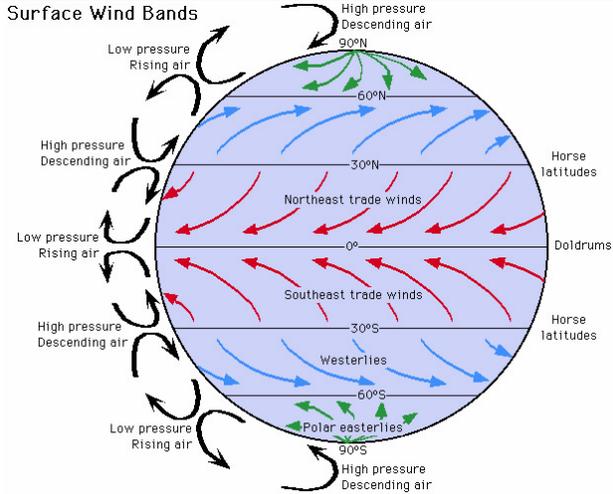


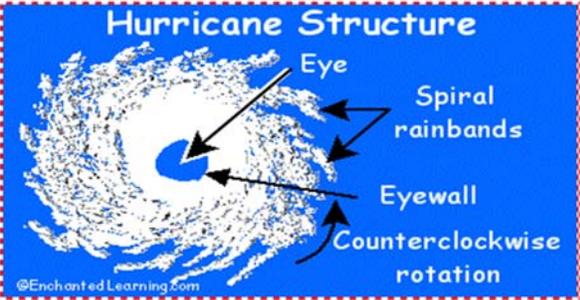
Define natural hazard	Name the types of hazard
What factors affect hazard severity?	What is hazard risk?
How do tectonic plates move?	Where are earthquakes and volcanoes found?
Name the 2 types of earth crust	Name the 3 types of plate margin
What happens at a destructive plate margin?	What happens at a constructive plate margin?
What happens at a conservative plate margin?	Explain the cause of earthquakes
What are primary and secondary effects?	What are immediate and long term responses?

<p>Tectonic hazards – caused by movements of the earth’s tectonic hazard Climatic hazards – caused by changes to the earth’s climate and weather.</p>	<p>A natural hazard is a natural event such as an earthquake, volcanic eruption, tropical storm or flood that poses risk of death, injury or damage to people and property.</p>
<p>Hazard risk is the chance or probability of being affected by a natural event.</p>	<p>Urbanisation Technology Income Location</p>
<p>Earthquakes and volcanoes are found along plate margins. Some volcanoes are also found at hotspots.</p>	<p>Convection currents:</p> <ul style="list-style-type: none"> • Magma is heated by the core • Heated magma rises • Magma rising pushes plates apart • Magma loses heat, cools and sinks • Sinking magma drags plates together • The process repeats
<p>Destructive Constructive Conservative</p>	<p>Continental – granitic rock, not very dense, very old rock Oceanic – basalt rock, dense, young rock</p>
<p>Constructive plate margin:</p> <ul style="list-style-type: none"> • Plates move apart from each other • Magma rises to fill the gap • Shield volcanoes are formed 	<p>Destructive plate margin:</p> <ul style="list-style-type: none"> • Plates move towards each other. • Plates collide and one sinks below the other • Continental crust crumples and forms mountains and volcanoes. • Oceanic crust sinks (subduction) to form an ocean trench
<ul style="list-style-type: none"> • Earthquakes are caused by plates rubbing together - friction • Friction causes pressure to build up • Pressure becomes extreme • Plates slip and pressure is released • Pressure released as seismic waves from the earthquake focus • Epicentre – point on surface directly above the focus is worst affected. 	<p>Conservative plate margin:</p> <ul style="list-style-type: none"> • Plate slide past each other at different speeds • Plates rubbing creates friction • Friction builds up pressure to cause earthquakes.
<p>Immediate responses – things done straight away to help, lasting only a short time Long term responses – things done to help later on, designed to last a long time</p>	<p>Primary effects – things which happen straight away as a direct result of the hazard Secondary effects – things which happen later on because of the primary effects</p>

<p>Name and date of the HIC earthquake case study.</p>	<p>Name and date of the LIC earthquake case study</p>
<p>Describe the effects of Italy earthquake</p>	<p>Describe the effects of Nepal earthquake</p>
<p>Describe the responses of Italy earthquake</p>	<p>Describe the responses of Nepal earthquake</p>
<p>Suggest why people live near tectonic hazards</p>	<p>What are the 3P's?</p>
<p>Explain how the 3P's reduce hazard risk</p>	<p>At what degrees are areas of high and low pressure?</p>

<p>LIC earthquake: Gorkha, Nepal, 2015</p>		<p>HIC earthquake: L'Aquila, Italy, 2009</p>	
<p>Primary: 9000 deaths 23000 injured Over 500,000 homes destroyed Historic buildings including Dharahara Tower fell 26 hospitals and 50% of schools destroyed</p>	<p>Secondary: Avalanche on Mount Everest killing 19 people. Loss of income from tourism (which was 8.9% of Nepal's GDP). Rice seed stored in homes was ruined as homes collapsed. This caused food shortages.</p>	<p>Primary: 300 deaths 1,500 injured 67,500 homeless 10,000 buildings damaged San Salvador Hospital severely damaged</p>	<p>Secondary: Landslides and mudflows triggered Numbers of students at L'Aquila University decreased Lack of housing increased rental prices</p>
<p>Immediate: Nepal requested international help. UK's DEC raised \$126 million. Red Cross- tents for 225,000 people. UN and WHO distributed medical supplies to the worst districts. Facebook launched a safety feature so people could show they were safe.</p>	<p>Long term: Rebuilding. World Heritage Sites reopen June 2015. Longer climbing season.</p>	<p>Immediate: Italian Red Cross search teams 7 dog units deployed 36 ambulances and a temporary hospital used to treat injuries British Red Cross raised £171,000 in aid Mortgages and household bills suspended EU granted \$552.9million for rebuilding.</p>	<p>Long term: Continue to monitor. Continue to prepare. Continue to have building regulations.</p>
<p>Prediction (monitoring) Preparation Protection</p>		<p>Jobs – mining, farming tourism Mining – rare minerals Farming – fertile soil Tourism – visitors to the wonders Geothermal energy – Iceland is powered by heat from underground Friends and family – people want to live close</p>	
<p>Prediction - by observing monitoring data (gases, seismic waves, animal behaviour), this can allow evacuation before event.</p> <p>Preparation - Training for emergency services and planned evacuation routes and drills.</p> <p>Protection - Reinforced buildings and making building foundations that absorb movement. Automatic shut offs for gas and electricity.</p>		<p>Surface Wind Bands</p>  <p>The diagram shows a cross-section of Earth with latitude lines from 90°N to 90°S. It illustrates the following wind patterns:</p> <ul style="list-style-type: none"> 90°N: High pressure, Descending air. 60°N: Horse latitudes. 30°N: High pressure, Descending air. 0°: Doldrums. 30°S: Horse latitudes. 60°S: Horse latitudes. 90°S: High pressure, Descending air. <p>Wind directions are shown with arrows:</p> <ul style="list-style-type: none"> Northeast trade winds: Red arrows pointing southwest between 30°N and 0°. Southeast trade winds: Red arrows pointing northwest between 0° and 30°S. Westerlies: Blue arrows pointing northeast between 30° and 60° in both hemispheres. Polar easterlies: Green arrows pointing southwest between 60° and 90° in both hemispheres. <p>Pressure and air movement labels are also shown at the poles and horse latitudes: Low pressure, Rising air at 90°N and 90°S; High pressure, Descending air at 30°N, 30°S, and 60°N, 60°S.</p> <p><small>Adapted from Duxbury, Alun C. and Alison B. Duxbury. An Introduction to the World's Oceans, 4/e. Copyright © 1994 Wm. C. Brown Publishers, Dubuque, Iowa.</small></p>	

<p>Describe the characteristics of high pressure weather</p>	<p>Describe the characteristics of low pressure weather</p>
<p>Explain the Coriolis effect.</p>	<p>What is a tropical storm?</p>
<p>What conditions are needed for a tropical storm to form?</p>	<p>Where are tropical storms located?</p>
<p>Describe the formation of tropical storms</p>	<p>Name the features of a tropical storm.</p>
<p>Suggest how climate change would affect tropical storms.</p>	<p>Name and date of the tropical storm studied.</p>
<p>Describe the effects of the Typhoon Haiyan</p>	<p>Describe the responses to Typhoon Haiyan</p>

<p>Low pressure weather – the weather is stormy and air is wet – caused by air rising</p>	<p>High pressure weather – the weather is calm and air is dry – caused by air sinking</p>		
<p>A tropical storm is a hazard that brings heavy rainfall, strong winds.</p>	<p>Winds move from high pressure to low pressure. They curve because of the Coriolis effect which is the turning of the Earth that causes the winds to curve in a circular motion.</p>		
<p>Tropical storms usually form between approximately 5° and 30° latitude and move westward due to easterly winds.</p>	<p>Ocean temperature needs to be above 27° C. Ocean depth must be 50m or more. Trade winds are needed.</p>		
 <p>The diagram, titled 'Hurricane Structure', shows a top-down view of a hurricane. It features a central 'Eye' surrounded by an 'Eyewall', which is the innermost ring of 'Spiral rainbands'. Arrows indicate a 'Counterclockwise rotation' around the eye. The diagram is credited to '©Enchanted Learning.com'.</p>	<ol style="list-style-type: none"> 1. Air is heated above warm tropical oceans. 2. Air rises under low pressure conditions. 3. Strong winds form as rising air draws in more air and moisture causing torrential rain. 4. Air spins due to Coriolis effect around a calm eye of the storm. 5. Cold air sinks in the eye so it is clear and dry. 6. Heat is given off as it cools powering the storm. 7. On meeting land, it loses source of heat and moisture so loses power. 		
<p>Typhoon Haiyan, Philippines, 2013</p>	<p>Warmer temperatures would increase the number and severity of tropical storms occurring. If the earth becomes warmer above or below the tropics they may occur in new locations.</p>		
<p>Immediate: 70-80% of New Orleans evacuated before hurricane reached land. State of emergency declared in Louisiana and Mississippi. Emergency shelters set up in public buildings. UK and US send navy ships. Charities provided shelter, food and medical supplies.</p>	<p>Long term: UN appeal raised \$788 million. Another \$500 million from other governments. Some houses rebuilt on stilts. Some areas zoned as no build areas. Improved warning systems put in place.</p>	<p>Primary: At least 6340 killed 314 km/hr wind speeds. 5m Storm Surge 90% buildings in Tacloban destroyed Habitats & Crops destroyed</p>	<p>Secondary: \$1.5 Billion of damage Water supply polluted 1.9 million homeless, 6 million displaced Public Order – Looting Airports unusable for supplies</p>

<p>Give examples of extreme weather in the UK</p>	<p>How can the 3Ps reduce effects of tropical storms?</p>
<p>Outline the causes of the Boscastle Flood.</p>	<p>Describe the effects of the Boscastle Flood.</p>
<p>Suggest ways to reduce the risk of flooding in Boscastle.</p>	<p>State the causes of climate change.</p>
<p>Identify the evidence for climate change.</p>	<p>Describe the social effects of climate change.</p>
<p>Describe the environmental effects of climate change.</p>	<p>Name the two methods of managing climate change.</p>
<p>Outline mitigation strategies.</p>	<p>Outline adaptation strategies.</p>

<p>Monitoring/ Prediction – allows time for evacuation</p> <p>Protection – means buildings can withstand the effects of tropical storms</p> <p>Planning – people know what to do during a storm and where to go</p>		<p>February/March 2018 Heavy snow</p> <p>June 2017 Heatwaves</p> <p>November 2009 Cumbria floods</p> <p>August 2004 Boscastle floods</p> <p>Summer 2003 Drought</p>	
<p>Primary:</p> <p>No deaths</p> <p>Injuries</p> <p>Loss of possessions</p> <p>58 buildings flooded</p> <p>100 cars swept into harbour</p>	<p>Secondary:</p> <p>25 businesses destroyed</p> <p>£15million cost of damage</p> <p>Locals and tourists suffered PTSD</p> <p>Loss of tourism</p> <p>Loss of income</p>	<p>Physical:</p> <p>Stormy weather</p> <p>Saturated ground</p> <p>Impermeable rocks</p> <p>No infiltration</p> <p>Boscastle is at the confluence of 3 rivers</p> <p>Storm front collided with a cat 2 hurricane</p>	<p>Human:</p> <p>Lack of flood controls</p> <p>Low bridges</p> <p>Old sewage system</p> <p>No drainage ditches</p> <p>Blocked bridges</p>
<p>Natural Causes:</p> <p>Increases in solar output (sun spots)</p> <p>Changes to solar orbit</p> <p>Volcanic eruptions</p>	<p>Human Causes:</p> <p>Burning fossil fuels</p> <p>Agriculture - Farming cattle</p> <p>Deforestation</p>	<p>Raise the height of bridges in the village</p> <p>Build a new sewage system with a greater capacity</p> <p>Create drainage culverts to divert flooding</p> <p>Increase the height of the car park</p> <p>Create a new warning system to allow of early evacuation</p>	
<p>More deaths from heatwaves</p> <p>Ski seasons in the Alps shorten</p> <p>Increasing cases of skin cancer</p> <p>Some food shortages in areas such as Central America and South Asia</p>		<p>Sea level rise</p> <p>Warmer ocean temperatures</p> <p>Loss of sea ice</p> <p>Changes to ice cores</p> <p>Investigation of ocean sediment</p> <p>Changes to tree rings</p>	
<p>Mitigation – reducing the impact of climate change</p> <p>Adaptation – managing and responding to the changes caused</p>		<p>Higher flood risk in Europe</p> <p>More extreme weather in the UK</p> <p>Wildlife such as polar bears decline in Artic</p> <p>Penguin habitat loss in Antarctica</p> <p>Less rainfall in Rainforest leads to loss of Orangutans in Borneo</p> <p>Changes to ocean temperature affects fish and corals.</p>	
<p>Adaptation Strategies:</p> <ul style="list-style-type: none"> • Change in agricultural systems • Manage water supply • Reduce risks from rising sea levels 		<p>Mitigation Strategies:</p> <ul style="list-style-type: none"> • Alternative energy production • Carbon capture • Planting trees • International agreements 	