## Model Cars: Linear Motion

### Pre-Lab

1. Watch the teacher demonstrate a model car in motion. How do you think the model car works?

2. Form groups as directed by the teacher. Discuss the answer to step 1 above with other members of your group. What is the general consensus of your group?

3. List at least one (1) factor you think makes a model car go faster.

4. List at least one (1) factor you think would make a model car go farther.

5. Watch the teacher demonstrate another model car in motion. Did it go faster or farther than the first car?

6. How can we tell which car was faster? What do we have to measure to decide which is faster?

Two model cars are about to race. Get ready.

7. Which car won the race?

8. Did the fastest car go the farthest?

9. What does 70 miles per hour mean?

10. What speed formula can we make for the model cars?

Car A traveled 8 meters in 5 seconds.
Car B traveled 12 meters in 9 seconds.
Car C traveled 6 meters in 3 seconds.

11. Which car is the fastest?
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<thead>
<tr>
<th>Question</th>
<th>Answer</th>
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<tr>
<td>12. If you’re taking a trip in a car and you know how fast you will be traveling and for how long, what formula can you use to determine how far you will go?</td>
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<td>13. What distance will you go if you travel 60 miles per hour for 3 hours?</td>
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<td>14. If you know the average speed of a model car and the length of the racetrack, what formula can you used to determine the time?</td>
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<td>15. A model car has an average speed of 4 meters per second on a 10 meter racetrack. How much time does it take to cross the finish line?</td>
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