## Module

The Challenge of Natural Hazards

### Building on Prior Learning

*Students are beginning to cover content outlined in the new AQA A GCSE Geography specification. Throughout LC1-5 students are introduced to key themes across all physical and human topics. The aim of this year is to allow students to gain an overview of each topic at foundation stage, and focus on students improving their Geographical skills, and where appropriate, tackling contemporary and complex Geographical concepts by forming opinions based on evidence.*

### Overarching Subject Challenging question

**Will Earth ever stop moving?**

### Lines of Enquiry

1. **Week 1: What are natural hazards?**
2. **Week 2: How do different plate boundaries affect the world?**
3. **Week 3&4: What are the effects and responses to tectonic hazards in areas of different wealth?**
4. **Week 5: Can management reduce the effects of tectonic hazards?**
5. **Week 6: Revision and Assessment Week**
6. **Week 7: Gap Teaching**

Four ‘Key Ideas’ for this module have been created to guide students through the learning process. The specific specification
content is listed in italics beneath the key ideas.

1. **Natural hazards pose major risks to people and poverty**  
   Define a natural hazard and identify a range of different types of natural hazards. Explain a range of factors that affect hazard risk.

2. **Earthquakes and volcanic eruptions are a result of physical processes**  
   Explain the global distribution of tectonic hazards and their relationship to plate margins. Explain the physical processes that happen at each type of plate margin.

3. **The effects of and responses to a tectonic hazard vary between areas of contrasting levels of wealth**  
   Explain the primary and secondary effects and immediate and long-term responses of tectonic hazards. Use named examples to show how the effects and responses to a tectonic hazard vary between two areas of contrasting wealth.

4. **Management can reduce the effects of a tectonic hazard**  
   Explain the reasons why people continue to live in areas at risk from tectonic hazards and explain how monitoring, prediction, protection and planning can reduce the risks from tectonic hazards.

**Key Terms:**  
Natural hazard, hazard risk, conservative, destructive, constructive, earthquake, immediate responses, long-term responses, monitoring, plate margin, planning, prediction, primary effects, protection, secondary effects, tectonic hazard, tectonic plate, volcano

**Assessment in week 6 will be against the above objectives.**

**GAP teaching will be informed by analysis of assessments in week 7.**

<table>
<thead>
<tr>
<th>Week 1</th>
<th>3 hours of lessons plus 1 hour of homework each week</th>
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<tbody>
<tr>
<td><strong>LOE:</strong></td>
<td>To understand the meaning of a tectonic hazard and give examples of them</td>
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</table>

**Overview of Stages**

**Stage 1 Hypothesis:** “Natural hazards can take many different forms”
**KGP Success Criteria**

**LO:** By the end of the lesson students will be able to distinguish between different types of natural hazards

BRONZE: To define what a natural hazard is and give some examples

SILVER: Explain a range of different natural hazards and categorise them

GOLD: Explain what causes the risks of natural hazards to increase

**Stage 2 Hypothesis:** “Plates move due to the ridge-push/slab-pull theory”

**KGP Success Criteria**

**LO:** By the end of the lesson students will be able to describe and explain the process of continental drift and the ridge-push / slab-pull theory

BRONZE: Describe the structure of the earth and give a brief description of why plates move

SILVER: Describe the layers of the earth in detail and explain the theory of continental drift

GOLD: Explain in detail the two theories of why and how tectonic plates move

**Overview of Stages**

Stage 3 “The world’s earthquakes and volcanoes are evenly distributed”

**KGP Success Criteria**

**LO:** By the end of the lesson students will be able to describe the global distribution of earthquakes and volcanoes

BRONZE: Briefly describe the distribution of earthquakes and volcanoes
<table>
<thead>
<tr>
<th>Week 2</th>
<th><strong>LOE:</strong> To understand a variety of tectonic hazards</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Stage 1 and 2:</strong> <em>“All types of tectonic plates create volcanoes and earthquakes”</em></td>
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<td></td>
<td><strong>KGP Success Criteria</strong></td>
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<td></td>
<td><strong>LO:</strong> <em>By the end of the lesson students will be able to describe the 4 different types of plate boundary and the landforms found at each</em></td>
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<tr>
<td></td>
<td>BRONZE: Identify the four different types of plate boundaries</td>
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<td></td>
<td>SILVER: Explain the processes that occur at the different types of plate boundaries</td>
</tr>
<tr>
<td></td>
<td>GOLD: Explain the four different types of plate boundaries and the hazards and landforms created at them</td>
</tr>
</tbody>
</table>

**Home learning:**
Spellings: *Natural hazard, hazard risk, conservative, destructive, constructive, earthquake, immediate responses, long-term responses, monitoring, plate margin, planning, prediction, primary effects, protection, secondary effects, tectonic hazard,*
<table>
<thead>
<tr>
<th>Week 3</th>
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<tbody>
<tr>
<td><strong>3 1hr lessons plus 1hr homework</strong></td>
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<tr>
<td><strong>tectonic plate, volcano</strong></td>
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<tr>
<td><strong>LOE:</strong> The understand the effects and responses to natural disasters</td>
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<tr>
<td><strong>Overview of Stages</strong></td>
</tr>
<tr>
<td><strong>Stage 1:</strong> “<em>Secondary effects can cause more problems than the primary effects</em>”</td>
</tr>
<tr>
<td><strong>KGP Success Criteria</strong></td>
</tr>
<tr>
<td><strong>LO:</strong> <em>By the end of the lesson students will be able to explain the difference between primary and secondary effects of tectonic hazards</em></td>
</tr>
<tr>
<td>BRONZE: To list a range of primary and secondary effects to one type of tectonic hazard</td>
</tr>
<tr>
<td>SILVER: To describe a range of primary and secondary effects to tectonic hazards, using examples</td>
</tr>
<tr>
<td>GOLD: To explain how the effects of natural hazards vary between countries of differing wealth</td>
</tr>
<tr>
<td><strong>Stage 2:</strong> “<em>Immediate responses are more important than long-term responses</em>”</td>
</tr>
<tr>
<td><strong>KGP Success Criteria</strong></td>
</tr>
<tr>
<td><strong>LO:</strong> <em>By the end of the lesson students will be able to determine the difference between immediate and long-term responses to tectonic hazards</em></td>
</tr>
<tr>
<td>BRONZE: To list a range of immediate and long-term responses to tectonic hazards</td>
</tr>
<tr>
<td>SILVER: To describe a range of immediate and long-term responses to tectonic hazards, using examples</td>
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<td>GOLD: To explain how the responses to natural hazards vary between countries of differing wealth</td>
</tr>
</tbody>
</table>
### Stage 3: “Wealth is the most important factor when assessing damage created by earthquakes”

**KGP Success Criteria**

**LO:** By the end of the lesson students will be able to explain the impact of wealth on the effects of an earthquake.

- **BRONZE:** Describe the effects and responses to a tectonic hazard in an LIC and HIC country.
- **SILVER:** Compare the effects and responses of a tectonic hazard in an LIC and HIC country.
- **GOLD:** Suggest how wealth alters the effects and responses to tectonic hazards in LIC’s and HIC’s.

**Home learning:**

Research the Mercalli scale – a way of measuring earthquakes. Create an image to show the scale of devastation to represent a specific number on the Mercalli scale (no cannot do number 1). The image MUST be hand-drawn and coloured.

### Week 4

2 1hr lessons plus 1hr homework

**LOE:** To understand why people choose to live in at risk areas and understand how we can reduce the impact of natural disasters.

**Stage 1:** “The advantages of living in an area with tectonic hazards are greater than the risks”

**KGP Success Criteria:**

**LO:** By the end of the lesson students will be able to describe the advantages and disadvantages of living in areas affected by tectonic hazards.

- **BRONZE:** To list some ways that ‘at risk’ areas create economic opportunities.
- **SILVER:** To explain the advantages of living in ‘at risk’ areas.
- **GOLD:** To discuss whether or not the advantages of living in ‘at risk’ areas outweigh the negatives.

**Stage 2** “Mt Vesuvius has created many economic opportunities”

**KGP Success Criteria:**
**LO:** By the end of the lesson students will be able to explain the opportunities provided by Mt Vesuvius

BRONZE: To list the benefits of living close to Mt Vesuvius  
SILVER: To explain the advantages and disadvantages of living close to Mt Vesuvius  
GOLD: To conclude whether the advantages outweigh the disadvantages of living in ‘at risk’ areas

**Home learning:**  
In pairs, create a Kahoot using the information from this learning cycle – please ensure you have the correct answers to the questions!

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**Week 5**  
3 1hr lessons plus 1hr homework

**LOE:** To understand how monitoring earthquakes and volcanoes could help to prevent future natural disasters

**Overview of Stages**

**Stage 1** “Prediction, preparation and planning (prevention) successfully reduce the death tolls in earthquakes”

**KGP Success Criteria:**

BRONZE: Define the key terms prediction, preparation and planning  
SILVER: Explain the importance of the 3 P’s in reducing the effects of earthquakes  
GOLD: Evaluate the successes of the 3 P’s in reducing the effects of earthquakes

**Stage 2:** “It is almost impossible to successfully evacuate an area prior to a volcanic eruption”

**KGP Success Criteria:**

BRONZE: Describe how volcanoes are monitored around the world  
SILVER: Explain how monitoring volcanoes can help to predict volcanic eruptions  
GOLD: Suggest how advancement in technology could help to prevent future natural disasters

**Stage 3:** “A super-volcano eruption could end the world as we know it”

**KGP Success Criteria**

**LO:** By the end of the lesson students will be able to explain the consequences of a supervolcano eruption
| Week 6 | **Revision and Assessment Week**  
During the week, students will identify areas where they need to target their revision to improve understanding, enhance their skills and ensure a complete and thorough understanding of content. Students will work, both individually and in learning teams, to complete exam questions and to create a range of revision tools.  
Students will also complete a written assessment based on a series of examination questions from a range of specimen papers. |
| --- | --- |
| **Gap Analysis Reinforcement**  
This end of module time will be allocated to re-teaching any gaps discovered in each individuals knowledge as a result of the assessment process. The whole class will address any common misconceptions which have been highlighted through the assessment analysis but students will also be given time to work with the teacher individually or in small groups to address any areas of the content where they feel they need additional help. |
| **Extended Learning**  
(This is not part of the ‘timed’ schedule but is seen as additional)  
Extended learning is expected in a variety of forms. During home learning, pupils may be asked to use the following sites to complete quick quizzes, research and analysis tasks, GCSE style questions and more open ended tasks. It is expected that students will develop an up-to-date awareness of current geographical issues, and if opportunities arise, on-going events or topics may be substituted in lessons or home learning tasks to ensure content is of the most relevant nature for students.  
http://www.geography.org.uk/  
http://www.geographyinthenews.rgs.org/ |
http://www.gatm.org.uk/
http://news.nationalgeographic.com/
http://www.independent.co.uk/topic/Geography
http://www.bbc.co.uk/education
http://www.coolgeography.co.uk/GCSE/AQA%20GCSE.htm
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