

This first round should be tried without any guidance. Then give each participant the Prompt Card, to encourage them to be more specific in further descriptions, and ask them to work through the remaining photographs, comparing their drawings with the photographs after each round. Note that some landforms may be repeated on different photographs, and some photographs may show more than one landform.

(If drawing the landscape from a partner's verbal description proves too difficult, the listener could suggest a name for the type of landform instead. Both pupils could then draw a "field sketch" from the same photo before reverting to the game).

When all have finished, give out the descriptive cards and ask pupils to match the descriptions to the photographs which they have been using.





**Prompt Card**

Use this card as a check list to aid your verbal description of your photograph to your partner.  
Is the photo showing:

- an upland area, a lowland area or a coastal area?
- mainly erosional features or depositional features?
- the nature of the drainage – rivers, lakes, dry valleys?
- any evidence of the structure of the rocks – folding, faulting, joints, igneous features?
- any evidence of past glaciation – deep U-shaped valleys, mounds of badly sorted debris etc?

**Descriptions of the photographs**

<p><b>1. Esker:</b> a low <b>ridge</b> running over otherwise low-lying land. The ridge is composed of sands and gravels washed out of the rock debris below a glacier or ice sheet by a stream flowing in a tunnel below the ice. With time this may become vegetated.</p>	<p><b>7. Hanging valley:</b> The two valleys high up on the left side of the picture are “hanging” with reference to the main valley floor. All were eroded by glaciers, except that the main glacier had much more ice, and was able to cut down more deeply, leaving the valleys from the smaller glaciers with steep drops to the main valley, marked by waterfalls. The main valley is U-shaped with truncated spurs.</p>
<p><b>2. Flood plain with meander belt:</b> formed in the lower reaches of a river, shortly before it meets the sea in the background. The very sinuous meander could eventually become cut through at the “neck”, leaving an abandoned oxbow lake. Water and colour changes in the grass may indicate nearly silted-up oxbow lakes.</p>	<p><b>8. Roche moutonnée:</b> an asymmetrical rock, shaped by glacial erosion. One side is usually gentler than the other, and faced the advancing ice. As the ice flowed over the rock, it plucked rock fragments away bodily, along joints and bedding planes, leaving a steep ragged face (as in the photo). The name is from the French for sheep.</p>
<p><b>3. Tarn:</b> a deep lake formed in the bottom of a corrie, where the water is ponded back by a rock step or possible moraine. This forms a very short hanging valley, high above the valley of the main glacier below, seen near the top of the picture. (“Tarn” is a Lake District term for such lakes).</p>	<p><b>9. Truncated spur:</b> The crags on the right and in the middle ground are truncated spurs. A glacier which once occupied the valley in front of us would probably have eroded away existing interlocking spurs, resulting from earlier river erosion. The glaciated valley is straighter and more steep-sided than the river valley which preceded it.</p>
<p><b>4. Wave-cut platform:</b> (with near-vertical cliffs behind), formed by the erosive action of the sea, armed with rock fragments. The force of water, aided by compression of air in joints, erodes a notch at the base of the cliff, aiding the fall of rocks from above, which are then removed by further wave action, and the platform steadily advances.</p>	<p><b>10. Spit:</b> a ridge of sediment, usually mostly gravel, which has been transported along the coast by wave action, resulting in longshore drift. The end of a spit is frequently curved, as in this example.</p>
<p><b>5. Dry valley:</b> The rocks beneath the valley are permeable limestones. The valley was formed by flowing water at a time when the ground was frozen and rendered impermeable during the “Ice Age”. Once the ground thawed, water could soak through the rocks again, so there is seldom enough water to flow above ground in a stream, leaving the valley “dry”.</p>	<p><b>11. Conical hill:</b> as the name suggests, the shape is approximately conical and results from uniform rates of erosion on all sides. The underlying structure of the rocks is simple horizontal beds.</p>
<p><b>6. Drumlin:</b> a whale-back shaped mound composed of glacial till (“boulder clay”) shaped by a moving ice sheet. Drumlins often occur in “swarms” and usually have a steeper face on one side than the other: the steep side faces the advancing ice, with the rest of the mound tapering away in the direction of flow (in this case to the right).</p>	<p><b>12. Inselberg (or Monadnock):</b> an isolated hill standing above a generally lower erosion surface (Inselberg is German for “island mountain”). This one in the North West Highlands of Scotland is formed in the nearly horizontally-bedded Torridonian Sandstone, lying unconformably on eroded Lewisian Gneiss. Inselbergs are more typical of arid or semi-arid landscapes.</p>

**The back up**

**Title:** Picturing landforms - 3

**Subtitle:** Visualise and draw landforms from a verbal description

**Topic:** Enhancing pupils’ skills of description and interpretation using photographs of landforms

**Age range of pupils:** 16 years upwards

**Time needed to complete activity:** About 30 minutes, depending on depth of discussion

**Pupil learning outcomes:** Pupils can:

- examine photographs of landforms carefully and describe them intelligibly;
- listen carefully to a verbal description and interpret it in a drawing;
- enhance their observational skills as a prelude to field work.

**Context:** This could form a useful revision activity, once pupils have studied landforms. *Answers to the matching exercise are:*

Aa 4, Bb 9, Cc 2, Dd 12, Ee 6, Ff 1, Gg 10, Hh 3, Ii 7, Jj 11, Kk 5, Ll 8.

**Following up the activity:**

- Ensure that pupils use the same careful description and interpretation approach to geology in the field.
- Ask pupils to study the “mystery” photograph below. Tell them that it is the same type of landform as in one of their 12 photographs. Ask them to decide which landform it matches, and give their reasons. (*See photo notes*)



“Mystery” photo

**Underlying principles:**

- This strategy provides training in careful observation and interpretation of all relevant features.
- Being obliged to give a verbal description encourages careful observation, to ensure that clues are not missed.

**Thinking skill development:**

Verbal dexterity and metacognition are encouraged by the need to give intelligible verbal descriptions and to interpret from them. Applying the activity to the field situation is a bridging activity.

**Resource list:**

- Card sets of Photographs, Prompt Cards and Description Cards, cut out from those shown above.

**Useful links:**

See the table below for other Earthlearningidea activities in the “Picturing” series.

**Source:** Written by Peter Kennett of the Earthlearningidea Team.

**Photos:**

- Dd.** Suilven, Lochinver, Scotland. H Clark
- Ee.** Scafell area, Lake District. P. Loader.
- Ff.** Near Duns, Scottish Borders. Drone photo by A Pratt.
- Ii.** Glencoe, Highland, Scotland. P. Kennett
- Jj.** Ceapabhal, Outer Hebrides. R.J. Kennett.
- Ll.** Scafell area, Lake District. P. Loader.

All other photos are taken, with their reference numbers, from [www.geograph.org.uk](http://www.geograph.org.uk). All these are marked “licensed for reuse under this [Creative Commons Licence](https://creativecommons.org/licenses/by/4.0/)”. Inserting the reference number into the website will bring up an Ordnance Survey map extract of the feature and extra information.

- Aa.** Sandsend Ness, North Yorkshire. 3584941. © [Pauline E](#)
- Bb.** Newcastle Co. Down, N. Ireland. 1980529. © [Eric Jones](#)
- Cc.** River Cuckmere, Sussex. 6051966. © [Robin Stott](#)
- Gg.** Langstone Harbour, Hampshire. 5594433. © [Robert Eva](#)
- Hh.** Bowscale Tarn, Lake District. 3675036. © [Alan O'Dowd](#)
- Kk.** Gratten Dale, Peak District. 2466903. © [Mick Garratt](#)

*“Mystery” photo, taken by drone by Alistair Pratt, near Coldstream in the Scottish Borders. This shows a series of drumlins, running from left to right, resulting in undulating ground. They were formed by moulding of glacial debris below an ice sheet, although the characteristic blunt end and gentle end are not possible to determine in this view.*

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## Picturing.....

Earthlearningidea has compiled a series of activities involving examination of photographs of geological interest and their careful verbal description to others. This table will be updated as fresh activities are added. All titles begin with: "Picturing....."

<b>Title</b>	<b>Sub-title</b>
<a href="#">Puzzle structures</a>	Visualise and draw sedimentary structures from a verbal description
<a href="#">Trace fossils and other strange shapes</a>	Visualise and draw trace fossils and sedimentary structures from a verbal description
<a href="#">Igneous rocks – 1</a>	Visualise and draw igneous rocks from a verbal description
<a href="#">Igneous rocks – 2</a>	Visualise and draw igneous rocks from a verbal description
<a href="#">Metamorphic rocks</a>	Visualise and draw metamorphic rocks from a verbal description
<a href="#">Tectonic structures – 1 faulting</a>	Visualise and draw fault structures from a verbal description
<a href="#">Tectonic structures – 2 folding</a>	Visualise and draw fold structures from a verbal description
<a href="#">Minerals -1</a>	Visualise and draw minerals from a verbal description
<a href="#">Minerals -2</a>	Visualise and draw minerals from a verbal description
<a href="#">Fossils -1</a>	Visualise and draw fossils from a verbal description
<a href="#">Fossils -2</a>	Visualise and draw fossils from a verbal description
<a href="#">Landforms 1</a>	Visualise and draw landforms from a verbal description
<a href="#">Landforms 2</a>	Visualise and draw landforms from a verbal description
<a href="#">Landforms 3</a>	Visualise and draw landforms from a verbal description
<a href="#">Landforms 4A</a>	Visualise and draw landforms from a verbal description
<a href="#">Landforms 5B</a>	Visualise and draw landforms from a verbal description