Geohazards Video Answers

Tuesday 28 April

1. Why New Zealand has Geohazards

Walk up to the lookout above the fur seal colony in Kaikōura to see how plate tectonics have shaped this area

1. What is significant about the Kaikōura Peninsula
   - It sticks out, it was raised up by tectonic uplift and Māori recognised it as a special place where Maui stood to fish Te Ika-a-Māui up (the North Island)
2. Why does New Zealand have so many geohazards?
   - Because we are positioned above the boundary between the Australian and Pacific Plates
3. What can be seen from this lookout that shows that the area has been uplifted?
   - Three terraces known as wave platforms that have been uplifted above the

Next step learning: Find out about the rate of uplift of the Southern Alps of New Zealand.

2. Tsunami and New Zealand

Come down to the coast to find out more about tsunami and the risk of future tsunami in Kaikōura.

1. What is a tsunami?
   - A wave or surge of water created by movement under the sea floor which displaces water
2. What causes tsunami?
   - Undersea earthquakes, undersea landslides and undersea volcanoes
3. Why is there a risk of tsunami in Kaikōura?
   - Because the Hope fault extends out to sea in this area and could generate a large earthquake.

Next step learning: Find out which areas of New Zealand are most at risk from tsunami.

3. Earthquakes and New Zealand

Drive up to a lookout over Kaikōura to talk with Rob about earthquakes and active faults

1. Where do earthquakes occur?
   - Along active fault lines
2. What has created the mountain ranges like the Kaikōura Ranges?
   - Uplift and earthquakes along active faults
3. How are earthquakes measured?
   - In magnitude (on the Richter Scale).

Next step learning: Find out more about the largest earthquakes in New Zealand's recent history.

4. The Hope Fault

Drive inland to Greenburn stream to see the Hope Fault.

1. How do we know the Hope Fault runs through here?
   - You can see the fault scarp that has been uplifted during previous earthquakes
2. How big is an earthquake on the Hope Fault likely to be?
   - Around magnitude 7
3. Why is it helpful to know about when previous earthquakes have occurred on this fault?
   - If scientists can get a long enough record of past earthquakes they can estimate when the next earthquake is likely to occur.

Next step learning: The Hope Fault is one of the more active faults in New Zealand; what other faults are likely to rupture in the next 1-200 years?

5. Landslides

Take a break during your drive to Blenheim to investigate a recent landslide.

1. Why is this area prone to landslides?
   - Because the rock is soft/weak, the land has been cleared for farming, the land is steep, heavy rain is common
2. What are the main triggers for landslides?
   - Heavy rain and earthquakes
3. What could you do to try and reduce landslides on this land?
   - Plant trees

Next step learning: Find out if there have been any landslides in your local area and what has been done to manage the impacts of these.