

Science topics	Section layout	Accompanying worksheets	Lesson considerations
<ul style="list-style-type: none"> ● Buildings can be adapted to their environment and build with local materials to be more sustainable. ● Sustainable building practices. 	<p>This section demonstrates how modern houses are usually built and compares this with how a more sustainable energy efficient house can be built. The first couple of pages look at different buildings around the world and asks student to think about their design and the materials they are made from. The buildings pictured are not supposed to be representative of typical buildings from that area, but are rather examples demonstrating how sometimes older and more 'primitive' buildings are more sustainable. Teachers may wish to extend this learning point further using their own examples.</p> <p>The timeline of a building shows a simplification of how many homes are currently built in the UK. A drag and drop activity asks students to plan their own building and is designed to get students thinking logically about the process. Note that steps 2 & 3 (design and planning can be interchanged) and steps 4 & 5 could be the other way round or occur simultaneously. There is also a worksheet version of this activity. After the drag and drop, students can find out more about sustainable design by looking at different aspects that interest them. The final page gives a summary of eco-design principles that will be a useful reference if teachers wish to set the project work to design a sustainable building.</p>	<p>Homes around the world This worksheet looks at different styles of architecture and homes around the world. Students are encouraged to consider how (in the past) different countries built homes adapted to the local climate and wildlife and using local materials. An introduction to this activity might be showing students different styles of home from around the world. An extension of this activity might be for students to find out how traditional buildings were made in different parts of the world.</p> <p>Gravity, weight and forces in buildings This worksheet (designed for Year 9 and above) should only be used with students who are familiar with the concept of gravity acting across space and the difference between gravity and weight. The second question also requires that students understand the basics of forces. It aims to introduce the concept that buildings rely on an understanding of gravity and forces.</p> <p>Building your own home This cut and stick exercise aims to get students thinking logically about how a house is built and ordering the process. To encourage debate and reduce the use of paper, it is suggested that this is a group exercise.</p>	<p>This section is best set along with project work so students can explore the information at their own pace and return to parts they want to know more about or want to understand for their particular project. The project work is likely to be most successful if it is set after pupils have learned about making energy savings in the home.</p>

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		<p>Sustainable building designs This worksheet looks at renovating an existing building or building a new building on land that the students are familiar with. It asks students to plan a sustainable building/renovation and guides students through a process that builders or architects might follow. To do the project well will take time and it is suggested that this is set as an extended project or a number of homeworks.</p>	