

Name: _____

Y10 Geography Mock Exam Revision Workbook

The following topics will be examined on your mock exam. The exam paper will last 1 hour 30 mins (3 sections).

Year 9:

Section A Paper 1: Natural Hazards

Section B Paper 1: Living World

Year 10:

Section B Paper 2: Changing Economic World

- We will revise the Y9 content in class over the next couple of weeks.
- You will need to revise and prepare for Changing Economic World at home.

Grade that I am currently working at in Geography

Grade that I would like to achieve in the Y10 mock exam

My key actions to help me reach my school target in Geography:

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<u>Section A Paper 1 (33 marks)</u>	<u>RAG rate</u>
Tectonic Hazards	
✓ Definition of a natural hazard. Types of natural hazards. Factors that affect risk e.g. urbanisation and farming	
✓ Plate tectonics theory (slab pull theory)	
✓ Global distribution of earthquakes and volcanoes	
✓ Plate margins - constructive, destructive and conservative	
✓ Primary and secondary effects of a tectonic hazards (earthquake)	
✓ Immediate and long-term responses to a tectonic hazard (earthquake)	
✓ Use named examples to show understanding of the effects + responses of tectonic hazards (Japan and Nepal)	
✓ Reasons why people continue to live in areas at risk from tectonic hazards	
✓ Monitoring, predicting and protecting to reduce risks from a tectonic hazards (earthquake)	
Weather Hazards	
✓ Atmospheric circulation model (GACM)	
✓ Global distribution of tropical storms (hurricane, cyclones + typhoons)	
✓ How the GACM links to tropical storms.	
✓ Formation of tropical storms	
✓ Structure and features of tropical storms	
✓ How climate change might affect the distribution, frequency and intensity of storms.	
✓ Primary and secondary effects of tropical storms	
✓ Immediate and long-term responses to tropical storms	
✓ A named example of a tropical storm to show effects + responses (Typhoon Haiyan)	
✓ Monitoring, predicting and protecting to reduce risks from a tropical storm	
✓ An overview of types of weather in the UK (UK roundabout)	
✓ An example of an extreme weather event in the UK (Storm Desmond) Causes, effects and management	
✓ Evidence that weather is becoming more extreme in the UK	
Climate Change	
✓ Evidence for climate change (Ice cores, tree rings etc.)	
✓ Causes of climate change (natural and human)	
✓ Effects of climate change	
✓ Mitigation strategies (planting trees, carbon capture, renewable energy and international agreements).	
✓ Adaptation strategies (change in agricultural systems, managing water supply and reducing risk from sea level rising.	

Tectonic Hazards

Section 1.1 - What are natural hazards?

Need to know:

- ✓ what is meant by 'natural hazard'
- ✓ different types of natural hazard
- ✓ risks from natural hazards and factors affecting these

- Natural hazards are environmental events threatening people.
- Natural disasters occur where death and destruction result
- As populations grow, so does hazard risk

1.1.1 The number of earthquakes or volcanic eruptions is not changing - so why are more people at risk from natural hazards?

Why are more people
at risk from natural
hazards?

Section 2.1 - Distribution of earthquakes and volcanoes

Need to know:

- ✓ the global pattern of earthquakes and volcanoes
- ✓ plate tectonics (crust, plates and plate margins).
- ✓ the physical processes at constructive, destructive and conservative plate margins.

- Plate movement and tectonic activity at plate margins cause earthquakes and volcanoes.
- Plates *separate* at constructive margins causing mild earthquakes and volcanic eruptions.
- Plates *collide* at destructive margins causing strong earthquakes and violent volcanic eruptions.
- Plates *slide by* at conservative margins causing powerful earthquakes.

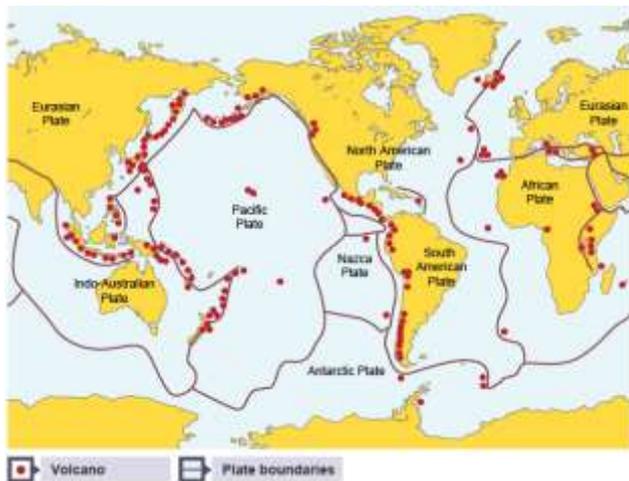
2.1.1 Name the **three** plate margins we have studied. What hazard happens at each one?

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2.1.2 Draw a labelled diagram to explain the formation of earthquakes and volcanoes at each plate margin.

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2.1.3 Using the resource below, describe the distribution of volcanoes. [3 marks]



2.1.4 Explain why earthquakes and volcanoes occur at plate margins. [4 marks]

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Section 2.2 - The effects of earthquakes

Need to know:

- ✓ the primary and secondary effects of earthquakes in contrasting countries - HIC + LIC

- Both earthquakes had primary and secondary effects.
- Both earthquakes had devastating effects on people's lives and activities.
- Contrasts in wealth and development affected the impacts.

2.2.1

HIC example (include year, Richter Scale + location):

LIC example (include year, Richter Scale + location):

2.2.2

Earthquakes cause both primary + secondary effects. What are these?

Primary effect =

Secondary effect =

Primary effect	Secondary effect

2.2.3 Effect - Find the fact

Nepal

3 million	9,000	7,000
50%	19	250

2.2.4 Effect - Find the fact

Japan

15, 845	39m	20,000
1,000	5,845	128,497

TOP TIP: Round up the facts so they are easier to remember.
E.g. 15, 845 will become 16,000

Section 2.3 - Responses to earthquakes

Need to know:

- ✓ the immediate and long-term responses to earthquakes in Japan in 2012 and Nepal in 2015.

- Japan's response was quick with a variety of long term strategies.
- Nepal's response was hindered by poverty (slow response due to being poor) and it depended on overseas countries to provide aid.

2.3.1 Responses (colour code short term + long term responses)

How did Nepal respond?

2.3.2 Responses (colour code short term + long term responses)

How did Japan respond?

2.3.3 Which responses to you think were the most effective and why?

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2.3.4 Create a 5 question quiz for both your HIC + LIC example. Make sure you know the answers.

Nepal	Japan

Section 2.4 - Living with the risks from tectonic hazards

Need to know:

- ✓ Why people continue to live in areas at risk from earthquakes and volcanoes
- ✓ How tectonic activity in Iceland brings huge benefits.

- Plate margins run through densely populated regions such as Japan and southern Europe.
- Effective monitoring, prediction and protection reduce the risks.
- Iceland benefits from tectonic activity with geothermal power and tourism.

2.4.1 Draw images to represent why people continue to live near volcanoes.

<u>S</u>	<u>W</u>	<u>E</u>	<u>A</u>	<u>R</u>

2.4.2 Why do the people of Iceland benefit from living on a plate margin?

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2.4.3 Create a spider diagram to explain why people continue to live near earthquakes.

Why do people live near earthquakes?

Section 2.5 - Reducing the risk from tectonic hazards

Need to know:

- ✓ How risks from tectonic hazards can be reduced by monitoring, prediction, protection and planning.
- The risk from tectonic hazards can be reduced by monitoring, prediction, protection and planning.
 - Buildings can be constructed to be earthquake-resistant.

2.5.1 Annotate around the photos to explain how we can predict volcanoes.



2.5.2 Bullet point 4 ways that people can prepare for volcanoes.

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2.5.3 How can we predict earthquakes? [4 marks]

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2.5.4 Annotate the spider diagram to explain how a survival kit helps people to prepare for an earthquake.



2.5.5 This is a seismic retrofitted building. Annotate to show how it is prepared for earthquakes.



2.5.6 How does preparation vary in LIC's and HIC's? What impacts does this have?

HIC	LIC

Weather Hazards

Section 3.1 - Global Atmospheric Circulation

Need to know:

- ✓ how global atmospheric circulation works to affect global weather and climate
- ✓ examples of the effects in the UK, deserts and at the equator

- Atmospheric circulation involves interconnected cells of air.
- Atmospheric circulation drives the world's weather.

3.1.1 What is air doing at high and low pressure?

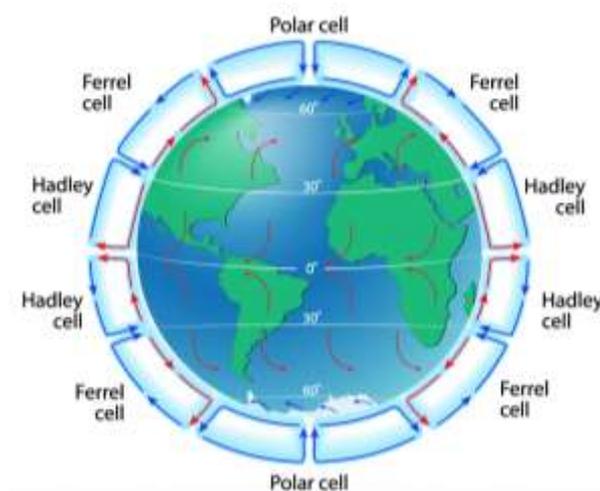
High pressure:

Low pressure:

3.1.2 This is the global atmospheric circulation model.

TASK:

- Add a label from the equator, the UK and 30 degrees north or south of the equator.
- Say what air is doing at each and refer to ecosystems where relevant.



Section - 3.2 Where are tropical storms formed?

Need to know:

- ✓ what a tropical storm is
- ✓ where tropical storms form

- Tropical storms form 5-15° north and south of the Equator, in summer and autumn, when ocean temperatures are highest.
- They are triggered by the upward movement of evaporated air and moisture.
- They gather strength drifting over the ocean surface but weaken over land.

3.2.1 What are the different names for tropical storms around the world.

Atlantic Ocean =

Indian Ocean =

Pacific Ocean =

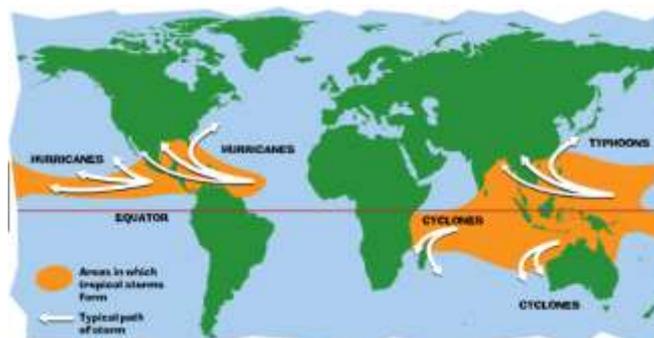
3.2.2 Name the scale that measures tropical storms. _____

3.2.3 Add the following labels to the satellite image below to show what a tropical storm is like.



- Eye
- Eye wall
- High pressure
- Low pressure
- Spiralling winds
- Rain bands
- Torrential rain
- Anticlockwise

3.2.4 Annotate the map to show where tropical storms occur in the world. Why do tropical storms not happen in the UK?



Section 3.3 The formation of tropical storms

Need to know:

- ✓ The formation of tropical storms.
- ✓ How climate change may affect tropical storms in the future.

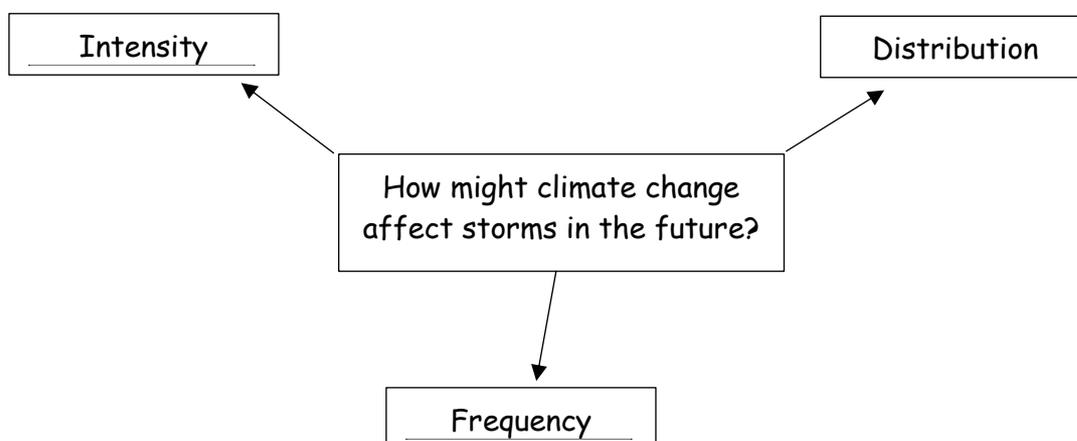
- Tropical storms are the most destructive storms on Earth.
- There is strong scientific evidence of global warming, including sea surface temperatures.
- Currently there is no clear evidence that the numbers or intensities of storms are increasing - more data is needed.

3.3.1 Fill in the blanks to explain the formation of a tropical storm.

1. Tropical storms form between _____ degrees north and south of the equator. There are two main conditions needed for the storms to occur, the sea must be _____ degrees and _____ deep.
2. _____ water is evaporated and creates rising warm moist _____. As the air rises it _____. The water vapour condenses and large storm _____ form.
3. The _____ pressure system combined with the trade winds leads to high winds speed.
4. There is heavy rain and the wind causes high waves known as _____ as it travels towards land. The final touch is provided by the Earth's rotation, which sets the whole thing spinning. This is known as the _____.
5. When the tropical storm reaches land it loses _____ and dies out. This is called _____. The calmest part of the storm is the _____. The eye-wall is the deadliest.

Eye storm surge 5-15 27 energy 60m low landfall clouds air cools warm
coriolis effect

3.3.2 Annotate the spider diagram below.

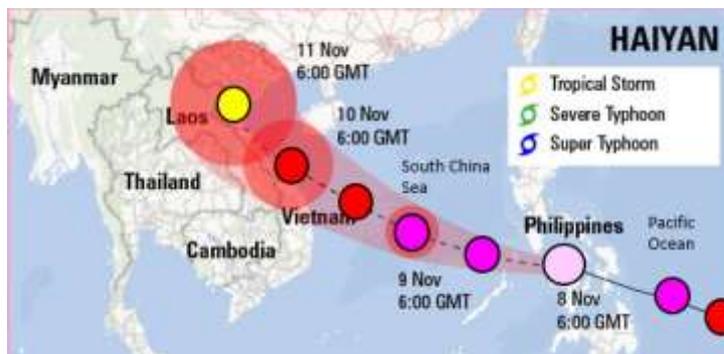


Section 3.4 - Typhoon Haiyan - LIC example of a tropical storm

Need to know:

- ✓ the primary and secondary effects of Typhoon Haiyan
 - ✓ the immediate and long-term responses to Typhoon Haiyan.
- Typhoon Haiyan was one of the strongest storms ever recorded, destroying farms, homes, buildings, infrastructure and jobs.
 - UN, international governments and NGOs responded with immediate aid and longer-term help.

3.4.1 Annotate the map to describe the path of Typhoon Haiyan.



3.4.2 Find the fact - Effects

Colour code the effects into Social, Economic + Environmental

90%	2013	6,300	5m
220,000	1,200	170mph	30,000

Fact file:

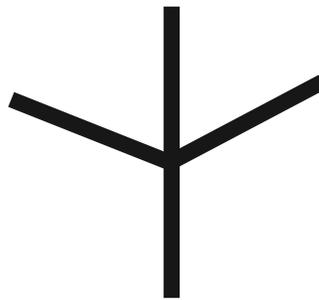
Year it happened:

Wind speed:

Height of waves:

Area affected:

3.4.3 Effects tree



3.4.4 What were the responses?

Short term responses	Long term responses

Section 3.5 - Reducing the effects of tropical storms

Need to know:

✓ how the effects of tropical storms can be reduced by monitoring, prediction, protection and planning.

- Tropical storms can be monitored, their tracks predicted, and warnings issued.
- Buildings can be protected, and cyclone shelters built.
- Contingency planning raises awareness allowing people to respond.

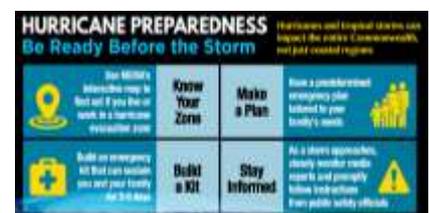
3.5.1 Why is it important to monitor tropical storms?

- ❖
- ❖
- ❖
- ❖
- ❖

3.5.2 This is an example of a cyclone shelter in Bangladesh (LIC). Annotate to show how it helps to keep people safe.



3.5.3 Annotate the photos to explain ways that people prepare for hurricanes in the USA.



Section 3.6 - Weather hazards in the UK

Need to know:

- ✓ how the UK is affected by thunderstorms, prolonged rainfall, drought and extreme heat, heavy snow and extreme cold, and strong winds
- ✓ why extreme weather occurs.

- Weather describes day-to-day atmospheric conditions; climate is average weather over a 30-year period.
- Weather hazards are extreme weather events.
- The UK climate is moderate overall, but has changeable and occasionally extreme weather.

3.6.1 List the types of weather hazards the UK receives. Which of these are most frequent?

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-
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-
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3.6.2 Why does extreme weather occur in the UK? Annotate the map below to explain why.



Section 3.7 – Beast from the East 2018

Need to know:

✓ The causes, impacts and responses to the Beast from the East 2018

- The Beast from the East was caused by an unusual polar vortex.
- It happened in Feb/March 2018
- This caused wide spread disruption including school closures.

3.7.1 What does headline show? How were you affected by Beast from the East 2018?



3.7.2 Video questions

1. What way direction did the Jetstream hit the UK from?
2. What did this change in jet stream cause for the UK?
3. How much snow was predicted?
4. What made the temperature feel colder?
5. What did the Portuguese weather service call the storm coming from the south?
6. What extreme weather was predicted to hit the UK towards the end of the week?

3.7.3 Find the facts + colour code into social, economic + environmental effects

Hospitals	Sheep	British Airways
Blackbirds	8,260	12
10	£1 billion	125

3.7.4 What management strategies were used to reduce the impacts?



Section 3.8 - Extreme weather in the UK

Need to know:

✓ If the UK weather is becoming more extreme

- The UK has experienced an increase in the number of extreme weather events in recent years.
- Scientists believe that the global increase in extreme weather events may be linked to climate change and increasing temperatures.
- The jet stream driving UK weather systems may be getting 'stuck' due to climate change.

3.8.1 Why do we name storms in Ireland and the UK? How does it help? Which storms do you recognise?

2018 / 2019 Storm Names		
A Ali	H Hannah	O Oliver
B Bronagh	I Idris	P Peggy
C Callum	J Jane	R Ross
D Deirdre	K Kevin	S Saoirse
E Erik	L Lily	T Tristan
F Freya	M Max	V Violet
G Gareth	N Niamh	W Wyn

Climate Change

Section 4.1: What is the evidence for climate change?

Need to know:

✓ The evidence for climate change from the beginning of the quaternary period to the present day.

- Global temperatures have been cooling gradually over 5.5 million years, but increasing in recent decades.
- Many consider recent global warming to indicate climate change.
- Melting glaciers, rising sea levels, changing seasons and direct temperature measures give evidence of climate change.
- Climate change is having a significant effect on global ecosystems and on people's lives.

4.1.1 What is the evidence for climate change?

Section 4.2: What are the natural causes of climate change?

Need to know:

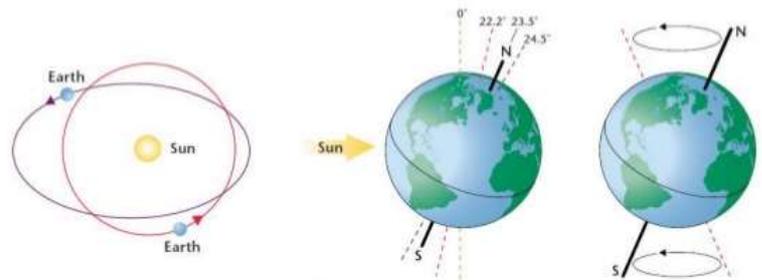
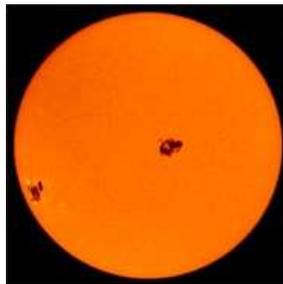
✓ the natural causes of climate change - orbital changes, solar activity and volcanic activity

- Milankovitch cycles (orbital changes) constantly change the Earth's distance from the Sun.
- Solar activity varies with the number of sunspots and high-energy solar flares.
- Volcanic activity produces ash and sulphuric acid droplets which reduce temperature.

4.2.1 Name the 3 natural causes of climate change.

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-
-

4.2.2 Annotate the images to explain the natural causes of climate change.



Section 4.3: What are the human causes of climate change?

Need to know:

- ✓ What the greenhouse effect is
- ✓ How human activities can enhance it

- The natural greenhouse effect keeps the Earth warm enough to support life.
- In recent years greenhouse gases produced by human activities have increased.
- This enhanced greenhouse effect is changing climates, weather patterns and sea levels.

4.3.1 Name 3 greenhouse gases and give examples of how each one is created.

4.3.2 Annotate the diagram to explain the natural greenhouse effect. Add labels to explain the enhanced greenhouse effect in a different colour.



Section 4.4: Managing climate change - mitigation

Need to know:

✓ different ways in which the causes of climate change can be managed (mitigated)

- Alternative energy sources represent sustainable alternatives to fossil fuels.
- Tree planting is established; CCS is not yet economically viable.
- International agreements seek global solutions to issues of climate change.

4.4.1 Design an advertisement poster to inform people about ways to reduce the greenhouse effect?

Section 4.5: Managing climate change - adaptation

Need to know:

✓ How climate change can be managed by adapting to changes.

- Climate change will have a huge impact on agricultural systems, particularly in low latitudes.
- Farmers will have to adapt by changing crops, livestock and techniques, and manage water supplies.
- Sea-level rise will require management of coastal areas.

4.5.1 Explain how each place is adapting to climate change.

