

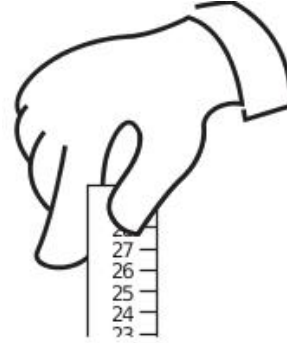
Name _____

Evidence of Change from Local Landforms - Student Worksheet

Measuring change

Scientists only accept evidence of change if:

1. We can **sense or observe** a change (see, hear, smell, feel and sometimes taste it).
2. We can **measure** the change using international measurements such as metres, degrees Celcius and litres.
3. The two steps above are **repeated** many times to improve accuracy and the same result is obtained by any scientist anywhere in the world.



Change due to movements within the Earth - Earthquakes

The April 2010 Boulder Earthquake occurred near the town of Kalgoorlie-Boulder in WA. Shaking lasted over 10-15 seconds and could be felt 1,007 km away. Visit

<http://www.abc.net.au/local/stories/2010/04/20/2877871.htm>

View the page and the pictures and answer the following questions.

When and where did the earthquake take place?

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What changes did the residents see?

What changes did the residents hear?

What changes did the residents feel?

Was anybody hurt when this earthquake hit?

How would you know if a similar earthquake hit your school?

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What possible landscape changes could an earthquake cause to the Superpit, the enormous open cut gold mine near Boulder?

B. Changes due to human behavior - urbanisation



Humans change their living area to suit their purposes. 120 years ago this area was bumpy scrubby bushland. It has become a flat grassy area with a concrete pavement round it, which leads to the pedestrian tunnel under the busy road in the background.

Why was the land flattened?

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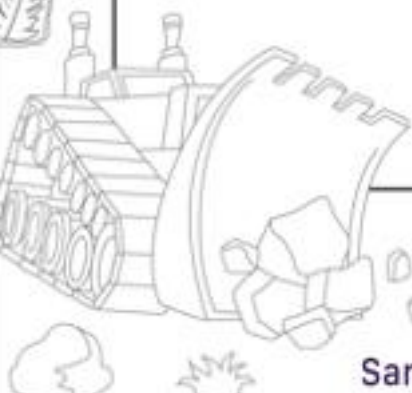
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Why is there no longer any scrubby bush?

Why is there now grass and a few non-native trees?

Why is there not any grass in the strips cutting across the central area?

Why is the ground and grass higher round the trees?



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List 5 things that humans have done to change this landscape.

C. Changes due to the introduction of non-native animals

Cloven-footed animals such as goats, pigs, sheep and cows compact the soil under their feet much more than native Australian macopods (big-footed animals like the kangaroo).

Oh the Pressure! - Student Activity

Materials

- A pencil or pen
- A brick or similarly heavy object
- Sandpit or tray with about 4cm depth of sand
- Ruler

Method

1. Place the heavy object on the sand.
2. Measure the depth of the indentation
3. Lift the heavy object and hold the pencil under it.
4. Lower the heavy object on to it and allow it to sink into the sand
5. Measure the depth of this indentation.

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Observations

Depth of indentation of heavy object alone _____

Depth of the same object with a much smaller base (with the pencil under it).



Which shoe will squash the ground under it more? _____



Compare the size of the feet of the goat and the kangaroo. What is different?

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What will happen if the goat regularly walks a pathway?

On pastoral stations farmers have to put in bores or water tanks for cows' drinking water. How could you tell where a bore or water tank is from an aeroplane?

D. Changes due to flooding or storm damage.

Strong winds and moving water can cause rapid changes to local landforms through both erosion and deposition.

In May 2016, Perth residents were warned of a major storm approaching. Visit <http://www.perthnow.com.au/news/western-australia/wild-weather-wind-gusts-heavy-rain-belt-perth-causing-power-outages/news-story/5c4168fdca29aa93c00f62a0eba82284>

What damage to the surface of the Earth is expected to happen because of this storm?

What will the sandbags be used for?

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Why did this report mostly describe changes to the human landscape?

If you can view the pictures can you find three landscape changes also? List them.

E. Changes due to different cultural and social expectations.

It has been noticed that when early European artists made sketches of our landscape they were scrupulous in copying them exactly as they were. They copied the peeling bark, thin leaf cover and strange grass trees as they are. When they used these sketches later to make paintings they changed them to be more Europeanised.

Frederick Samson Park

Samson Park is reputed to be the last piece of natural vegetation in metropolitan Perth. Aboriginal people have moved



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through this area for thousands of years without causing much change to the landscape.



These two photographs were taken on the same day. The one on the left is of the park and the one on the right is just across the road.

1. Spot 3 differences between landscape shown in the photo on the left and the one on the right.

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2. What caused these changes?

3. Why do you think that people wanted a different landscape?
