

## HBF LEARNING RESOURCE – DAVID ROGERS

### LESSON 9: BUILDING HOMES IN CHALLENGING ENVIRONMENTS.

<b>Learning Objectives:</b>	<ul style="list-style-type: none"><li>• Understand how house design is adapted to enable new homes to be built in challenging environments.</li></ul>
<b>Key words:</b>	Flooding, mitigation, design
<b>Resources:</b>	<ul style="list-style-type: none"><li>• Lesson PPT,</li><li>• Enough copies of the flood factsheet for each student.</li><li>• Access to mobile devices or computers for research. Alternatively you may wish to provide a textbook that contains details on creating earthquake proof buildings.</li></ul>
<b>Useful websites:</b>	<ul style="list-style-type: none"><li>• <a href="#">Information on designing flood proof homes</a></li><li>• <a href="#">Government advice about flooding and house design</a></li></ul>
<b>Prior Knowledge:</b>	The class should know about flooding, preferably in the UK context. In addition, an understanding of plate tectonics and causes of earthquakes would also be beneficial.
<b>Curriculum Links:</b>	<p>KS3: understand how human and physical processes interact to influence, and change landscapes, environments and the climate; and how human activity relies on effective functioning of natural systems.</p> <p>KS4: Sustainable communities and land-use in particular examining the contemporary challenges arising from and influencing urban change. The final activity in particular is suitable for GCSE classes.</p>

Although the UK doesn't really experience too many extreme events, there are still occasions when the design of houses needs to be adapted. In addition, many people in the world live within earthquake zones and building design can help mitigate against loss of life.

## SUGGESTED ACTIVITIES:

**BEGIN** with the starter images on slide 2, then move to the questions on slide 3. **What links these two images?** They are both natural disasters where homes and other building are at risk. **Which place would be the worst to live in? Why? Are there any other natural disasters that home builders need to think about when designing houses?** For example tornados in Oklahoma or Cyclones in the Pacific Ocean.

Homes flooding in the UK can caused great misery for occupants. With the increasing demand for new homes, marginal land within urban areas is sometimes built upon and the Bath Riverfront development examined in a previous lesson is a good example of this. Homebuilders can employ a range of flood mitigation techniques to ensure that the impact of flooding is reduced. It's important to note that flooding itself is very difficult to stop.

Consider the information contained in the fact sheet and on Slide 4. This is a model factsheet for the second activity of the lesson.

**NEXT**, consider some of the impacts of the Nepal Earthquake of 2015. Many of the homes in this area are not designed to survive an earthquake. Ask the class (using whichever resources you have available) to produce a similar factsheet to cover how to design an earthquake proof dwelling in Nepal.