

A living room on a skateboard: how electric vehicles are redefining the car

Level: Advanced

1 Warmer

a. Discuss these two questions briefly.

- What do cars run on?
- What are the advantages and disadvantages of each type of fuel or energy?

2 Key words

a. Write the correct words from the wordpool next to the definitions below. Then find and highlight them in the article to read them in context.

array	bulky	cockpit	consultancies	crucial
dispense with	inevitable	no-frills	notable	pipe dream
pootling	rigidly	striking	switch	swivel

1. done or applied in a strict and uncompromising way with no room for flexibility

2. big, wide, and solid _____
3. attracting your interest or attention because of some unusual feature

4. unusual or interesting enough to be mentioned or noticed _____
5. including only the most basic features and of acceptable quality, but not very high quality

6. moving around slowly and in a relaxed way, especially in a car _____
7. extremely important because it has a major effect on the result of something

8. no longer using someone or something because you no longer want or need them

9. impossible to avoid or prevent _____
10. something such as a button or a key that controls the electrical supply to a light, piece of equipment, machine, etc. _____
11. the part of a plane where the pilot sits and where the controls are _____
12. turn around on a fixed point so you are facing in another direction _____

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13. companies with expert knowledge about a particular subject that provide professional help and advice to other companies _____
14. a large group of things that are related in some way _____
15. something you wish for that can never really happen _____

b. Use some of the key words above to complete these sentences.

1. Most people dressed appropriately for the occasion, with the _____ exception of Paul.
2. Deep down, she knew that living on a houseboat was probably nothing more than a _____.
3. We believe the question being investigated by the Commission is one of _____ importance to the country.
4. It is perhaps _____ that advanced technology will increase the pressure on employees.
5. Daphne's new eye make-up colour is very _____, and it suits her.
6. With so many _____ to choose from, no one was surprised when Gareth hit the wrong one, accidentally turning off all the lights.
7. We plan to launch a new range of cheaper, _____ products this autumn.
8. Amy's young son always loved _____ on her office chair.

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Future EV designs offer drivers more space and leisure with fewer parts, making production more sustainable

Jasper Jolly

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- 1 Take any petrol car sold today and show it to a mechanic working on a Ford Model T 100 years ago and there is a fairly good chance they would understand roughly how it works. An internal combustion engine at the front turns the wheels, carrying a driver behind a steering wheel, some passengers and luggage.
- 2 The advent of electric cars changes everything. No longer will the shape of the car be defined so rigidly by bulky engines, exhaust gas handling or driveshafts. At the same time, digital technology promises to replace everything from rear-view mirrors to the human driver. Never has the car industry had to cope with so many changes all at once.
- 3 Here are some of the most striking changes we can expect to see.

'The skateboard'

- 4 Already the lack of an internal combustion engine has had an impact. Look at the front of a Tesla and one thing becomes clear: there is no grille needed to provide air to the engine.
- 5 Rival manufacturers are using the newfound design freedom to provide models such as the Hyundai Ioniq 5 and the Honda e that go for smaller but stronger lights in a package offering retro futurism that might have featured in a 1980s sci-fi film.
- 6 Electric cars are built with a "skateboard" design, with a flat bed of batteries and wheels and motors at either end. Electric motors are also smaller than bulky internal combustion engines, meaning there is no need for an expanse of bonnet in front of the driver.
- 7 The US start-up Canoo is one of the most notable examples of this. Its lifestyle vehicle will have a notably flat front, giving it a boxy shape unlike most modern cars.

More interior space

- 8 The skateboard means electric cars tend to be a few centimetres taller, and many carmakers have started with bulky sports utility vehicles (SUVs) first so they can fit in more batteries. But there is still more space for passengers.
- 9 In combustion engine cars, "the mechanics took up a tremendous amount of space," says Mark Adams, design director for Vauxhall-Opel. What that space is repurposed for in an EV is then "really up to the individual vehicle and what you're trying to do as a brand."
- 10 Citroën has already shown one option: the Ami is a tiny, no-frills two-seater car for pootling around cities. It will launch in the UK at less than £8,000.
- 11 In France, the Ami can be driven by anyone over 14 years of age, with no need for a driving licence.
- 12 Adams believes the electric revolution could finally stop the move towards bigger SUVs. "The days of the growing cars are gone," he says. "We don't need to have massive footprint cars anymore."

Fewer car parts

- 13 Producing zero exhaust emissions is not the only major change to how cars look and feel. Reducing waste at end of life is increasingly seen as crucial for carmakers, and that means using fewer parts with fewer complicated mixes of materials where possible.
- 14 For instance, a car's front grille can contain 10 to 15 pieces, so dispensing with it reduces complication when it comes to fixing or recycling. BMW's i Vision Circular showed how a car could be made with only seven materials – all recyclable.

Forget the steering wheel

- 15 The most conspicuous absence in future cars will eventually be the steering wheel. Driverless cars are already on roads, and it seems inevitable that mostly or fully autonomous cars will – eventually – come on to the market.
- 16 Changing "one big thing changes 100 smaller things", Adams says. Less driving means less need for easily accessed controls, so cars will swap the aeroplane cockpit, stuffed full of buttons and switches, for a cleaner look, which is more about leisure.

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17 Overall, digitalization will have an even bigger effect on car design than even electrification.

Living room on wheels

- 18 The Korean carmaker Hyundai's concept Seven vehicle has swivelling lounge chairs and banquette seating that it describes as a "living space on wheels". It is clear that some cars are going to be treated more as extensions of home that happen to move as drivers are freed to do other things.
- 19 All that free time on the move may give people more time for other activities. Cinema-style projectors or virtual-reality entertainment are two options in the works. Car consultancies and big-tech companies from Apple and Alphabet to Spotify and WeChat believe the car will be the next place where they can sell a huge array of services such as films, games and music.
- 20 Eventually, interiors could move from "living room" to "bedroom", although putting beds rather than seats in cars throws up tricky safety problems. Nevertheless, the idea of going to bed at home and waking up at work, or even in another country, is no longer a Jetsons*-style pipe dream.

**The Jetsons* = a 1960s US animated cartoon series for children about the adventures of a futuristic family in the year 2062

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3 Understanding the article

a. Are these statements True or False according to the article? Correct any that are false.

1. A mechanic from a century ago would likely still know how today's electric cars work.
2. For many years, the engine has very much dictated the shape of a car.
3. Currently, electric cars are slightly higher than petrol cars.
4. Changes to the car body make it less likely that it can be repaired or recycled.
5. Making one big change to the way cars are made usually has a knock-on effect meaning that many other things are able to be changed or done away with too.
6. Digitization means that customers can now choose between a bedroom-style car or a living-room-style interior.

4 Key language

a. Find phrases that fit the meanings.

1. quite likely that something will happen (4 words, paragraph 1)
2. the introduction of a new product, idea, custom, etc. (3 words, paragraph 2)
3. made a noticeable difference (3 words, paragraph 4)
4. how people in the past thought the future would look like or be (2 words, paragraph 5)
5. are usually (3 words, paragraph 8)
6. when something is noticeable because it is missing (2 words, paragraph 15)
7. while travelling around (3 words, paragraph 19)
8. being planned or dealt with (3 words, paragraph 19)

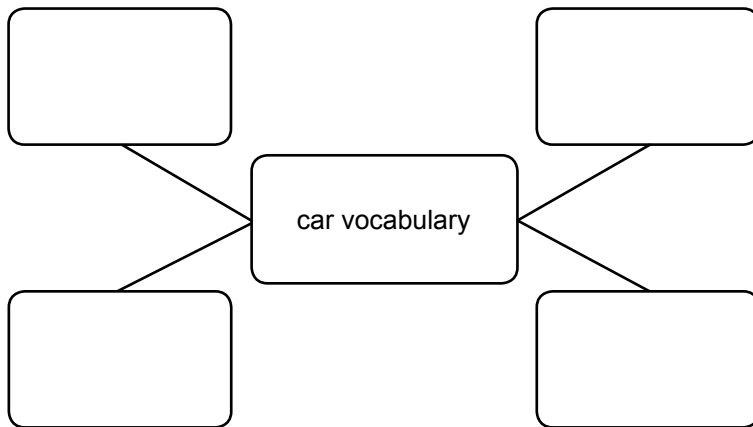
b. Now use them to talk about the article.

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5 Car and vehicle vocabulary

a. Find and highlight all the car-related vocabulary in the article. Write it onto the mind map.



b. Add other car vocabulary that you know. Where the words are different in British and American English, write both alternatives and add BE or AE to the words.

c. Look at the car images and talk about their parts and features with a partner.



6 Discussion

a. Discuss these questions.

- When you were a child, what did people imagine cars of the future would be like?
- Roughly, how many cars have you had in your life?
- What was the first?
- Which was your favourite?
- What notable changes and differences are there between your first and your most recent car?
- What appeals to you most about driverless/autonomous vehicles?

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7 In your own words

- a. Create an interesting and informative poster or advert to encourage people to change to electric vehicles.