

BLACK ROCKS: KS4 DENE QUARRY

DENE QUARRY VIEWPOINT

☛ The information board at the viewpoint site is detailed, and provides most of the factual information pupils might require about the vista before them. (See **BR4bt KS4**, page 3 for group leader summary)

Figures 1 and 2. The Dene Quarry panorama



Allow pupils to view the site, drawing their attention to the information board (fixed to a limestone block). This usually takes several minutes.

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At this site there are several areas suitable for discussion:

1) Discuss the issues relating to large-scale quarry operations.

This would include why we need such large amounts of stone aggregate (See <http://www.nationalstonecentre.org.uk>) and how we should manage their impact on the environment, local settlements, and traffic.

GROUP LEADER NOTE: In January 2005 an application for extending the quarry was being considered by Derbyshire County Council. The main points were:

- a) an extension of the existing quarry by 1.5 hectares north and 3.5 hectares to the south
- b) this would release an extra 5.23 million tonnes of limestone and extend the life of the quarry by ten years to 2015 or 2016.
- c) lorry movements would stay at the present level to 2011 and then decline
- d) the quarry would be progressively reclaimed for agriculture and conservancy, using quarry waste to re-landscape Dene Hollow as a valley.
- e) The application also considered the impact of extension on rights of way, archaeology, ecology and water.

2) Compare and contrast two quarry sites.

Using the North East Quarry exercise from the National Stone Centre, which is a restored site, compare the “before” and “after” situations. What might make this site more difficult to restore? [It will be deeper, and wider than North East Quarry, and may not get the same protected status of UKRIGS, or the funding. Business pressures might mean selling the use of the site as a tip of some sort]

3) Estimating the value of the quarried rock.

[length x width x average depth x price. (estimate length & width from a map).

500m x 250m x 50m = 6,250,000 cubic metres x £2 = £12,500,000

Use a calculator. This quarry has yielded close to an estimated £12 million, but over a working lifetime of 60 years. Help pupils to explore the cost-benefit aspects of this situation. The need for the raw material, jobs, contributions to the economy of the area against traffic, dust, noise, and visual impact. Draw pupils' attention to the efforts made to reduce these impacts: screening from the road, washing down lorries as they leave etc.]

4) Describing and explaining the quarrying process:

Pupils complete a field sketch of the area, and using the information from the board describe the quarrying process. using Worksheets 4 and 5

◀The third area is across the road above the Black Rock picnic area. Retrace your steps across the field and very carefully cross the busy B5036. Turn right along the road and then left to the picnic area. Go through to the High Peak Trail at the top of the picnic area, and turn left along it. Turn right up the steep path to the Black Rock exposure and Cromford mine. This should take about 15 to 20 minutes