

"Can You See Me?"

Teacher: Deborah Peters

Subject / grade level: Mathematics 5th-7th

Length of Lesson: 1 to 2 - 45 minute class periods

Prerequisite Knowledge: Students should know how to find area of parallelograms, triangles, and trapezoids prior to lesson.

Materials:

Computer/Tablet

Projector/Smart board

1 Device per student or group of students

You tube video clip -- <https://www.youtube.com/watch?v=jKuHa77ZppM> (use 2:46-2:53)

6-12 Small cosmetic mirrors or similar size

6-12 Share The Road Brochures <https://classroom.google.com/u/0/o/NjU4OTI2NTM3MFpa>

6-12 Car blind spot graphics (see attached)

1 Ruler per student or pair of students

1 Protractor per student or pair of students

Share the Road Instructional Video -- <https://classroom.google.com/u/0/o/NjU4OTI2NTM3MFpa> (8 minutes 22 seconds)

Kahoot quiz <https://create.kahoot.it/#quiz/c6a665c7-f823-41be-b588-6fd2f29d911f>

Florida Standards

MAFS.6.G.1.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

MAFS.7.G.1.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

MAFS.7.G.2.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Science and Engineering Practices:

2. Developing and using models

3. Planning and carrying out investigations

5. Using mathematics and computational thinking

6. Constructing explanations

8. Obtaining, evaluating, and communicating information

Lesson objective(s):

To learn about the real world issue of blind spots on trucks and cars.

To calculate the area of a truck using composite figures.

To calculate the area of blind spots on a truck.

To compare the area of blind spots on a truck to a car.

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ENGAGEMENT

Show students part of the following video clip -- <https://www.youtube.com/watch?v=jKuHa77ZppM> (use 2:46-2:53)

Discuss in small or whole group or the following questions:

- Why do you think the accident happened?
- How do you think this specific accident could have been avoided?

EXPLORATION

1. Pass out small cosmetic mirrors to students and have them mimic side mirrors and explore what they can and cannot see.
2. Pass out Share the Road Brochures as well as rulers and protractors.
3. Discuss the term "blind spots" by referring students to that portion on the brochure.
4. Refer students to "Stay Out Of The No Zone" graphic.
5. Have students develop a plan with their partner or group of how they could calculate the total area of the "no zones" in centimeters.
6. Have students in pairs calculate the total area of the tractor and trailer in centimeters and compare as a class.
7. Have students calculate the total area of the "no zones" in centimeters and compare as a class.
8. Have students complete steps 5-7, but with car blind spot handout.
9. Create a proportion to compare the area of the vehicle to the area of its blind spot.
10. Compare the two ratios. Are they proportional? Which type of vehicle has less of a blindspot?
11. Summarize what you have learned about driving.

EXPLANATION

Have students watch the Share the Road Instructional Video at

<https://classroom.google.com/u/0/o/NjU4OTI2NTM3MFpa> (8 minutes 22 seconds).

Another video clip to use would be -- https://www.youtube.com/watch?v=YMAm2yE_N24

ELABORATION

Discuss other areas we find blind spots in real life.

- Car blind spots – soon students will be driving.
- Blind spots in eyes due to retina and optic nerve attachments.

EVALUATION

Use Kahoot quizzes: <https://create.kahoot.it/#quiz/c6a665c7-f823-41be-b588-6fd2f29d911f>
<https://create.kahoot.it/#quiz/0481c60b-4ef2-411e-9569-c1306dd00381>

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Car Blind Spot Graphic

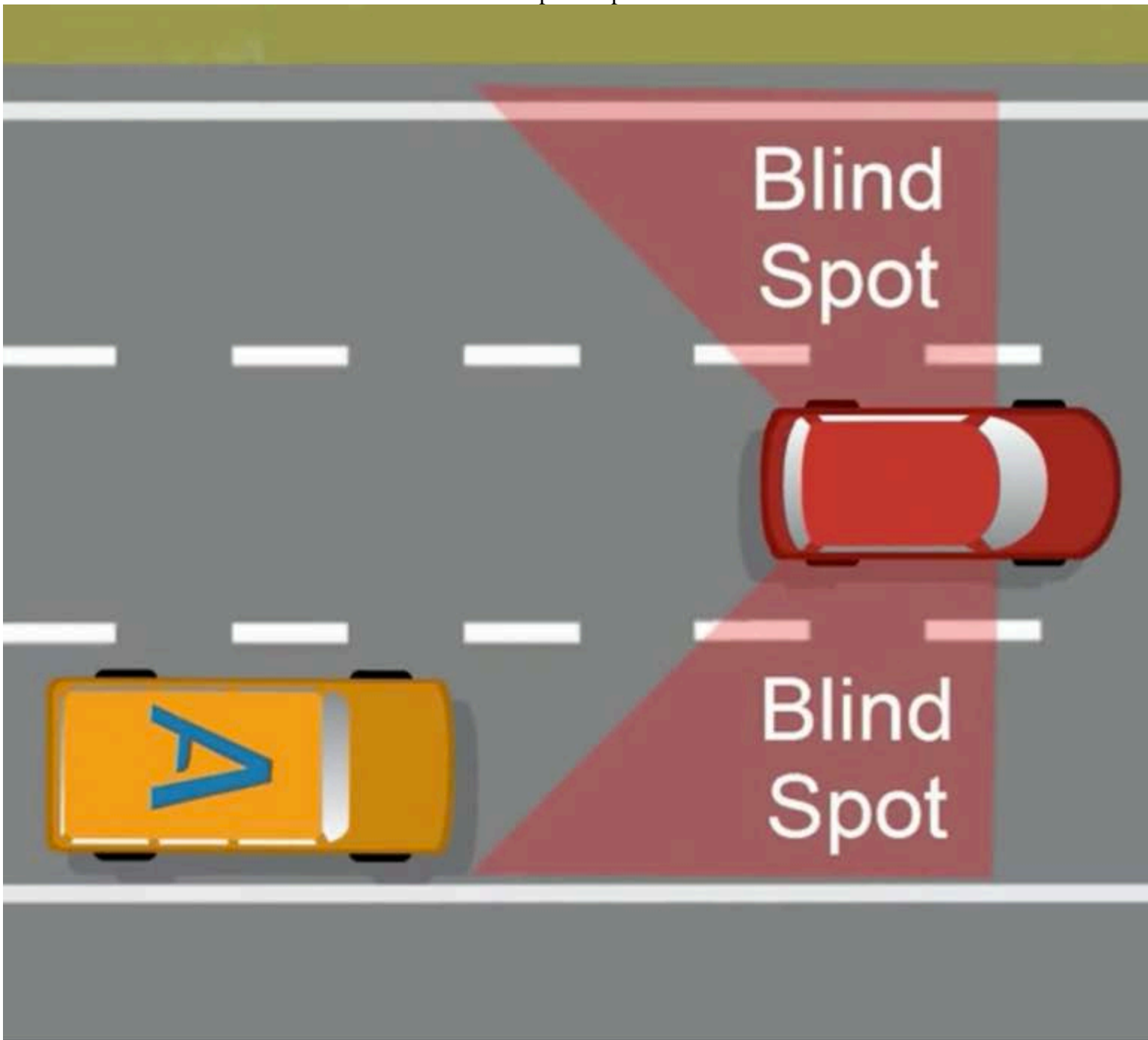


Image retrieved from <https://www.aceable.com/safe-driving-videos/blind-spot-test-while-driving/>