# Lesson Plan - Transportation Math

<table>
<thead>
<tr>
<th>Learning elements</th>
<th>Exponents, Bar Graphs, Money, Thinking, Conversion, Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contributes to these Educational Standards</strong></td>
<td>Math, Reading, Relationships, Safety</td>
</tr>
<tr>
<td><strong>Supports these CRLs</strong></td>
<td>Critical Thinking, Problem Solving</td>
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<tr>
<td><strong>Learning Environment requirements:</strong></td>
<td>Central focus space to set the stage. Individual work space to perform the math calculations. Flip chart, blackboard or overhead device to demonstrate example math problem. One copy of <em>Story Problem Hints</em>, and <em>Transportation Math</em> exercises per learner.</td>
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</tbody>
</table>
| **Introduction** | Trucks carry many different products to many different places. Almost everything we buy has been delivered by truck to a store or to our homes.  
We will apply the math we have learned by solving story problems involving truck drivers and the math they encounter in their daily work. We will solve some math puzzles and riddles also. |

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<table>
<thead>
<tr>
<th>Objective</th>
<th>Time (minutes)</th>
<th>Teaching Points</th>
<th>Supplies</th>
<th>Vocabulary Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Solve addition, subtraction, multiplication and division math problems,</td>
<td>4 min</td>
<td>Introduce the Transportation Math Exercise sheet</td>
<td>Transportation Math Exercise</td>
<td>words: “Transportation”</td>
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<tr>
<td>using transportation examples.</td>
<td></td>
<td></td>
<td>sheet</td>
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<tr>
<td>#2 Use math symbols +, -, x, ÷, ≥, ≤, =</td>
<td>3 min</td>
<td>Expect learners to write equations while solving story problems</td>
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<tr>
<td>#3 Recognize pertinent information needed to solve the story problem.</td>
<td>4 min</td>
<td>Demonstrate an example where a story problem may have more information than needed, and the need to focus on what the question is to help determine which information is pertinent to the problem.</td>
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<tr>
<td>#4 Recognize exponents and calculate results</td>
<td>10 min</td>
<td>Review conversion information if needed</td>
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<tr>
<td>#5 Given a bar graph, use the correct data to solve word problems.</td>
<td>12 min</td>
<td>Demonstrate how to read bar graphs if needed</td>
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<tr>
<td>Wrap-up</td>
<td>2 min</td>
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<td>Total:</td>
<td>35 min</td>
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Math Transportation Exercises

Name________________

1.) Joe loads $4^3$ boxes of into his semi truck. How many boxes did he load?

2.) Joe made $2^2$ stops on his route. How many stops did he make?

3.) Joe drove $4^4$ miles today. How many miles did he drive?

4.) Joe drove $6^3$ minutes today. How many hours did he drive today?

5.) $5^5$ cars traveled past Joe in the opposite lane. How many cars were going the opposite direction?

6.) If it costs Joe 60 cents per mile for fuel and maintenance costs, how much did it cost Joe to drive his truck today (refer to question #3 to see how many miles Joe drove today).

7.) Janice charts her fuel usage for the week. How much fuel did she use?

8.) Felipe hauls the following items this week:
How many boxes of cereal did he deliver?
How many bags of sugar did he deliver?
How many packages of dried fruit did he deliver?
How many total items did he deliver this week?

9.) Tanker truck driver Paul delivers 2 ¾ tanks of milk to a cheese factory. He delivers 1/3 of a tank of milk to small processing plant, and 1/2 of a tank of milk to another processing plant. How many tanks of milk did Paul deliver?

10.) Amy delivers 557 24’ lengths of 6” pipe, 212 24’ lengths of 4” pipe, and 675 24’ lengths of 2” pipe to a construction site. How many pipes did she deliver?
**Story Problems Tips:**

Look for these key words to help decide whether to add, subtract, multiply, or divide:

### ADDITION
- Sum
- All
- Together
- Total
- In all
- Altogether

### SUBTRACTION
- Difference
- Left
- Less than
- Fewer than
- Greater than
- More than
- How many more?
- How many less?

### MULTIPLICATION
- Product
- In all
- Times
- All
- **If each one costs $5, how much will 10 cost?**

### DIVISION
- Quotient
- Each
- Divide equally
- Per
- Average
- If 10 cost $50, how much will one cost?

Draw a picture as you read the story. For example, if a truck driver loads 35 boxes into the truck, then delivers 20 of them, how many boxes are still in the truck?

35 boxes  
35-20  
15 boxes are still in the truck...

Adapted from *Teaching Thinking and Problem Solving in Math* by Char Forsten (Scholastic Professional Book, 1992)