**Math 20-2: U8L1 Teacher Notes**

**Comparing and Interpreting Rates**

**Key Math Learnings:**

**By the end of this lesson, you will learn the following concepts:**

* Interpret rates in a given context, such as the arts, commerce, the   
  environment, medicine or recreation.
* Determine and compare rates and unit rates.
* Make and justify a decision, using rates.
* Represent a given rate pictorially.
* Draw a graph to represent a rate.
* Explain, using examples, the relationship between the slope of a graph   
  and a rate.
* Describe a context for a given rate or unit rate.
* Identify and explain factors that influence a rate in a given context.
* Solve a contextual problem that involves rates or unit rates.

RATES

**A rate** is a ratio that:

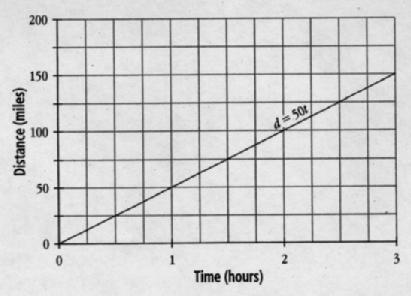
A **unit rate** compares:

<http://www.khanacademy.org/video/finding-unit-rates?playlist=Developmental+Math>

**Comparing Rates**

**Rates can be represented in a variety of ways. The representation you**choose should depend on your purpose. You can compare rates by   
writing them as

**Slope and Rates**



• In a graph that shows the relationship between two quantities, the   
slope of a line segment represents the average rate of change for   
these quantities.

• The slope of a line segment that represents a rate of change is a   
unit rate.

**Example**

Compare the two rates and determine the lower rate.

 whole chickens: $3.61/kg or 10 lb for $17.40

**Example**

Compare the two rates and determine the lower rate.

driving speeds: 30 m/s or 100 km/h

**Example**

Shelley has two choices for a long-distance telephone plan:

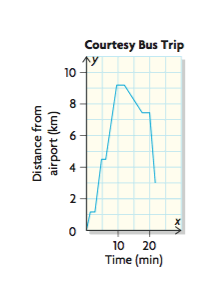
• her telephone company, which charges 4¢/min

• a device that plugs into her Internet modem, which costs $19.95

with an additional charge of 1.5¢/min Shelley makes, on average, 50 min of long-  
distance calls per month. Which option would be cheaper on an annual basis? Justify   
your decision.

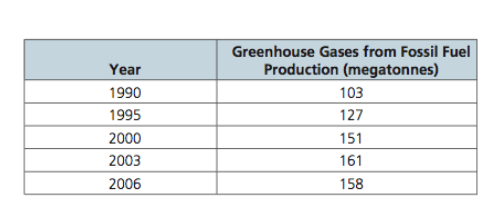
**Example**

A hotel shuttle bus takes David from the airport to his hotel. Use the distance versus time graph to the right to create a story that describes David’s bus trip.



**Example**

The following table shows the a mount of greenhouse gases emitted by fossil fuel   
production in Canada from 1990 to 2006. During which period was the amount   
emitted increasing at the greatest rate? Justify your decision.



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