ThinkCERCA™

CERCA SET

Distracted Driving
English Language Arts

How can engineers and lawmakers improve driver safety and minimize driver distraction?

LESSON TITLE

If Robots Drove, How Much Safer Would Roads Be?

CERCA QUESTION How will automated cars change the driving experience?

RESOURCES

- **Build Background Knowledge**
https://www.pinterest.com/thinkcerca/distracted-driving-cerca-set-board/
- **CERCA Framework**
- **Vocabulary Routine**
- **Speaking and Listening Routines**

Whole group
Small group
Individual activity
Speaking and listening activity
Online
Offline
Activity time period
Audio
En Sp Available in English and Spanish

Introduce the CERCA Question

Define *automated* for students. Discuss what automated cars can do and how having an automated car will change some of the experiences for people traveling in the vehicle. Ask students to discuss what people love about driving now (going fast, freedom to move when you want) and hate (traffic, bad drivers, speed limits) about driving.

LEVEL 3-4 Expanding

▶ ASK: How will automated cars change the experience of driving?

Support language acquisition with the following sentence frame:

Automated cars will change driving by _____.

▶ ASK: What are some of the reasons people love to drive? What are some of the frustrations that come up behind the wheel?

Support language acquisition with the following sentence frames:

A few reasons people enjoy driving are _____. (List at least 3)

Common frustrations while driving include _____. (List at least 3)

LEVEL 4-5 Bridging

▶ ASK: People allow themselves to be distracted by food, music, other cars, and their phones while driving. How might having more automated cars on the road improve our driving experience?

1 Connect

Have students log in to ThinkCERCA and click into this lesson.

LEVEL 3-4 Expanding

Read the overview aloud and discuss vocabulary. Then read the writing prompt aloud for students before they answer.

Complete Step 1: Connect.

LEVEL 4-5 Bridging

Complete Step 1: Connect.

Introduce Vocabulary

Use **Semantic Webbing** to introduce vocabulary

NOTE: Some students will need support for additional words not listed on the student support page. Weave them into the instruction.

LEVEL 3-4 Expanding

Assign vocabulary words to small groups, or to partners. Depending on student familiarity with the vocabulary words you can create webs for all new words, or just the most challenging words. For small groups, assign a word and have them map it out on the whiteboard. When they are finished they can take a minute to explain it while classmates copy the map down. For partner work, have mixed ability pairs create maps for all assigned words in their notebooks.

After the routine have students add the focus words to their word notebooks.

LEVEL 4-5 Bridging

Depending on student familiarity with the vocabulary words you can create webs for all new words, or just the most challenging words. Have students work in pairs to write their own definition of the word in English. Next, have them brainstorm an image or mental picture to illustrate each word.

After the routine have students add the focus words to their word notebooks.

INTRODUCE

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Introduce the Summary En | Sp

Remind students that this is a summary for the passage they will read. Point out the Vocabulary as you read.

LEVEL 3-4 Expanding

Have students read the Spanish version on the student support page, if applicable, before you read the summary aloud and have students follow along.

LEVEL 4-5 Bridging

Ask a student to read aloud the summary in English to practice their fluency.

2 Read

Have students read the text, using Vocabulary from the student support page as appropriate.

LEVEL 3-4 Expanding

Read comprehension questions with students before they begin reading the passage.

Complete Step 2: Read.

Discuss comprehension questions. Point out key vocabulary words in the text, especially as they are relevant to finding answers.

LEVEL 4-5 Bridging

Complete Step 2: Read.

Discuss comprehension questions. Point out key vocabulary words in the text, especially as they are relevant to finding answers.

3 Engage with the Text

▶ NOTE: If you have concerns that your students are struggling with comprehension, you may wish to work with them on Step 4: Summarize before Step 3: Engage with the Text.

LEVEL 3-4 Expanding

Model highlighting the text for students.

Complete Step 3: Engage with the Text.

Use the following sentence frames to discuss the highlights students made.

_____ *are some reasons why people get into car accidents.*
(Try to list 2)

_____ *are some of the drawbacks of driving autonomous cars.*
(Try to list 2)

LEVEL 4-5 Bridging

Complete Step 3: Engage with the Text.

Discuss the highlighting students did. Ask students to share their highlights and notes, and use the following sentence stems to support student engagement in the conversation.

Car accidents are frequently caused by _____.
One drawback of driving autonomous vehicles is _____.

Prepare students to write a CERCA by having them summarize the text.

LEVEL 3-4 Expanding

Complete a summary of the article together using either the suggested sentence frames below or the stems in the product. Encourage students to use Vocabulary from the lesson.

Use the following sentence frames to create a summary.

This article highlights the possible benefits of driving _____.
Some researchers said that even semi-autonomous vehicles would _____.
Cars with no human involvement would _____.

Complete Step 4: Summarize.

LEVEL 4-5 Bridging

Complete Step 4: Summarize.

Review the summaries to ensure that all students understand the big ideas of the passage. Encourage students to use Vocabulary from the lesson.

Practice creating a CERCA together using the CERCA graphic organizer (online or offline) and the leveled frames below and on the student support pages. Remind students that some of their evidence can come from their highlighting work.

▶ **NOTE:** You may wish to have students orally respond to the CERCA question using a Listening and Speaking Routine instead of writing a response.

LEVEL 3-4 Expanding

Use the following sentence frames to complete the CERCA graphic organizer.

Claim *Automated cars will change the driving experience by _____*
Reason *because _____.*
Evidence *Researchers from Virginia Tech found that _____,*
Reasoning *which indicates that _____.*
Counterargument *Some people argue that automated cars will _____. However, others say that they _____ and would keep us safer on the road.*

Complete Step 5: Build Your Argument.

LEVEL 4-5 Bridging

Have students share their thoughts with the group.

Use the following sentence frames to complete the CERCA graphic organizer.

Claim *Automated cars will change the driving experience by _____*
Reason *because _____.*
Evidence *Researchers from Virginia Tech and the Toyota Motor Company concluded that robot cars would be _____,*
Reasoning *this means that _____.*
Counterargument *Some people argue that automated cars will _____. However, others say that they _____ and would keep us safer on the road.*
Evidence *This positive data is countered by some of the drawbacks of autonomous cars, which include _____.*
Reasoning *This means that _____.*

Have students complete the graphic organizer with at least one more piece of evidence and associated reasoning. Assist as needed.

Complete Step 5: Build Your Argument.

6 Create Your CERCA

Have students write their CERCA in the lesson online so that you can provide feedback and monitor growth.

▶ **NOTE:** Remind students that they can use the Copy all button to move their work into the text box.

LEVEL 3-4 Expanding

Use the responses students made in the graphic organizer to model writing in response to the CERCA question.

Have students reread their draft. Then have them submit to complete Step 6: Write Your CERCA.

LEVEL 4-5 Bridging

Have students write their CERCA. Provide support as necessary. Remind students that they can use vocabulary words as they write.

Use this sentence frame to help students conclude their CERCA:
> *If automated cars become the norm, the experience of driving will [completely change/stay the same] because _____.*

Have students add a conclusion and then reread their draft. Then have them submit to complete Step 6: Write Your CERCA.

Complete Speaking and Listening Activities

Complete a whole group speaking and listening activity with all students who completed the grade level lesson. Prompt students to use the vocabulary from the passage in the activity.

LEVEL 3-4 Expanding

Do the **Fishbowl Activity** with students. Modify the activity for these students by providing them with questions in advance of the discussion, and with appropriate sentence frames to support them in answering those questions so that they will be ready to participate in discussion.

LEVEL 4-5 Bridging

Do the **Fishbowl Activity** with students. Modify the activity for these students by providing them with questions in advance of the discussion.

If Robots Drove, How Much Safer Would Roads Be?

How will automated cars change the driving experience?

Vocabulary

accelerating (verb): moving forward
automation (noun): system of operating a process by highly automatic means, as by computers, thereby reducing human intervention
*autonomous (adj.): able to control itself
bravado (noun): self-confidence
culprit (noun): a person responsible for a crime
*human error (noun): mistakes people cause
moral imperative (noun): a strongly felt principle that compels a person to act as they feel is right
prosecutors (noun): lawyers who represent a person accusing another person of a crime
severity (noun): harshness
specter (noun): a source of fear
*theoretically (adv.): relating to a theory or idea
venture capitalist (noun): a person who invests money in a new company or product

If Robots Drove, How Much Safer Would Roads Be?

How will automated cars change the driving experience?

Summary

Ninety-three percent of the car crashes in the United States are caused by human error. If cars were autonomous, or self-driving, roads might be safer. Google, venture capitalists, engineering experts, and some motor companies like Toyota are investing time and research dollars into figuring out whether self-driving cars would reduce crashes and their severity. While seatbelts have been the most effective innovation in car safety, new technology might be the answer. Even when you weigh the drawbacks, such as cost and potential robot error, it seems that these new semi or fully automated vehicles offer great hope for the future.

LESSON TITLE If Robots Drove, How Much Safer Would Roads Be?

CERCA QUESTION How will automated cars change the driving experience?

¿Cómo cambiará la experiencia de conducción a través de los automóviles automatizados?

Vocabulary

English	Español
accelerating (verb): moving forward	**acelerar** (verbo): avanzar
automation (noun): system of operating a process by highly automatic means, as by computers, thereby reducing human intervention	**automatización** (sustantivo): sistema de operación de un proceso por medios altamente automáticos, como por computadoras, lo que reduce la intervención humana
***autonomous** (adj.): able to control itself	***autónomo** (adjetivo): capaz de controlarse a sí mismo
bravado (noun): self-confidence	**bravata** (sustantivo): confianza en sí mismo
culprit (noun): a person responsible for a crime	**culpable** (sustantivo): una persona responsable de un delito
***human error** (noun): mistakes people cause	***error humano** (sustantivo): errores que cometen las personas
moral imperative (noun): a strongly felt principle that compels a person to act as they feel is right	**imperativo moral** (sustantivo): un principio que obliga a una persona a actuar según lo que siente que es lo correcto

Vocabulary continued

prosecutors (noun): lawyers who represent a person accusing another person of a crime	**fiscales** (sustantivo): los abogados que representan a una persona que acusa a otra persona de un delito
severity (noun): harshness	**severidad** (sustantivo): dureza
specter (noun): a source of fear	**espectro** (sustantivo): una fuente de temor
*theoretically (adv.): relating to a theory or idea	***teóricamente** (adverbio): relacionado a una teoría o idea
venture capitalist (noun): a person who invests money in a new company or product	**capitalista de riesgo** (sustantivo): una persona que invierte dinero en una nueva empresa o producto

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LESSON TITLE If Robots Drove, How Much Safer Would Roads Be?

CERCA QUESTION How will automated cars change the driving experience?

¿Cómo cambiará la experiencia de conducción a través de los automóviles automatizados?

Summary

English 93% of the car crashes in the United States are caused by **human error**. If cars were **autonomous**, or self-driving, roads might be safer. Google, **venture capitalists**, engineering experts and some motor companies like Toyota are investing time and research dollars into figuring out whether self-driving cars would reduce crashes and their **severity**. While seatbelts have been the most effective innovation in car safety, new technology might be the answer. Even when you weigh the drawbacks, such as cost and potential robot error, it seems that these new semi or fully-automated vehicles offer great hope for the future.

Español El 93% de los accidentes automovilísticos en los Estados Unidos son ocasionados por **error humano**. Si los autos fuesen **autónomos** o de conducción automática, las calles serían más seguras. Google, los **capitalistas de riesgo**, los expertos en ingeniería y algunas empresas automotrices como Toyota están invirtiendo tiempo y dólares en investigar si los automóviles de conducción automática disminuirán los accidentes y su **severidad.** Si bien los cinturones de seguridad han sido la innovación más eficiente en la seguridad automotriz, la nueva tecnología podría ser la respuesta. Incluso cuando se sopesan los inconvenientes, como el costo y el error potencial de los robots, parece que estos nuevos vehículos semi o totalmente automatizados ofrecen una gran esperanza para el futuro.

If Robots Drove, How Much Safer Would Roads Be?
How will automated cars change the driving experience?

4 Summarize

This article highlights the possible benefits of driving

_____.

Some researchers said that even semi-autonomous vehicles would

_____.

Cars with no human involvement would _____.

5 Build Your Argument

Claim *Automated cars will change the driving experience by*

_____

Reason *because* _____.

Evidence *Researchers from Virginia Tech found that*

_____,

Reasoning *which indicates that* _____.

Counterargument *Some people argue that automated cars will*

_____.

However, others say that they

_____

and would keep us safer on the road.

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LESSON If Robots Drove, How Much Safer Would Roads Be?

CERCA QUESTION How will automated cars change the driving experience?

⑤ Build Your Argument

Claim *Automated cars will change the driving experience by*

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Reason *because* _____.

Evidence *Researchers from Virginia Tech and the Toyota Motor Company concluded that robot cars would be*

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Reasoning *this means that* _____.

Counterargument *Some people argue that automated cars will*

_____.

However, others say that they

_____

and would keep us safer on the road.

Evidence *This positive data is countered by some of the drawbacks of autonomous cars, which include*

_____.

Reasoning *This means that* _____.

⑥ Create Your CERCA

If automated cars become the norm, the experience of driving will [completely change/stay the same] because

_____.