Royal Geographical Society with IBG

Advancing geography and geographical learning	
Specification Information	Link to lesson
AQA Unit 1 – Rivers & floods	
The drainage basin hydrological cycle: the water balance; factors affecting river discharge: the storm hydrograph.	<b>Lesson 1</b> London's hydrology has changed recently because of lost interception and infiltration pathways as gardens are paved over.
Physical and human causes of flooding – location of areas of high risk in a more developed and a less developed country case study.	<b>Lesson 2</b> London is a good MEDC case study where assets and property worth £80 are at flood risk from a variety of fluvial and non-fluvial processes.
Impact of flooding – two case studies of recent events should be undertaken from contrasting areas of the world.	<b>Lesson 1</b> The 2007 pluvial (surface water) floods in London and elsewhere in the UK illustrate this well.
Flood management strategies, to include hard engineering – dams, straightening, building up of levees, diversion spillways, and soft engineering – forecasts and warnings, land use management on floodplain, wetland and river bank conservation and river restoration.	<b>Lesson 2</b> A variety of new proposals are being made to protect London from greater flooding in the future, including increased fluvial flooding from the Thames due to more intense winter rainfall. Strategies embrace adaptation and mitigation and also focus on greater social responsibility.
Edexcel Unit 1 – World at Risk (Global Hazards and Climate Change)	
1.1 Risk of disaster grows as global Hazards and people's Vulnerability increases, while Capacity to Cope falls	<b>Lesson 2</b> This disaster equation is being used in a modified form by London's flood experts.
2.1 Some types of hazards are increasing in magnitude and frequency, and having greater impacts upon people and their lives	<b>Lesson 1</b> London and the UK more generally are thought to be at increasing risk of four types of flooding.
2.2 Natural disasters are increasing because of physical and human factors e.g. global warming, urbanisation	<b>Lesson 1</b> London's flood experts are linking the city's rising risk of flooding with climate change and the decreasing permeability of the urban environment.
5.1 How strategies attempt to limit the impacts of climate change at various scales (weighing up mitigation strategies and adaptation strategies using a range of examples of each)	<b>Lesson 2</b> The Environment Agency has studied scenarios up to 4.2m sea level rise and has suggested a range of adaptation strategies – but they also recommend mitigation.
5.2 The conflicting views and role of the key players in managing climate change — including governments, business, NGOs, individuals and groups	<b>Lesson 2</b> There is a growing question over whether individuals living in floodrisk London should take greater responsibility for making their own properties more resilient to flooding.

www.21st Century Challenges.org

Royal Geographical Society with IBG

Advancing geography and geographical learning

## OCR Unit 1 - Rivers

The study of a river basin or basins, including practical research and out-ofclassroom work to illustrate:

- why some river basins are naturally vulnerable to flooding;
- how development can increase the risk of flooding:
- the social, economic and environmental impacts of flooding.

What are the management challenges associated with the development of river landscapes?

The study of at least two contrasting river basins to illustrate the varying need for planning and management in resolving development and flood risk issues, and possible land-use conflicts in river basins.

**Lesson 1** Storm surges can make the effects of fluvial flooding worse in London. London's hydrology has also changed recently because of lost interception and infiltration pathways, as gardens are paved over.

Lesson 2 London is a good case study, with assets and property worth £80 at flood risk from a variety of fluvial and non-fluvial processes.

Lesson 2 There is a growing question over whether individuals living in floodrisk London should take greater responsible for making sure they adapt their own properties to become more resilient to flooding.

**Lesson 2** A variety of new proposals are being made to protect London from greater flooding in the future.

## WJEC Unit 1 - Investigating Climate Change

- 1.4 What are the issues resulting from climate change? Increasing levels of extreme weather and the impacts on human activities.
- Rising sea levels and their impact on people.
- The variation of these impacts in different regions.
- The impacts of climate change on society.
- 1.5 What strategies can be used to address climate change? Collection and analysis of literature produced by a variety of organisations. Study of the methods used to combat global warming at a variety of scales from global to local.

**Lesson 1** London is thought to be at increasing risk of flooding, both coastal (higher sea level, greater surges) and other climate change effects (more intense rainfall).

Lesson 2 London is a good case study with assets and property worth £80 at flood risk from a variety of fluvial and non-fluvial processes.

Lesson 2 The Environment Agency has studied scenarios up to 4.2m sea level rise and has suggested a range of adaptation strategies – but they also recommend mitigation. Plenty of their literature is available to students. **Lesson 2** London has the first Climate Change Adaptation Strategy for any world city.

Links to Lesson One Links to Lesson Two