

**Lesson Objectives:**

- 1) Students will discover key information about the history of motor cars and consider how designs have changed over the 20<sup>th</sup> and 21<sup>st</sup> centuries
- 2) Students will learn about alternative fuel sources and consider sources for renewable energy
- 3) Students will engage with car design in a creative, fun way

**Links to National Curriculum**

Design and Technology Curriculum

- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
- understand how key events and individuals in design and technology have helped shape the world

**Resources**

- LIA – Lanchester Car Design Powerpoint
- Lanchester Car Design Challenge sheet (PDF)
- Resources for drawing – pencils, coloured crayons, etc.

**Additional Notes**

**Prep**

- This could be a good activity to complete with some pre-teaching about energy, the environment, etc.
- There is potential to link this lesson to news stories about cars, i.e. the latest developments in autonomous cars and electric vehicles

**Lesson Plan:**

1. Settle students down and have the Powerpoint ready to go. Use slide 1 – 3 to generate debate in the class. Interrogate student responses using open questioning – ask them ‘why?’ Compare the 1895 Lanchester to their own car at home.
2. On Slide 4 use the slide to generate discussion about why we need cars – get students talking about the cars they have at home.
3. On Slide 6 talk about how designers and engineers use Briefs to inform their work. Link this into Slide 7 to discuss the idea of Concept Cars in industry and how designers work on ideas and improve them – this could be a nice way to discuss with students about the importance of resilience and not giving up if something doesn’t work out the first time around.
4. Slide 7 – Discuss how the 1895 Lanchester was made out of mainly wood with some metallic components whereas today’s cars are made out of metal. This could be an opportunity to discuss with students the benefits of different materials.
5. Slide 8 – Discuss the benefit and drawbacks of both fuel types. Consider what class have already been taught. This could be an opportunity for the students to decide which fuel source they think is better.
6. Slide 9 – Discuss the shapes of the different cars. If students know about autonomous vehicles ask them why we would need cars to have the ‘traditional’ setup of driver/passenger seats if the car is driving itself.
7. For the design activity think about what you want students to achieve and consider their individual needs. Some students may get very creative in terms of energy sources. Get them to think about the future and what power sources will be readily available in the year 2040.
8. In ‘naming’ the car get students to think about why cars have certain names. This is a chance for them to be creative and think outside the box!
9. As a final activity you could get students to present their ideas to the class and award prizes/points for the best ideas.

**Cross-curricular links/Extension Tasks:**

**Literacy** – Think about new words used in this activity which can be used to extend student’s vocabulary and improve literacy including ‘renewable’ ‘autonomous’, etc. Display these prominently in classroom and use in weekly spelling tests.

**Creative Writing** – Use activity as a stimulus for students to create advertisements for their 2040 Lanchester cars.

**History** – Students could research the history of cars and create an exhibition/project on how and why cars have evolved and changed over time.

**Art** – Students can work individually/in teams to build model versions of their designs and evaluate their designs from page to 3D

**ICT** – If you school has access to Tablets then load our free [AR App](#) and download the AR targets from our website so students can see Fred’s story come to life! Or use our free [Serious Games](#) such as the Lanchester Auto Engineer challenge - to let students explore Fred’s inventions and learn in a fun, dynamic way!

**Notes**

This lesson plan has been produced by The Lanchester Interactive Archive. For more information please visit our [website](#).



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