Teacher Resource

Flying Cars

Episode 26
8th September 2020

Focus Questions

1. Briefly summarise the BTN *Flying Cars* story.
2. What does the flying car look like? Describe.
3. Who built the car?
4. How high did the flying car hover above the ground?
5. How long did the flying car stay up in the air?
6. When do they predict we will be using flying cars?
7. When was the first flying car to successfully take flight built?
8. What challenges are there in building a flying car? Give two examples.
9. What are some advantages of having flying cars?
10. Do you think having flying cars is a good idea? Give reasons for your answer.

Activity

Class discussion

Students will discuss the BTN *Flying Cars* story in pairs and then share their thoughts with the class.

- What do you THINK about what you saw in this video?
- What does this video make you WONDER?
- What do you think cars of the future will look like?
- Think of three questions you would like to ask the engineers of the car featured in the BTN *Flying Cars* story.
- These are five words that I would use to describe the flying car …

Activity

KWLH

Hold a class discussion after watching the BTN *Flying Cars* story. What questions were raised in the discussion (what are the gaps in their knowledge)? The following KWLH organiser provides students with a framework to explore their knowledge on this topic and consider what they would like to know and learn.

What do I know?	***What do I want to know?***	***What have I learnt?***	***How will I find out?***

Key Learning

Students will generate and communicate design ideas for a car of the future. Students will design a car that has minimal impact on the environment.

Curriculum

Design and Technologies – Years 3 and 4
Recognise the role of people in design and technologies occupations and explore factors, including sustainability that impact on the design of products, services and environments to meet community needs.

Generate, develop, and communicate design ideas and decisions using appropriate technical terms and graphical representation techniques.

Design and Technologies – Years 5 and 6
Examine how people in design and technologies occupations address competing considerations, including sustainability in the design of products, services, and environments for current and future use.

Generate, develop and communicate design ideas and processes for audiences using appropriate technical terms and graphical representation techniques

Design and Technologies – Years 7 and 8
Generate, develop, test and communicate design ideas, plans and processes for various audiences using appropriate technical terms and technologies including graphical representation techniques.

Questions for inquiry

Students will develop their own question/s for inquiry, collecting and recording information from a wide variety of sources. Students may develop their own question for inquiry or select one or more of the questions below.

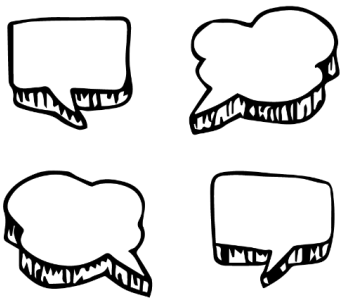
- Why do people want flying cars? Investigate the pros and cons for flying cars and use a T-chart to record your findings.
- How have cars changed since their invention? Explore the history of cars in more detail and create a timeline of significant events. Alternatively, choose another mode of transport to explore in more detail and plot your findings on a historical timeline.
- Why don't we have flying cars yet? List all the reasons you can think of. Write a persuasive text either for or against flying cars.
- What energy sources are used to power cars? Explore in more detail and rate them from least to most environmentally friendly.
- Who is involved in the design and manufacturing of cars? Make a list of the different roles and their responsibilities.
- Make a prediction about how cars will change in the future. Illustrate your predictions.

Students can present the information in one of the followng ways:

- Prezi presentation
- An infographic using Canva

Activity

Car of the future



Before starting this activity, hold a class discussion, asking students what sort of car they think they will be driving in 50 years' time? Think about safety, environmental impact, sustainability, power sources and innovation.

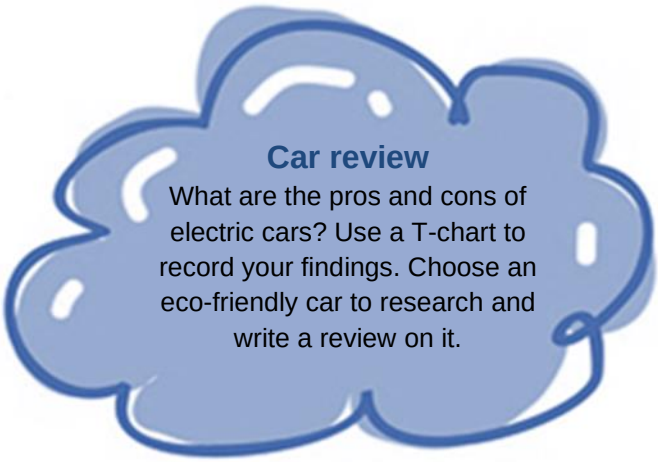
In small groups, students will imagine they are engineers and design a car of the future or make a modification to a car (to improve the design or function of a car). Ask students to respond to the following:

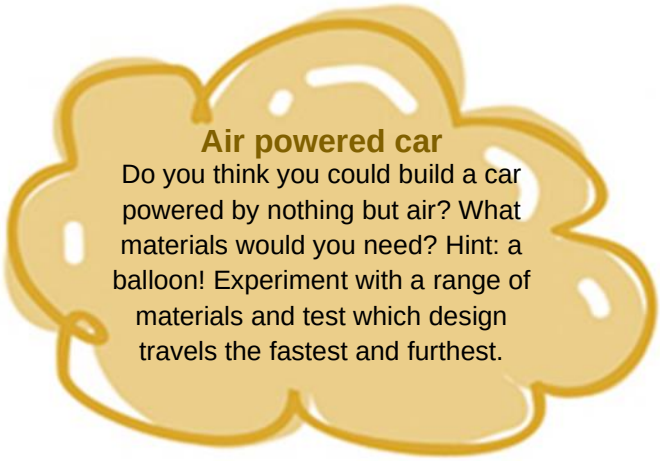
- How can cars be improved? For example, they could be more environmentally friendly, or they could be safer. What's the problem and what are some solutions to the problem?
- Write a brief for your design, using these headings as a guide: Background, Criteria, Your Challenge, Constraints.
- Sketch a drawing of the car with labels to show its features. Use terms like chassis, wheels and axles.
- Choose a body size, engine size, fuel type and accessories.
- What is the source of power for your car?
- What speed will your car travel?
- What safety features does your car have?
- What materials will be used to make your car? Are they environmentally friendly?
- What are the interior and exterior features?
- What new technologies will you incorporate in your design?
- How will the car benefit people?
- How will the car benefit the environment?
- Why is your design the best one for your community?
- What is unique about the design?
- What inspired you to create your invention?

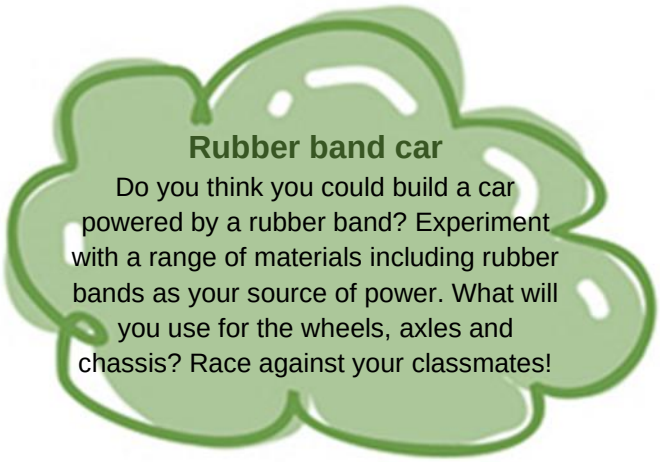
Activity

Choose a project

Individually or in small groups, students will choose one of the following projects to work on and then present their findings to the class.







Useful Websites

Electric Car Future – BTN
https://www.abc.net.au/btn/classroom/electric-car-future/10970808

When was the first car made? – BTN
https://www.abc.net.au/btn/classroom/when-was-the-first-car-made/10488924

Driverless Cars – BTN
https://www.abc.net.au/btn/classroom/driverless-cars/10522100

Electric Cars – BTN
https://www.abc.net.au/btn/classroom/electric-cars/10528362

Japan wants flying cars in its skies in three years. Here's how they plan to pull it off – ABC News
https://www.abc.net.au/news/2020-08-29/flying-cars-could-be-a-reality-in-japan-in-three-years/12599544