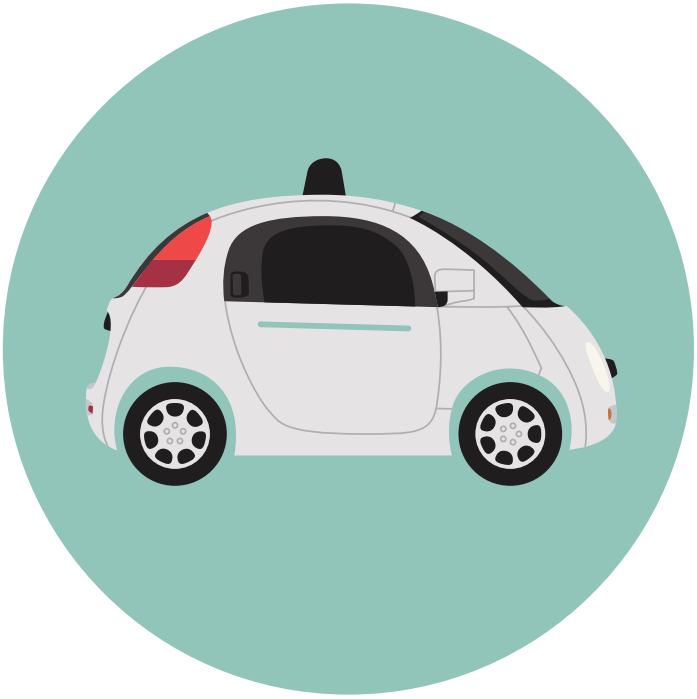
Driverless Cars

Pre-Reading



A. Warm-Up Questions

1. What is more dangerous, a human driving a car or a car driving without a human?
2. What reasons are there for developing self-driving technology?
3. Will driverless cars be able to share the roads with manual drivers?

B. Vocabulary Preview

Match up as many words and meanings as you can. Check this exercise again after seeing the words in context on page 2.

_____	1.	autonomous	a)	leftover bits of material or objects
_____	2.	fleet	b)	to bump into the back of someone's vehicle
_____	3.	sensor	c)	a group of vehicles with a single purpose and ownership
_____	4.	distracted	d)	a test model
_____	5.	rear-end *(verb)*	e)	a device that responds to its surroundings
_____	6.	sideswipe *(verb)*	f)	acting or working on one's own, without help
_____	7.	prototype	g)	a person who is inside or residing in something
_____	8.	debris	h)	to not be excited or happy about something
_____	9.	not crazy about	i)	to strike the side of someone's vehicle
_____	10.	occupant	j)	not focused on what is important

Reading

DRIVERLESS CARS

Get your hands off the wheel

1. **Autonomous** driving technology is evolving at high speeds. Google has been testing a self-driving **fleet** for a few years, and the Ford Motor Company says it will start selling driverless cars by 2025. A number of US states have legalized the testing of autonomous vehicles, and the safety data is starting to come in.
2. In the US, driver error is blamed for up to 94% of car accidents. Self-driving vehicles rely on **sensors** to make smart decisions. They drive at a safe speed and slow down to avoid accidents. Unlike humans, autonomous vehicles are always sober, and they never get **distracted**.
3. You will likely never get **rear-ended** by a self-driving car, but could you get **sideswiped**? Like all computers, self-driving cars do have limitations. Early **prototypes** cannot detect a police officer doing hand signals at the side of the road. These test vehicles also have trouble differentiating between harmless **debris** such as shopping bags and dangerous objects such as truck tires.
4. **Not** everyone is **crazy about** the idea of hands-free driving. Some people feel uncomfortable giving up control just as they do when boarding a plane. Others have no interest in the price tag that will likely come with driverless technology. Perhaps low insurance rates and self-park features will convince everyone to hand over their keys.
5. Will autonomous vehicles have difficulty sharing the road with manual drivers? Will a licensed driver always have to be on board? Who will be at fault if a vehicle gets in an accident without an **occupant**?

"After a lifetime of driving, repairing, and studying automobiles, I have come to an unavoidable conclusion— we are the weakest link in a car."

—Peter Cheney,
Automotive Journalist

Comprehension

Discuss these questions in pairs, and write the answers in your notebook.

1. What is the article mainly about?
2. Why does the report mention Google?
3. What do the early prototypes have difficulty with?
4. Why does the report mention an airplane?
5. What does the author imply about car insurance?

Vocabulary Review

Which word from page 1 is described in the sentence?
You may need to make the word plural or change the word form.
More than one option may be possible.

#	Sentence	Word
1	I didn't check my blind spot, and I hit the side of a car in the left lane.	
2	The car will beep if there is an object behind you.	
3	After the accident, there was twisted metal all over the highway.	
4	I turned away from the road to see who was calling.	
5	We own ten taxis in this city.	
6	I don't really like the idea of a *No Homework Policy*.	
7	You have to have three people in the vehicle to drive in that lane.	
8	Some modern cars already have driverless features like cruise control.	
9	The concept car is not road-worthy yet.	
10	My back license plate fell off after the accident.	

Grammar Review

A. Reference

In English, it is common to use the verb *get* in the passive voice. This form is used to show that an action takes place by someone or something else. This is a common construction to use when talking about issues related to cars and driving.

get + past participle

- get sideswiped
- get rear-ended
- get passed
- get pulled over
- get distracted
- get broken into
- get stolen

Note:

When using this construction, it is optional whether or not to include who or what did the action. You may or may not know *who is to blame* or *who is at fault*.

- My bike got stolen.
- My car got sideswiped.
- I got distracted by my crying baby.

B. Practice

Now practice asking a classmate some questions. Use the examples above to explain what happened. Then switch roles.

1. Why did you put an alarm in your car?
2. What happened to your driver's side mirror?
3. Why did you buy a new GPS?
4. Why did you drive to the side of the road?
5. What happened to your back bumper?
6. Why did you move to the slow lane?
7. Why did you run a red light?

Example:

Q: Why did you drive to the side of the road?

A: I got pulled over by the police.

Discussion

1. Do you watch the road closely when you are a passenger? Do you think you would do the same in a driverless vehicle?
2. What would you do with your extra time if you did not have to drive a vehicle? If you don't drive, what do you think commuters will do with their free time in a driverless vehicle?
3. Will driverless vehicles have trouble sharing the road with manual vehicles? Which will be more problematic to the other?
4. Will traffic jams still exist when all vehicles are driverless?

Critical Thinking

IN PAIRS OR SMALL GROUPS

One thing humans may be better at than robots is prioritizing. What will self-driving cars do in the case of an unavoidable accident? For example, a human driver knows to drive into a garbage can rather than to run over a mother with her stroller. Will/should cars be programmed to sacrifice the occupant's life to save other lives when these are the only two options?

Listening

Fill in the blanks as you listen to the recording.

DRIVERLESS CARS
Get your hands off the wheel

1. _____ driving technology is evolving at high speeds. Google has been testing a self-driving _____ for a few years, and the Ford Motor Company says it will start selling driverless cars by 2025. A number of US states have legalized the testing of autonomous vehicles, and the safety data is starting to come in.
2. In the US, driver error is blamed for up to 94% of car accidents. Self-driving vehicles rely on _____ to make smart decisions. They drive at a safe speed and slow down to avoid accidents. Unlike humans, autonomous vehicles are always sober, and they never get _____ .
3. You will likely never get _____ by a self-driving car, but could you get _____ ? Like all computers, self-driving cars do have limitations. Early _____ cannot detect a police officer doing hand signals at the side of the road. These test vehicles also have trouble differentiating between harmless _____ such as shopping bags and dangerous objects such as truck tires.
4. Not everyone is _____ the idea of hands-free driving. Some people feel uncomfortable giving up control just as they do when boarding a plane. Others have no interest in the price tag that will likely come with driverless technology. Perhaps low _____ rates and self-park features will convince everyone to hand over their keys.
5. Will autonomous vehicles have difficulty sharing the road with manual drivers? Will a licensed driver always have to be on board? Who will be at _____ if a vehicle gets in an accident without an _____ ?

Answer Key

LESSON DESCRIPTION:

Students read about and discuss the advantages, limits, and ethics associated with driverless car technology. This lesson includes a grammar review activity on the passive use of "get."

TEACHING TIPS:

See Discussion Starters Teaching Guide (https://esllibrary.com/courses/72/lessons/) for a variety of ways to use the reading.

LEVEL: Int

TIME: 1.5–2 hours

TAGS: discussion, self-driving, driverless, autonomous, drive, car, vehicles, transportation, passive, get

Pre-Reading

A. WARM-UP QUESTIONS

Have students work in small groups or as a class.

B. VOCABULARY PREVIEW

1. f	3. e	5. b	7. d	9. h
2. c	4. j	6. i	8. a	10. g

Reading (and/or Listening)

Read individually, in small groups, or as a class. Discuss the quote. Discuss the meaning of the expression "the weakest link": *the most inexperienced or most incapable part of a system or group*. You can also play the listening as your students read along. A gap-fill version of the reading is available on page 6. Help your students with vocabulary and expressions that they are unfamiliar with.

Comprehension

1. The article is mainly about the benefits and possible drawbacks of driverless cars.
2. The report mentions Google because Google is currently testing a driverless fleet.
3. Early prototypes have difficulty distinguishing between harmless and hazardous debris on the road.
4. The report mentions an airplane to compare that feeling of giving up control that makes some people uncomfortable. Some people who do not like flying may also not be excited about the idea of giving up control in a car.
5. The author implies that car insurance will go down because driverless cars are safer.

Vocabulary Review

1. sideswiped
2. sensor
3. debris
4. distracted
5. fleet
6. not excited about
7. occupants
8. autonomous
9. prototype
10. rear-ended

(continued on the next page...)

Answer Key cont.

Grammar Review

A. REFERENCE

Review our editor's tips for teaching the passive voice:
http://blog.esllibrary.com/2016/08/25/the-passive-voice/

B. PRACTICE

Individual answers.

Discussion

Answers will vary.
Can be done individually or in small groups or pairs.

Critical Thinking

Answers will vary.
Can be done individually or in small groups or pairs.

Listening

1. Autonomous, fleet
2. sensors, distracted
3. rear-ended, sideswiped, prototypes, debris
4. crazy about, insurance
5. fault, occupant

SPELLING NOTE:

This lesson shows the American spelling of the words *License* and *Practice*. Most other English-speaking countries spell these words this way: *Licence* and *Practise* (when used as a verb; *Practice* when used as a noun). Make it a challenge for your students to find these words in the lesson and see if they know the alternate spellings.