

**First Activity ANSWER SHEET**

**Site A - Setting the Scene at Triassic Park Hall.**

1. Turn your map in the same direction as the quarry.
2. Use a compass to find north. (See **Figure 1.**)
3. Mark north, south, east and west on the compass at the top of the map.
4. Look eastwards at the old quarry faces which have been cut through the rocks.



**Figure 1. Map of Play Canyon Quarry.**

**(You and your party are standing in the SW corner of the map, by the information board. When you look across the quarry, then North is to your left)**

From what you have seen all around you, you should be able to recognise two kinds of rock in Park Hall.

In the east face, what rock is on top?	Sandstone
What colour is it?	Red
What is it mainly made of?	Sand
What rock is at the bottom of the face?	Pebble beds[conglomerate]
What is it mainly made of?	Pebbles[& some sand]
Which is the younger rock?	Sandstone
Which is the older rock?	Pebble beds[conglomerate]

**Second Activity ANSWER SHEET**  
**Site B - Looking at Triassic Sandstones.**

1. Which of these words would you use to best describe how the rocks look from a distance:

All jumbled up or mostly layered?	Mostly layered[The pebble beds may look jumbled up at first]
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2. Now that we are closer to the faces you should be able to see layering in both the sandstones and the pebble beds.

Explain why they are layered. [You might have done an experiment in school to show why].	sand and pebbles carried in water and settled out in water
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3. Notice the slope between the rock face and the quarry floor. It is sometimes called a scree slope.

What do you think it is made from?	sand and pebbles
How do you think it formed?	sand and pebbles fallen from the faces[by gravity]

4. Match the field sketch with what you can see in this part of the quarry. Label the sketch as indicated on the sheet.

5. Move northwards a few metres to find a piece of sandstone to investigate. There are several blocks left behind after the quarrying, so there is no need to go up to the face.

What happens when you rub the sandstone with your fingers?	Sand grains break away
What is the name of the hard mineral that sand is made of?	Quartz

6. Collect some of this sand in your hand or on a piece of paper.  
 Look at the grains with a magnifier.

Describe their shape: fairly rounded, fairly angular, or in between	Tend to be fairly rounded, though some may be in between
Are the grains mostly the same size or mixed sizes?	Tend to be same size within single sample
Measure the size of the grains: over 1mm, , about 1mm, under 1mm [1mm graph paper is useful]	About 1mm is usual, though some are under 1mm and may contain some shiny flakes of the mineral mica.

7. After rubbing the sandstone, your fingers might feel smooth and be coloured. This is caused by the iron mineral haematite sticking to the sand grains and in the fine clay that is mixed with the sand.

What colour is the iron mineral, haematite?	Red
Is it strong or weak in sticking the sand grains together in sandstone?	Fairly weak
What does the sandstone easily become?	Sand

8. If you have a water dropper you could test your sample.

Is it porous or not?	Most are porous
What happens to most of the water when it rains in this area?	Soaks into the ground[soil & underlying sandstone]

9. During the rest of the visit look out for sandstones made of smaller or larger grains than your first sample.

**Third Activity ANSWER SHEET**

**Site C - Park Hall Pebble Hunt – worksheet**

**Also need Park Hall Pebbles – Identity sheet**

Find as many different kinds of pebble as you can and try to identify them with the help of the Park Hall Pebbles identity sheets.

1. Look at the shape of the pebbles

Describe the shape of most of the pebbles	Rounded
What does the shape indicate about how they were transported to here?	Rounded by contact with other pebbles [relate to sugar cubes demonstration- dry] rolling along bed of a river

2. Most of the pebbles are made of very hard quartz and quartzite

Why does hardness improve a pebble's chances of survival?	Resists attack, with less hard ones breaking up sooner on the journey
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3. The pebble identity sheets suggest where many of the pebbles came from

In which direction did they come from and heading to?	From south to north
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4. Look out for contact points on many of the pebbles. Some of the pebbles have been broken through these contact points

What do you think might have caused the pebbles to be marked and broken in this way?	Great weight of overlying sand/sandstone and pebbles/conglomerate over millions of years
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5. In the space below draw one of the pebbles you have identified. Show as much detail as you can and give a cm scale.