**Subject area/course**: Math

**Grade level/band**: 7th-9th

**Task source**: Stanford Center for Assessment, Learning, and Equity (SCALE); Author: Theresa Morris

**Car Color**

**STUDENT INSTRUCTIONS**

1. **Task context**:

Does the color of a car make it more likely to be involved in an accident, be stolen, or receive more traffic tickets?

1. **Final product**:

*Class activity* - After watching the video and reading the excerpt of the article (*see below for links*), discuss the following with a partner:

* What conditions would make it more difficult to see a car?
* How do you think color impacts the ability to see a car?
* If you were purchasing a car, would you consider these factors in the future when you purchase a car?

Be prepared to share your thoughts with the class.

After the class discussion, read and respond to the following prompt. You may work with a partner.

*See below further in this document for more specific directions about both the class activity prompts and the individual assessment that follows.*

**Additional Information**

1. **Knowledge and skills you will need to demonstrate on this task:**

* Students will reason abstractly to make informed decisions.
* Students will provide justifications using mathematics.
* Students will support mathematical arguments and justifications using appropriate sources and evidence.

1. **Materials needed:**

* Student Instructions
* *Car Color Facts and Fiction* article
* Youtube video demonstrating that some car colors are more difficult to see (<https://www.youtube.com/watch?v=DY9AHULgZ7c>)

1. **Time requirements:**

This task will take approximately two days (in class) to complete. Your teacher will provide you with more details about the timing of each part of the task.

1. **Scoring:**

Your work will be scored using the SCALE Math Performance Task rubric. You should make sure you are familiar with the language that describes the expectations for proficient performance.

**Student Materials/Directions:**

**The following is a link to the original article – use link to access info.**

Car Color Facts and Fictions

**Does Color Affect Safety, Tickets, Theft or Insurance?**

Published: 03/31/2014  - by [Kathleen Doheny](http://www.edmunds.com/about/authors/kathleen-doheny.html), Contributor

<http://www.edmunds.com/car-buying/car-color-facts-and-fictions.html>

***Car Colors***

***Class Activity***

Does the color of a car make it more likely to be involved in an accident, be stolen, or receive more traffic tickets?

After watching the video and reading the excerpt of the article, discuss the following with a partner:

* What conditions would make it more difficult to see a car?
* How do you think color impacts the ability to see a car?
* If you were purchasing a car, would you consider these factors in the future when you purchase a car?

Be prepared to share your thoughts with the class.

After the class discussion, read and respond to the following prompt. You may work with a partner.

Carlos wants to buy a Dodge Dart.



He likes the color blue, but he is also considering red, silver, and white.

The table shows the number of accidents and reported thefts by car color for the Dodge Dart.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Color of Car** | | | |
| **Blue** | **Red** | **Silver** | **White** |
| **Number of Accidents** | 148 | 217 | 82 | 84 |
| **Number of Thefts** | 30 | 33 | 62 | 58 |
| **Total Number of Cars that Color** | 632 | 751 | 855 | 820 |

1. Carlos is concerned that blue is a difficult color to see at night. Based on the data, which color car is most and least likely to be in an accident?
   1. Most likely to be in an accident: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Least likely to be in an accident: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain how you determined which car color was most and least likely to be in an accident.

How might this information impact Carlos’ decision about buying a blue car?

1. Carlos thinks that a silver Dodge Dart is the most likely to be stolen.

Based on the data provided in the chart, do you agree or disagree with Carlos’ statement? Justify your decision.

1. Write a recommendation for which color of Dodge Dart Carlos should buy. Justify your recommendation.

***Car Colors – Ford Mustang***

***Individual Performance Assessment***

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

Does the color of a car make it more likely to be in accidents, get tickets, or to be stolen?

The table shows the number of accidents, tickets, and reported thefts by car color for the Ford Mustang.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Color of Car** | | | | | |
| **Black** | **Green** | **Red** | **Silver** | **Yellow** | **White** |
|  |  |  |  |  |  |
| **Number of Accidents** | 81 | 71 | 120 | 95 | 65 | 85 |
| **Number of Tickets** | 117 | 100 | 185 | 158 | 112 | 137 |
| **Number of Thefts** | 22 | 16 | 62 | 55 | 12 | 45 |
| **Total Number of Cars that Color** | 805 | 706 | 1132 | 915 | 635 | 890 |

1. Based on the data in the table, which color of Mustang is most likely to be stolen?

List the colors in order from the most likely to the least likely to be stolen.

|  |  |
| --- | --- |
|  | **Color** |
| Most likely |  |
| to |  |
|  |
|  |
|  |
| Least Likely |  |

1. There is an urban myth that people driving red sports cars get more traffic tickets than people driving sports cars of a different color.

Based on the data in the table, is this myth true for Mustangs? Justify your decision.

1. Another popular myth is that silver and white cars are more difficult to see during the day and are more likely to be in accidents.

Based on the data in the table, is this myth true for Mustangs? Justify your decision.

1. Based on the data provided, which color of Ford Mustang is the best to buy based on the likelihood of it being in an accident, getting a ticket, or being stolen? Justify your decision.