



Teacher Resource

Petrol Car Ban

Focus Questions

Discuss the BTN story as a class and record the main points of the discussion. Students will then respond to the following:

1. Which State or Territory announced they would ban the sale of all new petrol cars by 2035?
2. Petrol is a fossil fuel. True or false?
3. What is an EV?
4. How far can an electric car travel before it needs recharging?
 - a. 5 km
 - b. 50 km
 - c. 500 km
5. Electric cars are more expensive than their petrol powered equivalents. True or false?

Activity: Note taking

Students will practise their note-taking skills while watching the BTN Petrol Car Ban story. After watching the story, ask students to reflect on and organise the information into three categories. What information in the story was...?

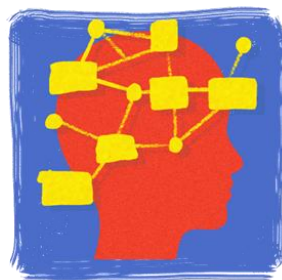
- Positive
- Negative or
- Interesting



Activity: Class Discussion

Discuss the BTN Petrol Car Ban story as a class and record the main points on a mind map with ELECTRIC CARS in the centre. Students will then respond to the following and share their ideas as a class.

- What did you learn from this story?
- What does this story make you wonder?
- Think of three questions you would like to ask about the story.
- Do you agree with the ACT's proposed ban on electric vehicles by 2035? Why or why not?
- What do you think could be done to encourage electric vehicle use in Australia?



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KEY LEARNING

Students will investigate the pros and cons of electric vehicles and other energy sources used to power cars.

CURRICULUM

Science – Years 5 & 6

Scientific knowledge is used to solve problems and inform personal and community decisions.

Science – Year 7

Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations.

Design and Technologies – Years 3 & 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.

Design and Technologies – Years 5 & 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.

Activity: Glossary

Students will brainstorm a list of key words that relate to the BTN Petrol Car Ban story. Here are some words to get them started.

ELECTRIC VEHICLE	EMISSIONS	BATTERY
HYBRID VEHICLE	INTERNAL COMBUSTION ENGINE	AIR POLLUTION

Activity: Electric Car Research

Discuss the information raised in the BTN Petrol Car Ban story. What questions were raised in the discussion and what are the gaps in students' knowledge? The following KWLH organiser provides students with a framework to explore their knowledge on this topic.

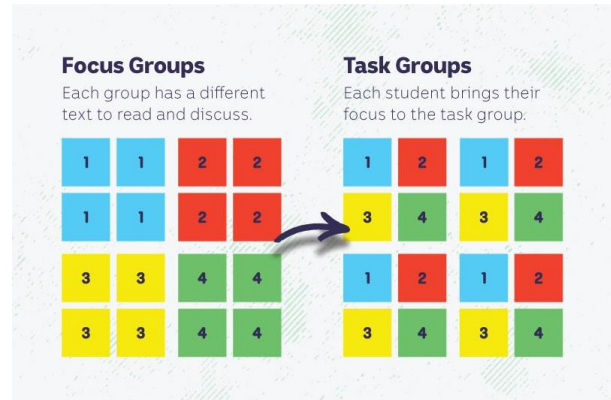
What do I <u>k</u> now?	What do I <u>w</u> ant to know?	What have I <u>l</u> earnt?	<u>H</u> ow will I find out?

Students will develop their own question/s to research or choose one or more of the questions below. Encourage students to collect and record information from a wide variety of sources and present the information they find in an interesting way.

- How are electric cars different to cars fuelled by petrol, diesel or gas?
- How far can an electric car go on a single charge and how long do they take to recharge?
- How will the batteries in electric cars be recycled?
- Why are alternatives to petrol or diesel cars being explored?
- What emissions do petrol/diesel cars produce and why are they a problem?
- Are electric vehicles affordable? How do they compare to petrol cars?
- What are the pros and cons of electric cars?
- What is the availability of electric vehicles in Australia?
- Investigate the use of electric vehicles in other countries. Which countries have a high number of EV's on the road?
- What do you think the future of electric cars is? Explain your answer.

Activity: Jigsaw learning activity

In this activity students will work cooperatively to learn more about alternative energy sources used to power cars. Each group will become experts and then share what they have learnt with other students.



Form groups Divide the class into 4 x Focus Groups. Each Focus Group will be assigned a different type of energy source to power cars (electric, hydrogen, biofuel, hybrid) to investigate and become experts. Each group will need to decide how they will collect and communicate the information they find during their research.

Research Each Focus Group will respond to the following questions to become experts:

- How does the car work? (include a diagram)
- What is the environmental impact of the energy source?
- What are the advantages and disadvantages of the energy source?
- What are the challenges of using the energy source to power cars?

Share Mix the Focus Groups to form Task Groups (Task Groups include one student from each of the Focus Groups) to share the information they have collected. Students will share the information they have collected and learn from one another.

Reflect Students will reflect on the activity by responding to one or more of the following questions:

- What did you enjoy about this investigation?
- What did you find surprising?

Activity: Persuasive Text

Students will explore the use of new technologies and/or alternative fuels for our cars and then develop a persuasive text for or against the following statement: 'Petrol powered cars should be banned in all states and territories in Australia'. Students need to weigh up the pros and cons of the issue then write a short persuasive argument stating why petrol-powered cars should or should not be banned in Australia.

Some issues to consider are:

- What is the environmental impact of petrol powered cars?
- What are some of the pros and cons of adopting new technologies to replace petrol-powered cars?

Tips

- Who is your audience? For example, are you directing your argument at kids, teachers, or politicians?
- Explore how language choices can have a big impact on persuading your audience.
- Which language devices give the report credibility and authority?
- Which are designed to create an emotional response in the listener?
- Provide facts and evidence to support your argument.
- Write in the present tense.
- Check your spelling and punctuation.

Use this *Read Write Think* [persuasion map](#) to plan your exposition text.

Introduction

- What is the point you are trying to argue?
Construct an introductory paragraph which states the issue or topic.
- Introduce the arguments that will be developed in the body of the text.

Body

- Construct arguments that support your point of view.
- Each paragraph starts with a topic sentence which introduces each point.
- The rest of the paragraph gives more reasons.
- Arguments can be ordered from strongest to weakest.

Conclusion

- Restate your position on the argument.
- Construct a concluding paragraph that provides a summary of your arguments and a call to action.

Reflection

- How difficult was it to think of points to support one side of the argument?
- Do you think you would have done a better job supporting the other side of the argument?
- Was I able to convince others of my opinion?
- Did my opinion change?
- What did you learn from this activity?

Activity: Choose a project

Students choose one of the following projects to work on and then present their work to a partner, small group or the class.

Car of the Future

What sort of car do you think you'll be driving in 50 years' time? Design an environmentally friendly car of the future.

Design a Poster

Design a poster or infographic which illustrates one or more of the benefits of electric vehicles. Think about the key message you want to get across.

True or false?

Create a true or false quiz about electric vehicles or alternative energy sources used to power cars and test your classmates. Alternatively, create a word find or crossword.

Electric Car Class

Check out [BTN's story](#) about a class of car lovers and why they think electric car technology is so important. Retell the main points of the story to a group of students.

Useful Websites

- [Concerns electric vehicles still won't be affordable for many by 2035 when ACT bans sale of new petrol cars](#) – ABC News
- [Electric car sales are rising in Australia, but the uptake is behind other markets. When will they be more affordable?](#) – ABC News
- [Electric Cars](#) – BTN
- [Hybrid Cars](#) – BTN
- [Solar Cars](#) - BTN