

Science topics	Section layout	Accompanying worksheets	Lesson considerations
<ul style="list-style-type: none"> <li>● The history of the invention of the car.</li> <li>● How cars work.</li> <li>● How inventions develop.</li> <li>● What a patent is.</li> <li>● How patents protect inventors.</li> <li>● The commercial exploitation of innovations</li> </ul>	<p>A timeline shows how cars were invented over hundreds of years using many technological advancements and how they continue to evolve to improve sustainability. Within the timeline, students can opt to find out about the Otto cycle and the four-stroke engine. Students are encouraged to look at future sustainable personal transport options.</p> <p>Students can opt to learn about patents - what patents cover, why they exist and how they help the development of ideas. There imaginary invention story aims to demonstrate how patents work. The characters in this story can be used as role-play characters in a hot-seat situation to look at the personal and emotional aspects of developing innovations for commercial success.</p>	<p><b>Timeline of car development</b> This worksheet is designed to be used with the timeline of car development on the site. It shows how the invention of the car was a slow evolution involving many people and innovations. The timeline also shows that it can take hundreds of years for an idea to come to fruition, as complex inventions often need many technologies to advance and there is often a fair amount of trial and error involved.</p> <p><b>The story of an imaginary invention</b> This worksheet is to be used after reading the story of the 'quadboard' imaginary invention - and preferably after doing the role-play activity.</p> <p><b>Role-play for the story of an imaginary invention</b> These sheets should be cut up to give role-play sheets to students. It is recommended that teachers familiarise themselves with the story and then hand out the role-play sheets before reading out the story so that students can think about their responses. After reading the story, students with a role should be hot-seated in front of the</p>	<p><b>This section of the website could be split into the patent section and the car section. The car section can be looked at when looking at other issues surrounding sustainability e.g. after looking at ways to reduce carbon footprint. The timeline of car development worksheet can be set as a homework or class work when students can explore this section of the website fully.</b></p> <p><b>Students should only be set the 'Designing the motorcar of the future' worksheet once they have completed the timeline worksheet. As extension work, students could be asked to draw out diagrams showing the Otto cycle. 'The story of the imaginary invention' should be done as a teacher-led class activity with follow-up questions set for consolidation of learning.</b></p>

Science topics	Section layout	Accompanying worksheets	Lesson considerations
		<p>class to talk about their character and how it may feel in the situations described.</p> <p><b>Designing the motorcar of the future</b> This worksheet should only be attempted after looking at this section of the site so that students can understand how scientists and engineers are thinking about developing cars. The sheet encourages blue-sky thinking so students can think about personal transport in original ways.</p>	