

© UKRIGS Education Project: Earth Science On-Site

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PUPIL NAME

PUPIL WORKSHEET 1: COMPARING TWO ROCK TYPES.

Use the table below to record your observations about the two rock types you will see today at Vallis Vale and later at Tedbury Camp.

	AT VALLIS VALE (the grey rocks)	AT TEDBURY CAMP (the yellow rocks)
Colour of rock:		
Are they bedded?		
Horizontal or not?		
Are they jointed?		
Made of grains or interlocking crystals?		
Are they porous?		
Contain fossils?		
Were the fossils broken (washed around)?		
Do the rocks react with dilute HCl?		
The rock name is:		
In what environment was it probably formed?		
Which of these two rocks is harder (physically resistant)?		

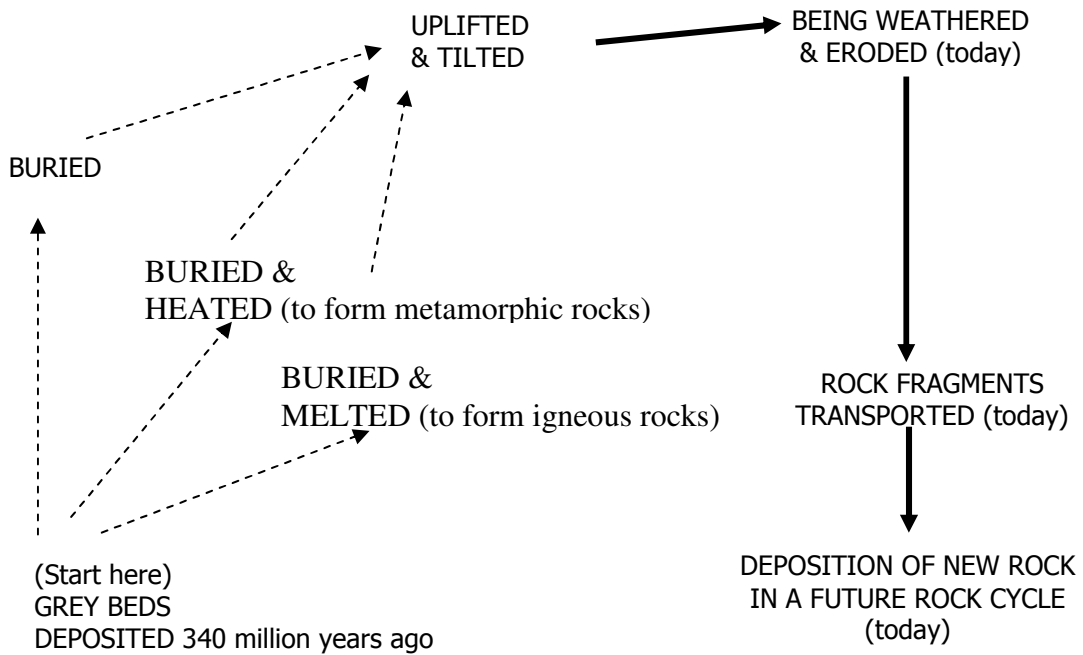
SUGGEST REASONS FOR THE DIFFERENCES BETWEEN THESE TWO ROCKS

WHY DID THE QUARRYING COMPANY WANT THE GREY ROCK FOR ROADSTONE BUT NOT THE YELLOW ONE?

PUPIL NAME

PUPIL WORKSHEET 2: TRACKING THE GREY ROCK CYCLE

Mark in the track for the grey beds at Vallis Vale through this rock cycle by drawing over the correct dotted arrows.



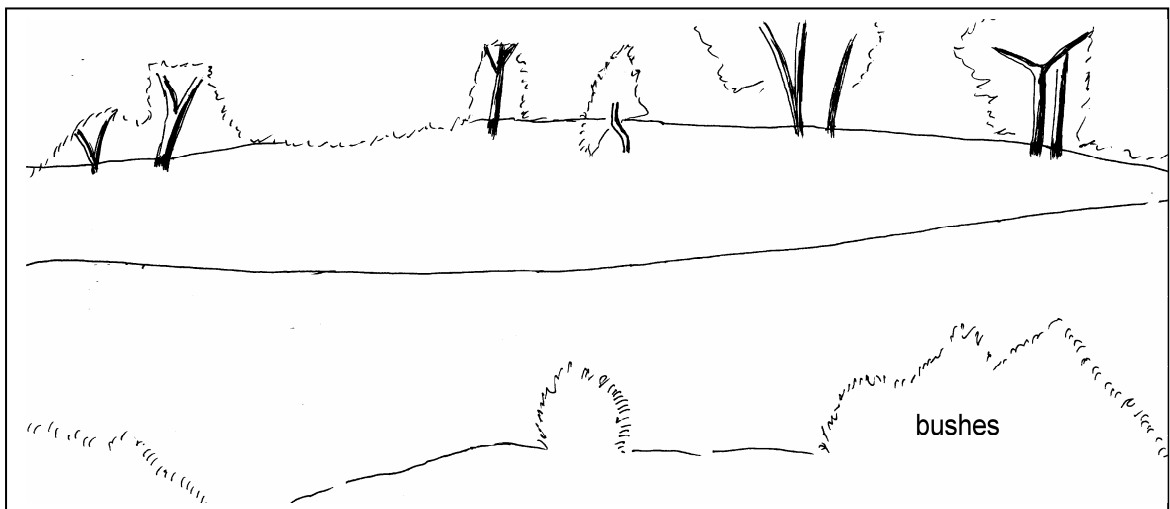
SKETCH OF VALLIS VALE.

Complete the outline sketch of Vallis Vale by drawing in the beds.

Identify and label the following on the sketch:

bedding plane, joint, erosion surface, soil layer, biological weathering

by roots, horizontal yellow beds and dipping grey limestone.

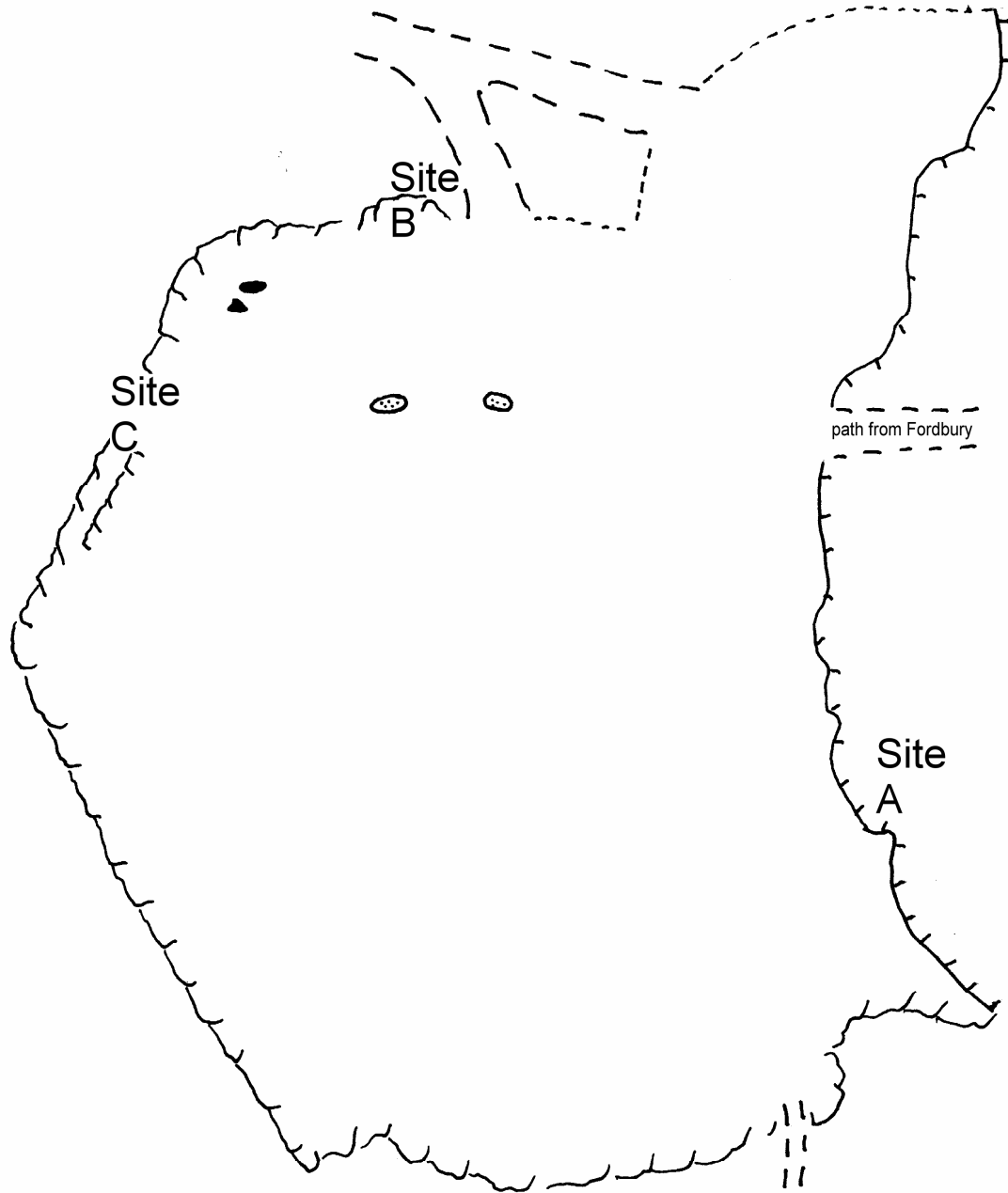


PUPIL NAME

WORKSHEET 3: MAP OF TEDBURY CAMP

Mark on the North arrow in the key.

Mark on and label what you find at each of the sites you visit.



Key:

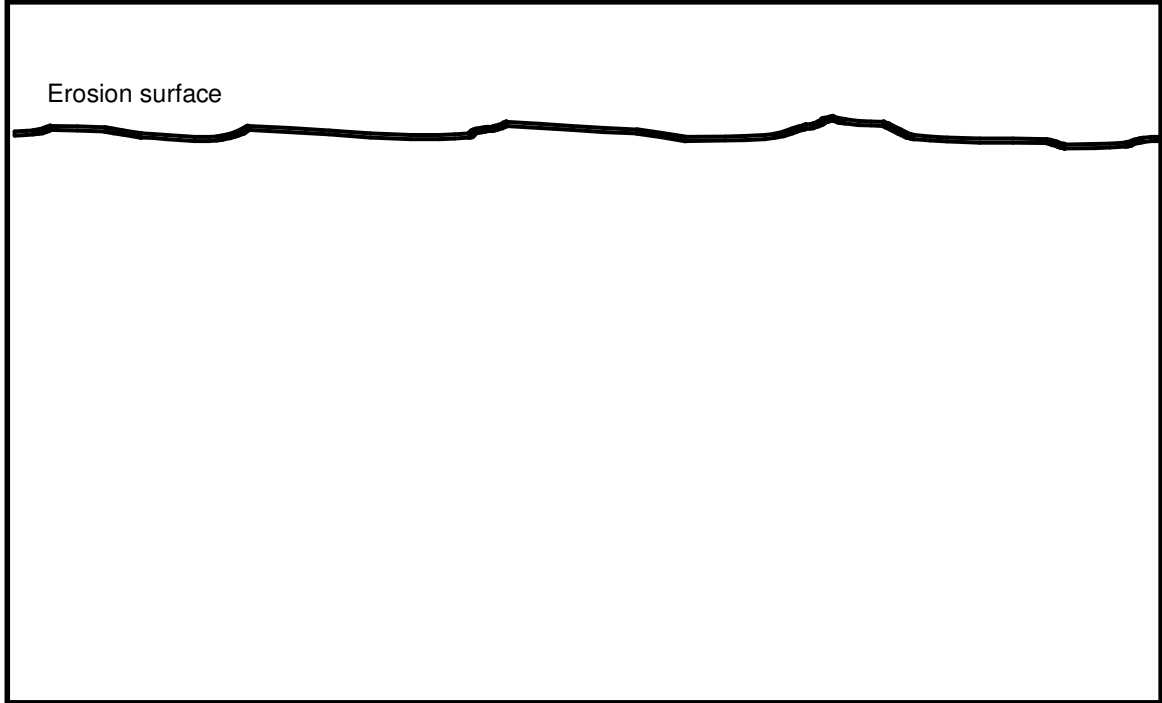
- boulders
- patches of yellow beds
- quarry face
- paths

Scale: 0 to 10M

North arrow: A cross with a vertical line extending upwards.

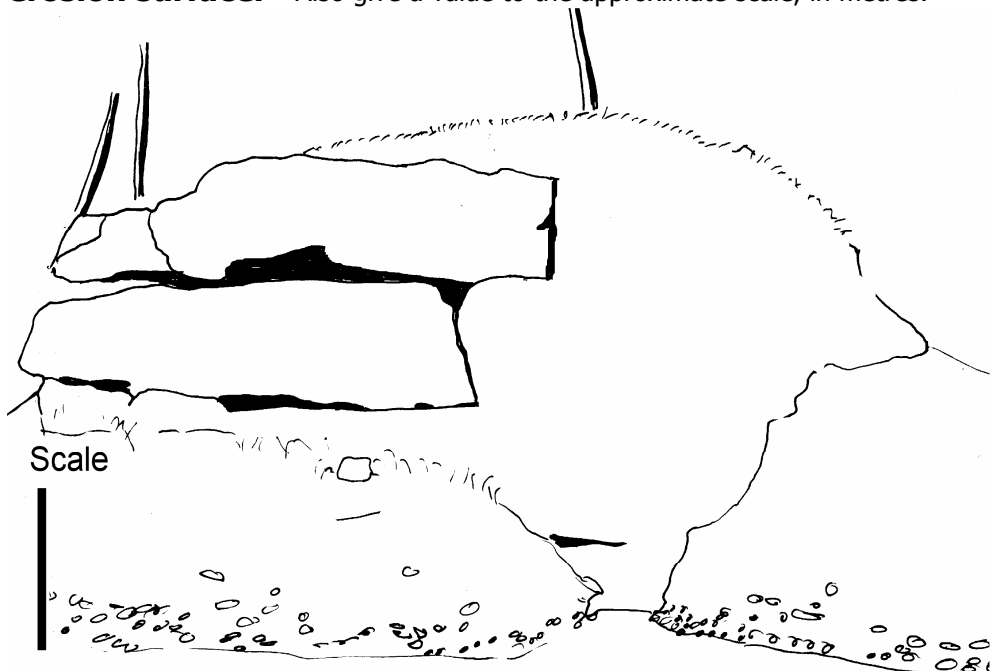
PUPIL NAME

PUPIL WORKSHEET 4: FIELD SKETCH OF SITE A. Mark on the grey bedding planes, and the depth to which the animals bored. Give an approximate scale to your sketch.



FIELD SKETCH OF SITE B.

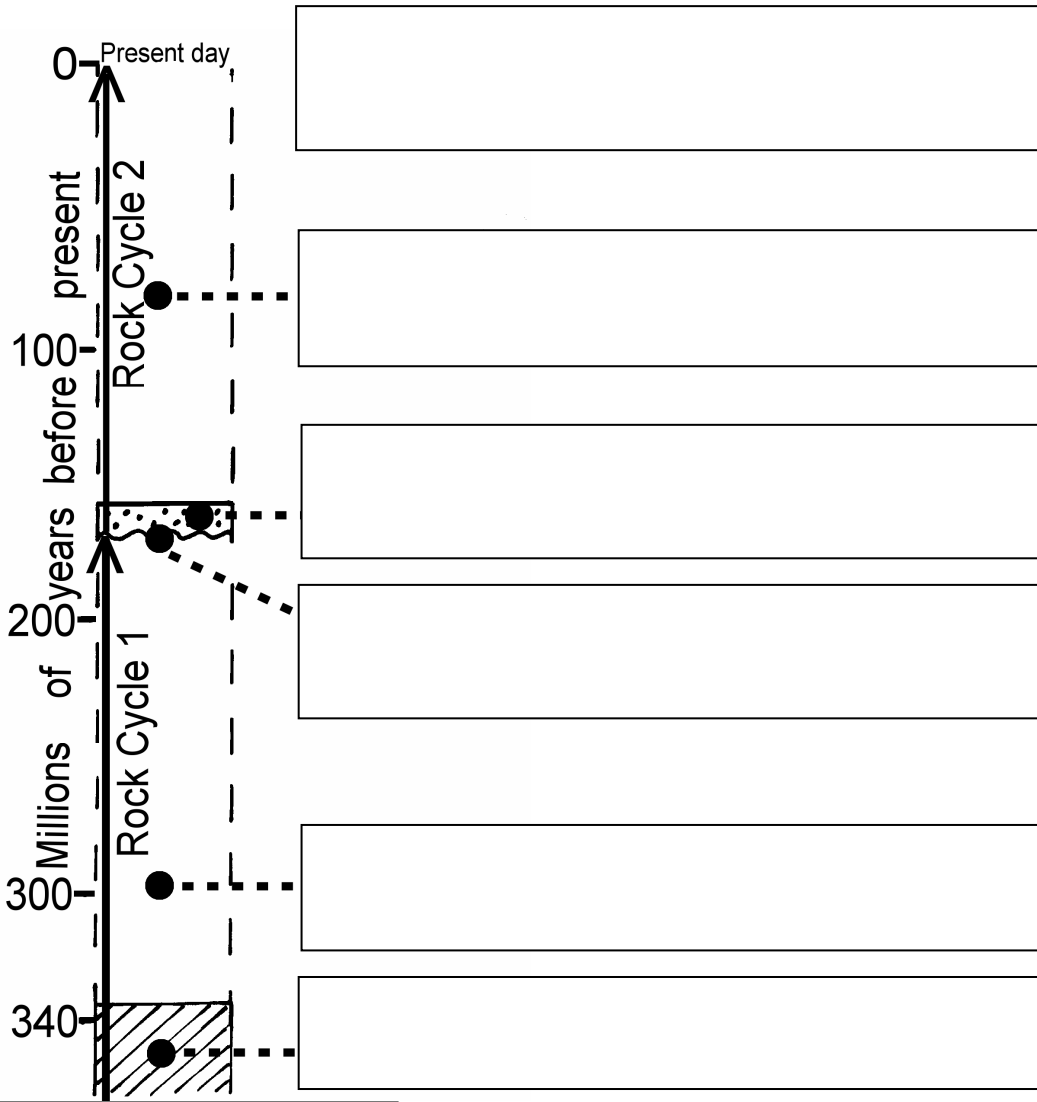
Complete the features of the right hand side of the sketch. label the following: **soil, trees and vegetation, bedding plane, joint plane, scree slope, erosion surface.** Also give a value to the approximate scale, in metres.



PUPIL NAME

PUPIL WORKSHEET 5: Summary of the two Rock Cycles.

Write the sentences below into the correct boxes to show the sequence of events from 340 million years ago.



- A. Start of Rock Cycle 1**
- B. Uplift, tilting and erosion**
- C. Deposition of yellow rocks**
- D. Deposition of grey rocks**
- E. Marine animals bore into grey limestones**
- F. Uplift and erosion**
- G. Present day weathering, transport & erosion**

PUPIL NAME

PUPIL WORKSHEET 5 (alternative): Summary of the two Rock Cycles.

THE FIRST ROCK CYCLE: The oldest beds we have seen are grey _____ containing fossils such as _____ and _____. These beds were deposited about 340 million years ago, in a _____ environment. Later these beds were uplifted and _____ by Plate Tectonic forces. Then these rocks were weathered and the fragments _____ away to form more _____ rocks when they were deposited somewhere else.

THE SECOND ROCK CYCLE: After 170 million years the grey beds had been eroded to a nearly flat rocky surface which was later flooded by the sea. Animals such as oysters _____ themselves to the rock, whilst others, like marine worms _____ into it. Then the younger beds of yellow _____ were deposited. These were laid down in a _____ environment and are composed of _____ and ooliths made of the mineral _____.

Later the whole of the area was _____ by about 200 metres above sea level. More recently Vallis Vale was eroded by _____ and the rocks quarried by humans. The sediment eroded from the valley will probably form new rocks in the future in the _____ estuary.

PUPIL NAME

My calculation of the volume of rock removed from Tedbury Camp Quarry. (HINT $v = l \times w \times h$)	
My estimate of the value of the limestone taken from Tedbury Camp quarry	
A list of possible uses of limestone	
A list of disadvantages of quarrying in an area.	
A list of possible advantages of quarrying in to an area.	
A list of possible uses for a quarry when it is no longer used.	