1. **GRADE LEVEL: Grade 7**

Subject Area: Mathematics

Quarter 1 – Week   
Duration: 45 minutes

1. **LEARNING OBJECTIVES**

Learners are expected to:

1. Students will be able to define a rate as a ratio comparing two quantities with different units
2. Students will be able to identify the units in a given rate (e.g., km/h, words/minute)
3. Students will be able to provide real-world examples of where rates are used.
4. **CONTENT**

* Title: Understanding Rates: More Than Just Speed
* Learning Competency: identify and explain the uses of rates.
* Particular Focus: Building a conceptual understanding of what a rate is and identifying its presence and importance in various real-world contexts.

1. **LEARNING RESOURCES**

1. Teacher's Guide
2. Pictures or short video clips showing examples of rates (a car driving, a person typing, water flowing from a tap)
3. Chart paper
4. Markers
5. PPT: 'Rates Are Everywhere'
6. **PROCEDURE**

**Introduction:**

Show a series of short, silent video clips: a sprinter running, a chef chopping vegetables quickly, a car in traffic. Ask students: 'What is being measured in each of these clips?' Guide the discussion towards the idea of 'something per something else' (e.g., distance per time, vegetables per minute). Introduce the term 'rate'.

**Presentation:**  
The teacher formally defines a rate as a special type of ratio that compares two different units. They write 'miles per hour' on the board and break it down: 'miles' is a unit of distance, 'hour' is a unit of time. They provide multiple other examples: words per minute, beats per minute, dollars per gallon, cost per item. The key idea that the units are different is emphasized.

**Practice:**  
Brainstorming session in small groups. Each group is given a category (e.g., 'At Home', 'In Sports', 'At the Store', 'In Technology') and must generate a list of all the rates they can think of within that category. Each group then writes their list on chart paper and presents their findings to the class, explaining the two units for each rate they identified.

**Integration:**  
Discuss how rates are fundamental to almost every field. In science, we have rates of reaction. In economics, we have rates of inflation. In medicine, we have heart rates and dosage rates. This helps students see rates as a universal and essential concept for understanding the world. Values: Appreciating the quantitative side of everyday life.

**Assessment:**  
['1. What is a rate? (A ratio comparing two quantities with different units)', " 2. In the rate 'kilometers per hour', what are the two units? (kilometers and hours)", ' 3. Give a real-world example of a rate you might see at a grocery store. (e.g., price per pound, dollars per item)', " 4. True or False: '5 cookies to 2 cookies' is an example of a rate. (False, it's a ratio with the same units)"]

**Enrichment:**  
["Remediation: Provide a worksheet with a list of comparisons and have students circle the ones that are rates. Give them a matching activity to connect a rate (e.g., 'speed') with its units (e.g., 'm/s').", ' Enhancement: Have students find a news article and highlight all the rates mentioned. They should then explain what each rate is describing.']  
**Asignment:**  
Find and write down five different rates you encounter in your daily life over the next 24 hours. For each one, identify the two units being compared.

1. **EVALUATION TOOLS**

The group brainstorming lists will be assessed for relevance and correctness in identifying rates. Student presentations will be assessed on their ability to clearly explain the units for each rate. An exit ticket will ask students to 'Define rate in your own words and give one new example.'

1. **REMARKS**

The distinction between a rate and a ratio can be subtle for students. Continuously emphasize that the units must be \*different\* for it to be a rate. Use a wide variety of examples beyond just speed, as that is the one they are most familiar with.

1. **REFLECTION**

The group brainstorming activity was very effective. By giving them categories, it helped focus their thinking and they came up with a much wider range of examples than I expected. The presentation part helped reinforce the learning for the whole class. A few students still struggled to differentiate a rate from a simple ratio. Next time, I will start with a direct comparison chart showing examples of rates vs. non-rate ratios side-by-side.