

## ACTIVITY 12

# Travel and Patterns

**TEKS 4.7** Patterns, relationships and algebraic thinking. The student uses organization structures to analyze and describe patterns and relationships. **(A)** The student is expected to describe the relationship between two sets of related data such as ordered pairs in a table.

**Objective:** Students will use complete patterns represented by the average speeds of various modes of transportation. The students will complete a table and create a linear graph to represent the rate of travel for each mode of transportation. Students should recognize that the average speed is repeated as a pattern and that a relationship exists between the input values (which are the hours traveled) and the output values (which are the distances traveled).

**Number of students:** Students can work in pairs.

**Materials:**

- Student pages
- 1" graph paper
- Meter sticks
- Markers or colored pencils

**Steps:**

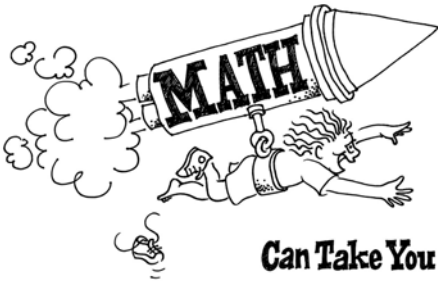
Step 1: Students will use the given speed of each vehicle and complete the pattern in each table.

Step 2: Students will write a sentence for each pattern that states the relationship between the speed and the distance traveled.

Step 3: Students will create a linear graph with the data for each mode of transportation on separate graphs. Possibly assign one mode of transportation to each group to graph.

Step 4: Once students have completed the assignment, they should answer the following questions.

1. If a vehicle were traveling at 90 miles per hour, how far would that vehicle have traveled after three hours? How do you know? (Answer: 270 miles at the end of the third mile; student explanations will vary)
2. Imagine that you were traveling. After six hours, you had traveled 420 miles, and after seven hours you had traveled 490 miles. What mode of transportation were you using? (Answer: You are riding a motorcycle.)
3. If a bus was 240 miles away from its destination and arrives at its destination in four hours, how fast was the bus traveling? (Answer: 60 m.p.h.)



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### Can Take You Places

Sailboat

Hours	1	3	5	7	9
Knots	35	105			

Jet

Hours	1	2	3	4	5
Miles	525	1050			

Bus

Hours	1	2	3	4	5
Miles	65	130			

Cruise Ship

Hours	2	4	6	8	10
Knots	54	108	162		

Bike

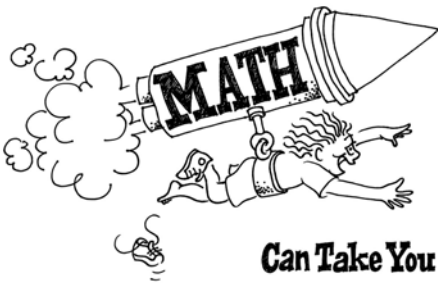
Hours	1	2	3	4	5
Miles	12	24			

Motorcycle

Hours	1	2	3	4	5
Miles	70	140			

Train

Hours	0.5	1	1.5	2	2.5
Miles	45	90	135		



Can Take You Places

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Sample Graph  
Race Car Travel

