MARK SCHEME Yr9 JUNE MOCK Total: 39 marks

Why do our Rivers Rage?

1. Which of the following is not a type of erosion? (1)
   Shade one circle only.
   A. Abrasion
   B. Hydraulic Action
   C. Deposition – right answer
   D. Attrition

2. State one way that a river transports material. (1)

Traction, Saltation, Suspension, Solution.

3. Q3. **Figure 1** Houses in an urban area and deforestation

Explain one human and one physical cause of flooding. (4)

Marks	Description
3-4	Clear explanation of one physical and one human cause.
1-2	Unbalanced, just focused on either human or physical causes. Partial explanation and more descriptive.

e.g. Deforestation means there is less interception this leads to greater surface runoff therefore water reaches the river channel quicker and floods quicker.

Building in urban areas increases flood risk because tarmac and concrete surfaces are impermeable, this leads to water not being able infiltrate, therefore an increase in surface runoff.

4.

Figure 2 a picture of a waterfall.

Explain how waterfalls and formed from physical processes. (6)

Marks	**Description**
5-6	Detailed understanding of the processes to form a waterfall. More than one process explained to support the explanation. Full clear sequence of formation of the landform. Key words used.
3-4	Clear understanding of the processes to form a waterfall. At least one physical process explained. Sequence understood but may not be exact as you would expect in a level 3 answer.
1-2	Sequence is not clear. Random statements. No processes included.

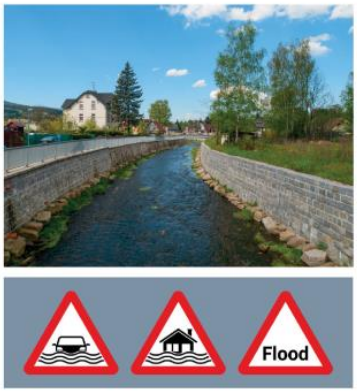
e.g. Firstly, water flows over the hard rock. Hydraulic action and rock particles from abrasion wear away the softer rock.

Secondly, the hard rock above is undercut as soft rock is eroded leaving an overhang.

Eventually, the overhang collapses into the plunge pool to be broken up and transported by the river e.g through traction.

Overtime, erosion continues and the waterfall slowly retreats upstream, leaving a steep sided gorge.

Figure 3 Flood Management: Hard and soft engineering strategies.



5. Discuss the advantages and disadvantages of hard and soft engineering strategies to prevent flooding. (6)

Marks	Description
5-6	Detailed knowledge, organised, developed (BLT) with accurate understanding. Covers advantages and disadvantages of soft and hard engineering. Can cover a range or one with lots of depth. Meaningful conclusion. May use supporting evidence and examples e.g, Boscastle / Doncaster. Good use of geographical terms and vocab
3-4	Clear knowledge, mostly organised, majority of explanations developed (BLT) with clear understanding. Covers some advantages and/or disadvantages of a range of soft and/or hard engineering. Some use of geographical terms and vocabular
1-2	Basic throughout with limited knowledge and understanding Simple statements that are not developed, mostly descriptive. Little or no use of geographical terms and vocabulary

e.g

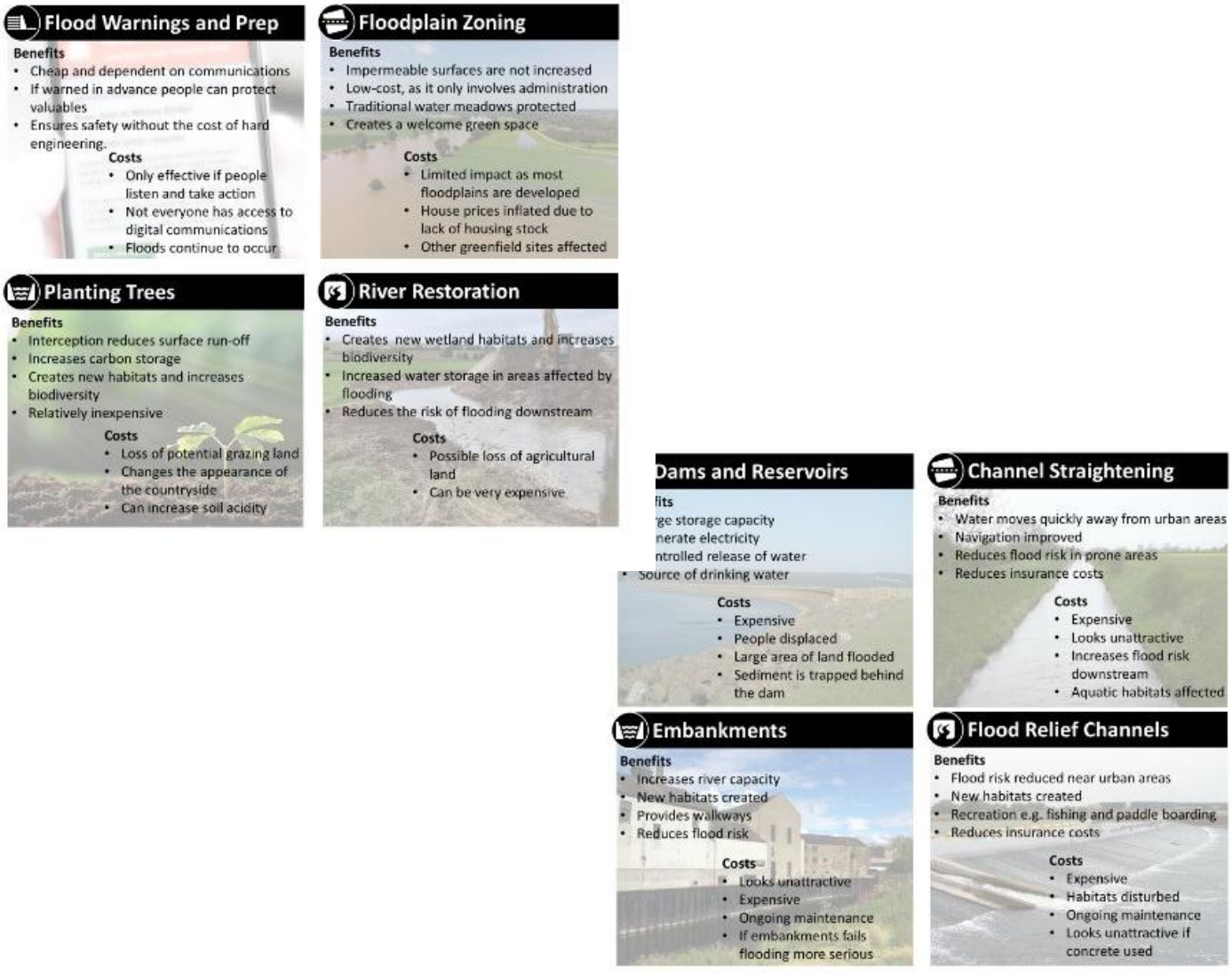
Embankments (hard engineering) raise the height of the riverbanks, this leads to an increase in the river's capacity so it can hold more water therefore it is less like to burst its banks and flood the surrounding area. Embankments can also provide animal habitats and create a walkway close to the river for people to enjoy.

However, embankments can look unattractive if they are made from concrete, they can be expensive and require maintenance. Their biggest problem can be if a flood breaches the embankment, this could result in very severe flooding.

Flood warnings (soft engineering) are a cheaper strategy, people are notified of flood risk in their area. This leads to residents closing sluice gates, placing sandbags around doorways, therefore reducing the risk of water entering properties. It also allows time for furniture to be moved upstairs in case water cannot be prevented from entering the property, therefore reducing the cost of any damage and reduce insurance claims.

However, flood warnings are only effective if people have access to digital communication, listen and act. Flooding still occurs, it is more about minimising damage and insurance costs.

In **conclusion** to prevent flooding, hard engineering are the best strategies as soft engineering take time to embed e.g. afforestation or can't prevent flooding e.g. flood warnings.



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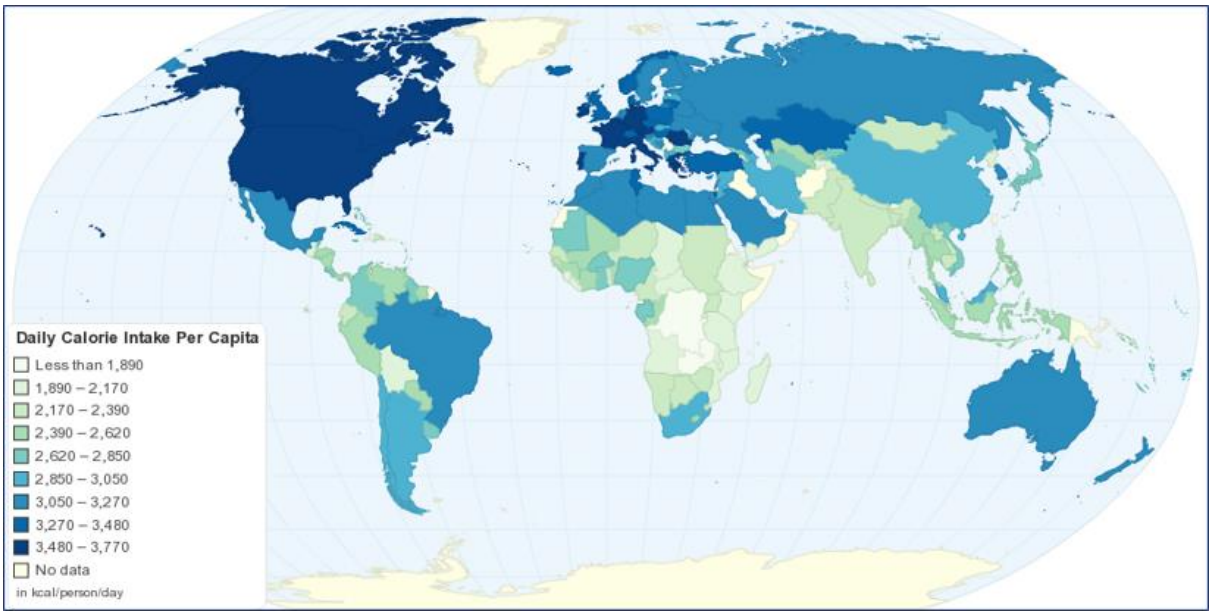
Do we have enough?

Figure 1 Map showing Global Calorie Consumption



1. Suggest how lack of food could affect quality of life? (2)
   1 mark for stating a point.
   2 marks for explanation / development.

   e.g.
   Lack of food may result in malnutrition, under nourishment or even starvation. This could lead to ill health, therefore preventing people from working and providing for their families.

2. Define the term food miles (1)
   The distance food has travelled from producer to consumer.

3. Define the term **water stress**. (1)
   When demand for water exceeds the available supply
   or when water quality is poor limiting its use.

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4. Suggest why the demand for water in the UK has increased over the past 80 years (4)

Marks	Description
3-4	Clear explanation of two reasons for increase water use.
1-2	Basic, incomplete explanations. Mostly descriptive

Industry, domestic, agriculture, population growth.
e.g.
Agriculture uses large amounts of water to irrigate (water) crops. As the population grows so does demand for food, this leads to more demand for food production. Therefore, farmers use technology to create the right conditions for crops to grow and increase productivity.

5a. Which continent has the lowest energy consumption (1)

A Africa

1b. Describe the distribution of countries that consume over 400,000 tonnes of oil equivalent / year. (2) TEA
1 mark for saying what the overall distribution is (trend) for naming of an area/areas that consume over 400 000 tonnes of oil equivalent/year.
2nd mark for naming an area.
e.g. Concentrated mainly in northern hemisphere in HICs and NEES e.g. North America and large parts of Asia.

1c. Suggest **one** way in which energy insecurity might affect people's quality of life (2)
1 mark for point
2nd. mark for development of that point.
e.g.
Lack of energy for domestic needs.
Specific health issues linked to uncooked food.
Links to individual/national economic circumstances.
Impact on farming/industry.
Transport difficulties.
Civil conflict.

6. Complete the map above using the following data. (2)
   One mark for each correct choropleth completion, including correct use of key.

7. Using an example you have studied, examine how the extraction of a fossil fuel creates both advantages and disadvantages (6).

Marks	Description
5-6	Detailed knowledge, organised, thoroughly developed (BLT) with accurate understanding. Covers a range of advantages and disadvantages linked to a specific fossil fuel extraction (fracking, oil or gas). Good use of geographical terms and vocab
3-4	Clear knowledge, mostly organised, majority of explanations developed (BLT) with clear understanding. Covers some advantages and/or disadvantages (may be imbalanced) from a referenced fossil fuel extraction (fracking, oil or gas). Some use of geographical terms and vocabular
1-2	Basic throughout with limited knowledge and understanding Simple statements that are not developed, mostly descriptive about the advantages and or disadvantages of fossil fuel extraction. Little or no use of geographical terms and vocabulary

Advantages	Disadvantages
Could create 64,000 jobs in UK. Large shale gas reserves in Northern England – could reduce the UK's energy insecurity. Gas from fracking is much cheaper than importing natural gas. Fracking in USA has significantly reduced gas prices, could do the same in the U.K. ess carbon dioxide than other fossil fuels. Half that of coal. Big economic benefit to UK if fracking is successful. It can be sold off to other countries.	Can trigger minor earthquakes e.g., Blackpool 2011. Can pollute groundwater (turn it purple) Estimated £33 billion of investment required. Non-renewable. Not a long-term solution. Uses large amounts of water. This strains water supplies. Lower local house prices Increased traffic / congestion Destroys habitats Local conflict Health issues

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e.g. A disadvantage fracking can cause is minor earth tremors because of the extreme fracturing process to release the shale gas from the rock. This leads to local house prices reducing as people do not want to live in an area like this therefore people lose money on their house and find it difficult to leave.

NB: Students can still get full marks if they use a fossil fuel other than Sale gas. Some may write about oil extraction in Alaska.