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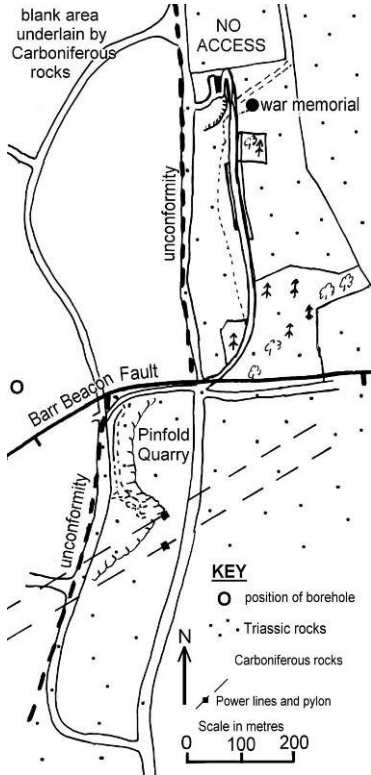
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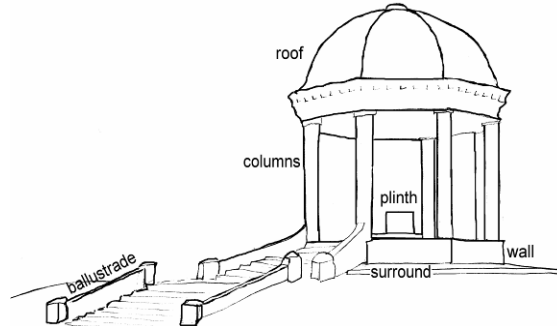
WORKSHEET 1

Pupil Name

Site 1: Investigating the Barr Beacon War Memorial.



- 1.** Mark your location as "site 1" on the map to the left.
- 2.** Mark each of the other sites on the map as you come to them.
- 3.** Investigate the materials used to make the different parts of the memorial, and how they are being weathered. Record your observations in the tables below.
- 4.** On the diagram mark on the SW and NE sides of the sketch. Draw an arrow to show the direction of main wind (and rain).



	Description of the material used	Reason it was used.
Roof		
Columns		
Plinth		
Wall		
Surround		
Ballustrade		

	Evidence of weathering	Weathering type
Roof		
Columns		
Surround		
Ballustrade & steps		

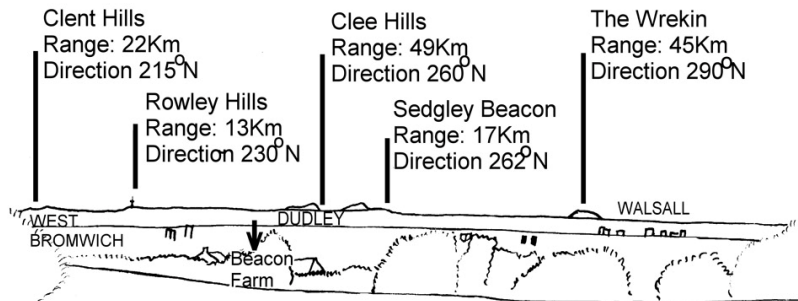
KS3 FIELD EXERCISES

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WORKSHEET 2

Pupil Name

Site 2: The viewpoint to the SW.



↓ = site of Hamstead 5A borehole

1. Estimate how far you can see today. _____ km.

2. Why are the hills higher than their surroundings? _____

Look at the towns to the SW. e.g. Walsall.

What natural raw materials have been used to create them?

Where did these materials come from?

House Roofs:

House walls (inside and out):

Cement & concrete:

Windows:

Gas/oil for central heating:

Roads and driveways:

TV aerials, wires, garage doors, and cars:

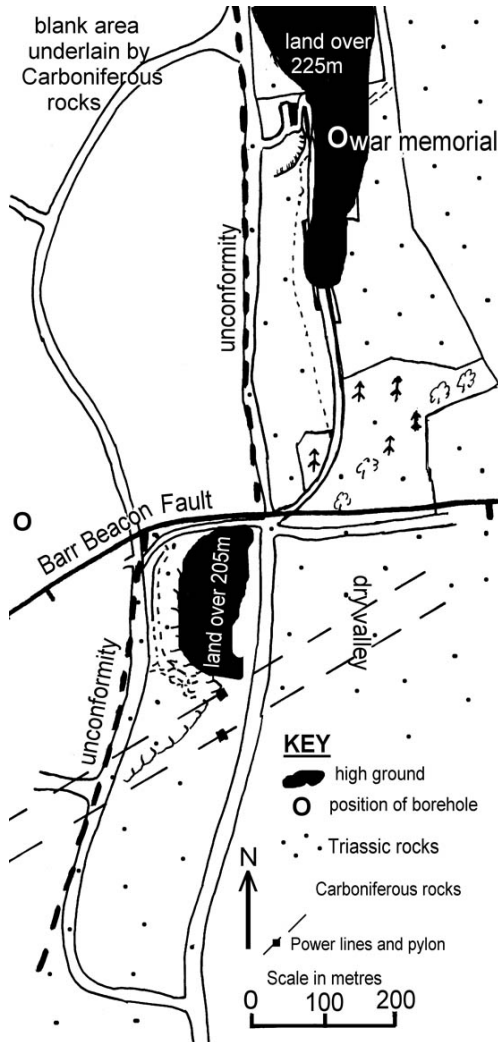
Garden Soil:

Grass and trees:

WORKSHEET 3

Pupil Name

Site 3: The viewpoint to the South.



1. Mark your position, site 3 on the map.

2. What feature is marked on the map running from east to west near your position?

3. You have been walking along the Barr Beacon Ridge, but in front of you is a valley. What has happened to the ridge? (Hint: Look at the dark areas on the map)

4. Describe the river valley in front of you.

5. Why is there no river in the bottom of this valley?

6. Look at the soil you are standing on. Describe it.

7. Can you suggest what differences there must have been either to the climate, or the permeability of the soil when the river cut this valley in the past?



WORKSHEET 4

Pupil Name

Site 4: A study of the boundary wall.

Inspect the dark blocks in the wall along the pavement near the Barr Beacon entrance. Describe the rock that forms these blocks using the table below to help you.

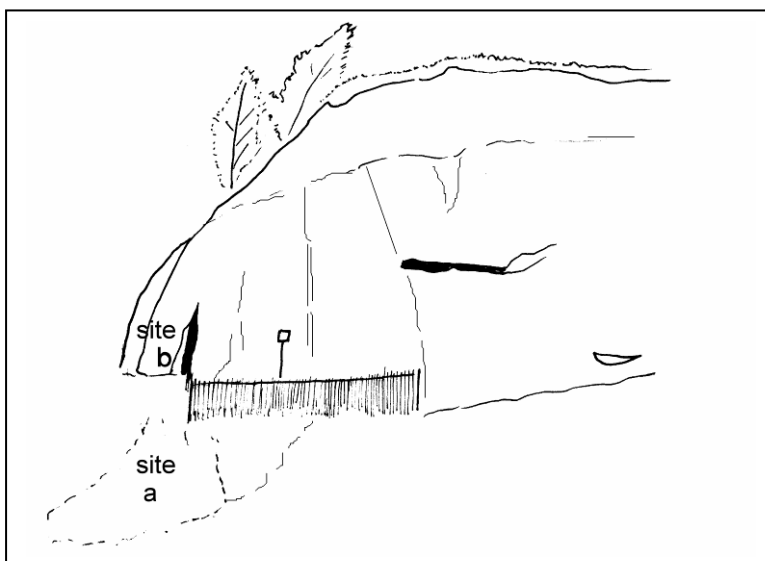
What colour are these blocks?
Do the blocks contain fossils?
Do they show bedding planes?
Are they made up of interlocking crystals?
Is the rock made up of coarse Medium or fine pieces?
What kind of rock is it?

Site 5: Field sketch of Pinfold Quarry.

On the sketch label the following features.

- | | |
|------------------|----------------------|
| 1. joint plane | 5. youngest bed |
| 2. bedding plane | 6. soil & vegetation |
| 3. scree | 7. conglomerate |
| 4. oldest bed | 8. sandstone |

Draw in one or two bedding planes on the lower right side of the face.





KS3 FIELD EXERCISES

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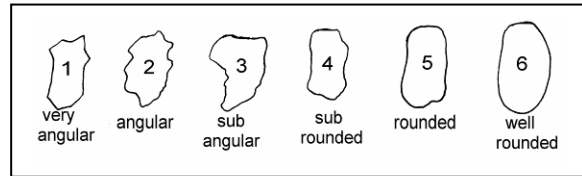
WORKSHEET 5

Pupil Name

Site 5a. Pinfold Quarry pebble study

1. PEBBLE SHAPE INVESTIGATION.

Use the diagram on the right to help you describe the rounding of these pebbles.

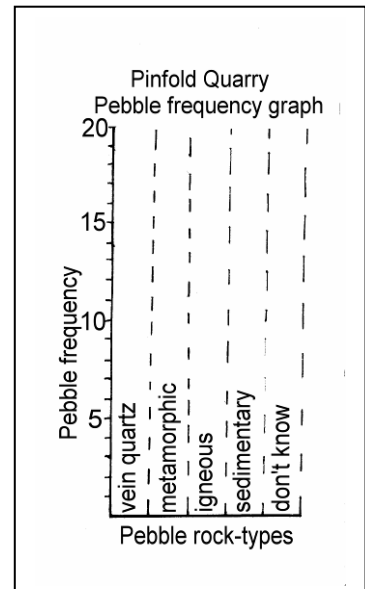


The shape of most of the pebbles is _____

2. PEBBLE-TYPE INVESTIGATION.

Drop a marker, such as a pen, on the scree and pick the **20** pebbles touching it. Use the pebble sheet to help you identify them and record the frequency of pebble types below. Then graph your results on the right.

VEIN QUARTZ	IGNEOUS	META-MORPHIC	SEDIMENTARY	DON'T KNOW
Your results				
Total =	Total =	Total =	Total =	Total =
All results.				
Total =	Total =	Total =	Total =	Total =



3. SUMMARY OF TWO ROCK CYCLES.

Most of these pebbles are _____ in shape. The two most common pebble types are _____ and _____. They are found on the scree because they have been _____ from the quarry face above. The sedimentary pebbles, like conglomerates / sandstones tell us that there was an _____ rock cycle, when these rocks were _____ from their outcrop and transported here. The largest pebble we found is _____ mm across, and suggests a flow of _____ cm. per. second when it was deposited in the Triassic period 245 _____ years ago. These pebbles must have been in at least _____ Rock Cycles.



KS3 FIELD EXERCISES

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WORKSHEET 6

Pupil Name

1. Sketch the break in the rocks in the space below.

2. On your sketch mark on the following:

a: bedding planes;

b: fault plane;

c: fault plane in filled with pebbles;

d: down throw side and up throw side.

COMPARISON OF THE ROCK AT SITE 5b WITH QUARTZITE.

Feature	Sandstone.	Quartzite.
What colour is the rock?		
Is it porous and permeable?		
Which is denser (Feels heavier for its size)?		
Does it have bedding planes?		
Which has grains and which has interlocking crystals?		
Which is stronger (soft) and which is harder?		





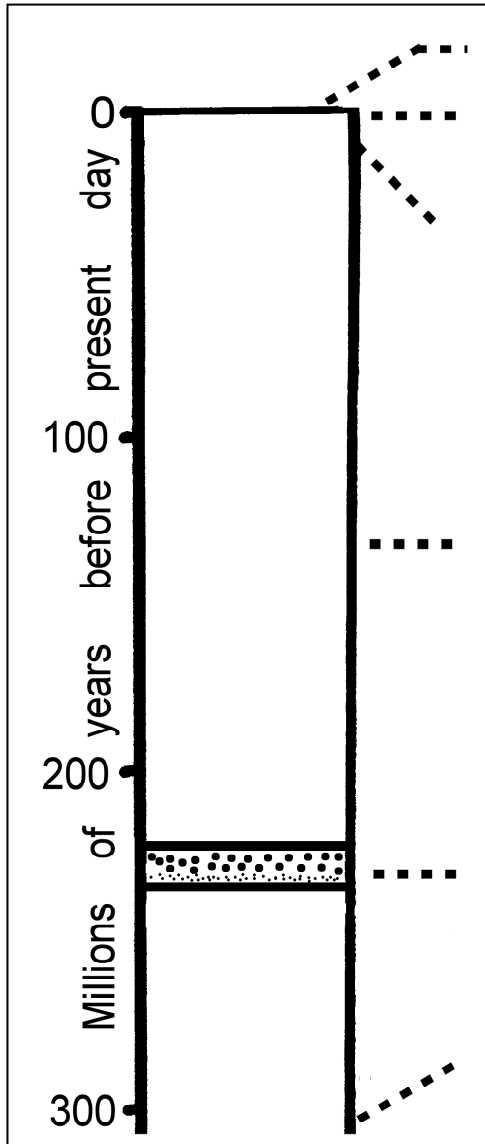
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WORKSHEET 7

Pupil Name

Summary of events at Barr Beacon Nature Reserve.



Write each of the sentences below in the correct box in the summary column above:

- 1) A very long period when faulting, weathering and erosion occurred.
- 2) Deposition of the sandstone in a desert environment.
- 3) Transport by large rivers & deposition of rounded pebbles to form conglomerates.
- 4) Quarrying of the rocks for aggregates (sand & gravel).
- 5) Erosion of pebbles to form scree in the quarry.
- 6) Erosion of dry valleys by rivers now dried up.
- 7) Deposition of coal and other rocks before the Triassic period



WORKSHEET 8

Pupil Name

PUPIL HOMEWORKSHEET: The two rock cycles at Barr Beacon.

FIRST CYCLE: deposition. What can you say about the deposition of the beds you have seen [The Hopwas Breccia and Kidderminster Conglomerate]?

FIRST CYCLE: uplift and tilting. What can you say about the changes to the beds cause by plate tectonics? HINTS: tilting and faulting..

SECOND CYCLE: weathering and erosion. What evidence of present day weathering and erosion have you seen? HINTS: screes, vegetation, the memorial etc.

SECOND CYCLE: sediment transport. What evidence have you seen for weathered sediments being transported?

