

Calculating Time Spent on Different Modes (for 1st & 2nd graders)

Problem Description

U.S. Map Showing Origin and Destination Cities

1st & 2nd Grades Activity

Calculation Table

Coloring the Chart

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Problem Description

Sam's family (2 adults and 2 kids) is having a family reunion in Disneyland. About how long will it take Sam's family from (city, state pulled at random from a hat or [app](#)) to arrive at Disneyland in Anaheim, California if they traveled by _____.








- Also discuss which is most direct route
- Personal vehicles will need to stop for bathroom/food breaks vs trains
- May encounter other obstacles more likely to slow vehicles (poor weather, fatigue of driver, road blockages, congestion, etc.)
- 7 suggested originating cities for students to do the calculations
 - Albuquerque, NM
 - Portland, OR
 - Seattle, WA
 - Salt Lake City, UT
 - Phoenix, AZ
 - Denver, CO
 - Helena, MT

U.S. Map Showing Origin and Destination Cities



Activity

Calculation Table

Team (city, state): SEATTLE, WA	 Car (sedan)	 Electric Car (sedan)	 Bus	 Electric Train	 High Speed Rail	 Passenger plane
	Average miles per fuel tank: 400	Average miles per charge: 250	Average miles per tank: 500	Average miles:	Average miles per trip:	Average miles per trip:
Average Number of Passengers	4	4	50	150	900	100
Miles to Anaheim, CA using mode of transit 	1161					
Average speed	70mph	60mph	70mph	90mph	150mph	575mph
Carbon output	404 grams of CO ₂ per mile	0	2,680 grams of CO ₂ per mile	67 grams of CO ₂ per mile	0	900 grams of CO ₂ per mile
Carbon output per Sam's family member	117,261 g CO ₂ or 117 kg CO ₂ per mile	0	46,440 g CO ₂ or 46 kg CO ₂ per mile	518.58 g CO ₂ or 0.52 kg CO ₂ per mile	0	10,449 g CO ₂ or 10 kg CO ₂ per mile

Coloring the Chart

Let's color! First, color the states that Sam will pass by on the way from Seattle, WA to Anaheim, CA. You can use a yellow pencil/crayon. Second, draw a line using green pencil/crayon connecting Seattle, Sam's home, and the destination city of Anaheim. Lastly, color the bars in the chart using the same color as the outline.

CARBON OUTPUT PER PERSON FROM SEATTLE TO ANAHEIM BY TRANSPORTATION MODE

