

4

# Lesson Exemplar for Science

Quarter 3

Lesson

4

GOVERNMENT PROPERTY  
**NOT FOR SALE**

**Lesson Exemplar for Science Grade 4**  
**Learning Resource Unit on Describing Force**  
**Quarter 3: Lesson 4 (Week 4)**  
**S.Y. 2024-2025**

This material is intended exclusively for the use of teachers participating in the implementation of the MATATAG K to 10 Curriculum during the School Year 2024-2025. It aims to assist in delivering the curriculum content, standards, and lesson competencies. Any unauthorized reproduction, distribution, modification, or utilization of this material beyond the designated scope is strictly prohibited and may result in appropriate legal actions and disciplinary measures.

Borrowed content included in this material are owned by their respective copyright holders. Every effort has been made to locate and obtain permission to use these materials from their respective copyright owners. The publisher and development team do not represent nor claim ownership over them.

**Development Team**

**Writer:**

- Jessa V. Logronio (Silliman University)

**Validator:**

- Edwin Auditor (Philippine Normal University - Manila)

**Management Team**

Philippine Normal University

Research Institute for Teacher Quality

SiMERR National Research Centre

Every care has been taken to ensure the accuracy of the information provided in this material. For inquiries or feedback, please write or call the Office of the Director of the Bureau of Learning Resources via telephone numbers (02) 8634-1072 and 8631-6922 or by email at [blr.od@deped.gov.ph](mailto:blr.od@deped.gov.ph).

**SCIENCE/QUARTER 3/ GRADE 4**

| <b>I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A. Content Standards</b>                                      | <p><i>The learners learn that:</i></p> <ol style="list-style-type: none"> <li>1. Science processes help in observing and predicting how things move.</li> <li>2. Pushes and pulls can change the position and shape of objects.</li> <li>3. Gathering scientific information helps explain the behavior of objects and materials.</li> <li>4. Magnets affect some objects and materials without touching them.</li> <li>5. Energy is present whenever there is movement, sound, light, or heat.</li> </ol>                                                                                                                                                                                                                                                                                                                           |
| <b>B. Performance Standards</b>                                  | <p><i>By the end of the quarter, learners use simple equipment and processes to measure and record data related to movement and describe and predict the way things around them move using more scientifically technical language and concepts, such as speed and force. They demonstrate an understanding that science processes are used to gain deeper understanding about forces and energy that cannot be seen directly, including the properties of magnet, light, sound, and heat. Learners apply their observation skills and objectivity to identify where energy is evident in their local communities and how it is used by people.</i></p>                                                                                                                                                                               |
| <b>C. Learning Competencies and Objectives</b>                   | <p><b><i>Learning Competency 1: The learners measure accurately the distance and time when things move using simple equipment.</i></b></p> <p><i>The learners will be able to:</i></p> <p><i>Lesson Objective 1: define the concepts of distance and time as they relate to motion;</i></p> <p><i>Lesson Objective 2: familiarize oneself with simple equipment to measure distance and time, like a meter stick, ruler, measuring tape, and stopwatch</i></p> <p><b><i>Learning Competency 2: The learners identify that how far an object moves in a given time is called speed.</i></b></p> <p><i>The learners will be able to:</i></p> <p><i>Lesson Objective 1: calculate the speed of a moving object;</i></p> <p><i>Lesson Objective 2: recognize the importance of having accurate measurements in describing motion</i></p> |
| <b>C. Content</b>                                                | <p>Describing Motion Using Distance, Time, and Speed</p> <ul style="list-style-type: none"> <li>• The movement of an object can be described using distance (how far), time (how long did it take), and speed (how fast).</li> <li>• Distance is how much ground is covered by a moving object. A ruler or meter stick is used to measure distance.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | <ul style="list-style-type: none"> <li>• Time is how much time is consumed or how much time it takes by the moving object to cover a distance. A stopwatch or wristwatch is used to measure time.</li> <li>• When a distance is covered in a small amount of time, the speed is big. The object is said to be traveling fast.</li> <li>• When the same distance is covered in a big amount of time, the speed is small. The object is said to be traveling slowly.</li> <li>• How fast or slow an object moves is called speed.</li> </ul>                                                                                                                                      |
| <b>D. Integration</b> | <p>Edukasyon sa Pagpapahalaga (ESP) – Patience and respect for others are very important because not everyone can do the same task at the same speed.</p> <p>Math – The skills learned in Grade 2 math include measuring distance using a meter stick and measuring time using a stopwatch.</p> <p>Physical Education (PE) – Along with agility, balance, and coordination, speed is a concept that students need to understand to help them develop physical fitness. Movement and positioning concepts are necessary as well.</p> <p>Health and Medicine – It is important to accurately measure the prescribed dosage of medicines to be effective and avoid overdosing.</p> |

## II. LEARNING RESOURCES

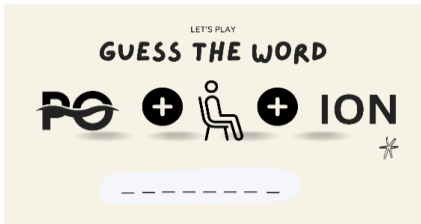
- *Advanced search.* (n.d.). <https://www.animalia.bio/elastic-search?search=eagle>
- *Advanced search.* (n.d.). <https://www.animalia.bio/elastic-search?search=tarsier>
- Anastacio, A. M. & Solmerano, E.G.M. (2015). *Conceptual Science and Beyond: K to 12 Edition*. Quezon City: Brilliant Creations Publishing, Inc.
- Casimiro, M.C.V., Biola, W.Y., Joel B. Jalon Jr., Ma. Cheryl Villapando-Casimiro, Winona Yapit-Diola, Michelle Miramonte-Carranza,
- Ferrer, D.L., Mingoa, T.R., Padua, A.L., Joaquin, C.C., & Rabago, L.M. (2016). *Science and You Grade 5 K to 12 Edition*. Quezon City: Vibal Grup, Inc.
- construct. (2023). In *Merriam-Webster Dictionary*. <https://www.merriam-webster.com/dictionary/construct>
- Little School. (2023, September 2). *What is Speed | Science for Kids* [Video]. YouTube: <https://www.youtube.com/watch?v=5JW8fUU9yEQ>
- Teachers, F. T. (2019, July 15). *Five tools for reflection*. For The Teachers. <https://www.fortheteachers.org/friday-five-tools-for-reflection/>
- Third Space Learning. (2023, July 9). *Speed Distance Time - GCSE Maths - Steps, Examples & Worksheet*. <https://thirdspacelearning.com/gcse-maths/ratio-and-proportion/speed-distance-time-triangle/>

| III. TEACHING AND LEARNING PROCEDURE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | NOTES TO TEACHERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A. Activating Prior Knowledge        | <p><b>DAY 1</b><br/><b>Short Review (5 minutes)</b></p> <p><b>Show &amp; Tell:</b> Show the class several pictures of students doing daily tasks like sweeping the floor, wiping the table, arranging the chairs, picking up trash, and other chores. Ask them how these pictures show the previous lesson learned about forces.</p>                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>If a projector or TV is available, prepare five pictures of students doing daily tasks like sweeping the floor, wiping the table, arranging the chairs and other chores. If you can't project the pictures, provide printed pictures you can give the students. You may group them and give one picture per group.</p> <p>In their daily tasks, forces are applied to pushing the broom while sweeping, wiping the rag while pulling, and picking up trash and other things.</p>                                                                                                                                                                                                    |
| B. Establishing Lesson Purpose       | <p><b>1. Lesson Purpose</b><br/><b>Picture Analysis (10 minutes)</b><br/>Show a picture of a 100-m dash. Tell them to examine the picture carefully. Ask them the following questions:</p> <ul style="list-style-type: none"><li>i. Who do you think will win in this race? Why?</li><li>ii. How do we determine the winner?</li><li>iii. Have you tried participating in a 100-m dash or similar races?</li><li>iv. When can we say that a person runs fast?</li><li>v. Why is understanding the concept of speed important in sports like track and field?</li></ul> <div></div> | <p>Acknowledge everyone's responses to the guided questions. These are some possible answers:</p> <ul style="list-style-type: none"><li>i. I think the ___ because he is ahead of the others.</li><li>ii. The first to reach the finish line will be the winner.</li><li>iii. No.</li><li>iv. A person runs fast if he runs ahead of others in a race.</li></ul> <p>Ask them if they have more questions about race. The new lesson will help them understand how fast a person or object moves.</p> <p>Tell the students that in this lesson, they will use their scientific skills in predicting, measuring, and observing to describe motion using scientific terms and graphs.</p> |

## 2. Unlocking Content Area Vocabulary

### a. Guess the Word (10 minutes)

Tell the students that they will be given sets of pictures that can reveal the terms to unlock.

| Images                                                                              | Term     |
|-------------------------------------------------------------------------------------|----------|
|   | Position |
|   | Distance |
|  | Time     |

Since we have started with pictures, we will also use images to unlock the content area vocabulary.

As students unlock the term, present the definition of each term to them:

1. Position - a place or point where something or someone is located or has been placed in relation to other things
2. Distance - describes the length of the path traveled by a person or object from the initial position to the final position; describes how far a moving object or person has traveled
3. Time - is the duration of an event
4. Speed - describes how fast or slow an object or person has traveled
5. Measure - quantifying the length, width, and many more quantities
6. Frame of Reference - a set of coordinates that can be used to determine the position and motion of an object.
7. Meters per second (m/s) - A common unit for measuring speed in the International System of Units (SI).

|  |                                                                                      |                         |
|--|--------------------------------------------------------------------------------------|-------------------------|
|  |    | Speed                   |
|  |    | Measure                 |
|  |   | Frame of Reference      |
|  |  | Meters per second (m/s) |

### C. Developing and Deepening Understanding

#### Explicitation (20-25 minutes)

##### a. Situation Analysis: Who wins?

Jurmin and Jervin are classmates and decided to race from one end of the basketball court at their school to the other end. Jurmin reached the other end in 10 seconds, while Jervin took 12 seconds. Who won?



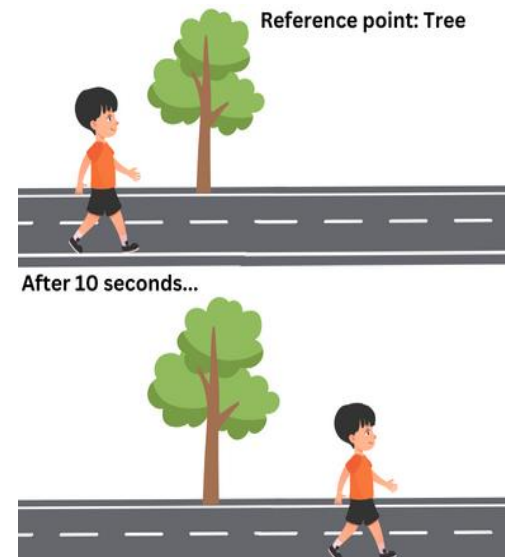
##### b. Class Interaction

Motion is defined as the change in position from a reference point.

##### Guide questions:

1. What is a reference point in the context of motion?  
*A reference point is a stationary object or place that is used to determine if an object has moved or not. It can also be the starting point or origin for measuring motion.*
2. Why is it important to have a reference point when describing the motion of an object?  
*When describing the motion of an object, it is important to have a reference point to have a basis for the change in the object's position.*

For example, in the picture at the right, the boy's motion can be observed clearly because of his change in position relative to the tree, our reference point in this situation.



3. How do we select a suitable reference point for describing the motion of an object?  
*We select a suitable reference point for describing an object's motion by choosing an object in the environment that is fixed on the ground or that is stationary and does not move.*
4. Can you think of examples where different reference points might be chosen to describe the same motion?  
*Examples of reference points include a tree, a sign, or a building.*

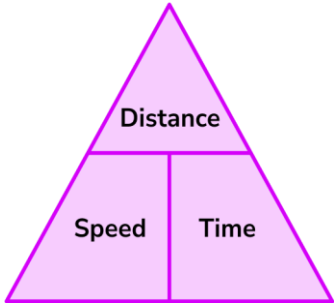
Before proceeding to the lesson, ask the students to determine who arrives first in the given situation. With the same distance traveled and different travel times, the winner is the one who traveled in a shorter time. Therefore, Jurmin won the race.

Lead the class into a class interaction to discuss the definition of motion, the use of reference points to describe motion, and how to calculate speed.

Show an example of a change of motion relative to a reference point (the tree in the picture). You may also use actual samples of reference points in the classroom referring to stationary objects fixed in the classroom. You may show them that we can describe your motion if you move away or towards a reference point in the classroom (e.g., blackboard, wall, etc.).



|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>The motion of a person or an object can be described using the concepts of distance, time, and speed.</p> <ul style="list-style-type: none"><li>Distance is a measure of how far two points are from each other. It can be measured using a ruler, a meter stick, or a tape measure.</li><li>Time is a measure of the duration of an event taking place. It can be measured with a watch.</li><li>Speed is a measure of how fast an object moves.</li></ul> <p><b>How do you compute speed?</b></p> <p>Follow the following steps below:</p> <ol style="list-style-type: none"><li><i>Determine the Distance (d):</i> Measure the total path length covered by the object. This could be the length of a racetrack, the distance a car travels, or any other relevant measurement. Use appropriate units such as meters (m) or kilometers (km).</li><li><i>Determine the Time (t):</i> Measure the duration it takes for the object to cover the specified distance. Use a stopwatch, timer, or any other time-keeping device. Time is typically measured in seconds (s), minutes (min), or hours (h).</li><li>Apply the Formula:<ol style="list-style-type: none"><li>Use the formula for speed: <math>speed = \frac{distance}{time}</math></li><li>Substitute the measured values of distance and time into the formula.</li><li>Calculate the Speed:</li><li>Perform the calculation to find the speed. Ensure that the units are consistent.</li><li>To compute speed, divide the distance traveled by the time it takes to travel the distance.</li></ol></li></ol> <p>In symbols, <math>s = \frac{d}{t}</math></p> <p>To easily remember the speed formula, we present it using the triangle at the right. On the triangle's base, in the bottom left, we put speed and time in the bottom right, while in the upper corner, we put distance.</p> <p>4. <i>Expressing the Result:</i> Report the calculated speed in the appropriate units. Common units for speed include meters per second (m/s) or kilometers per hour (km/h), depending on the context. Additionally, in real-world scenarios, choosing an appropriate reference point and a coordinate system</p> | <p>In computing speed, students need their skills in dividing numbers. Thus, you need to guide them in doing this. For now, we use whole numbers that they can easily divide. If possible, you may ask them to use a calculator to do the task easily while learning the concept of speed as a rate of travel.</p> <p>The speed formula in triangle form is very handy when they will also solve for distance or time. Depending on the level of mathematical skills of your students, you may present to them other formulas derived from the speed formula.</p> <p>To find an unknown quantity in the triangle, simply cover it, and the quantities left uncovered will be used to compute the covered quantity. <i>To find speed</i>, cover it in the triangle and you will see distance over time, which means distance divided by time. <i>To find the distance</i>, cover it in the triangle, and you will see speed and time, which means speed multiplied by time. Finally, <i>to find time</i>, cover it, and you will see distance over speed, which means distance divided by speed. If students are not ready for this, assure them they will learn more about these formulas in higher grades.</p> <p>Formulas:</p> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



is crucial when measuring distance and time, especially for moving objects. The choice of reference point can affect how speed is perceived and measured.

## DAY 2

### c. Video viewing (5 minutes)

Show the YouTube video titled “What is Speed? | Science for Kids”

#### Guide questions:

- What new information or lesson have you learned from the video?
- What happens to speed if the distance increases?"

*"If an object moves the same distance in less time, what happens to its speed?"*

### 1. Worked Example (15 minutes)

Steps to solve word problems:

- Read and understand the problem.
- Identify what is known (given values) and unknown (what is asked).
- Determine the formula to use in computing the unknown.
- Substitute the given values in the formula.
- Write the final answer with the correct unit of measure.

#### a. Problem-solving: Motion Problems

Let's answer the sample problems below.

- A female Palarong Pambansa sprinter from Negros Oriental finished the 100-m dash competition in 10 seconds. What was her speed?

|                                                             |                                                       |
|-------------------------------------------------------------|-------------------------------------------------------|
| 1. Identify what is known.                                  | distance = 100 meters<br>time = 10 seconds            |
| 2. Identify what is unknown.                                | speed = ?                                             |
| 3. Write the formula.                                       | $speed = \frac{distance}{time}$                       |
| 4. Substitute the given values in the formula.              | $speed = \frac{100\text{ meters}}{10\text{ seconds}}$ |
| 5. Write the final answer with the correct unit of measure. | speed = 10 meters/second                              |

$$speed = \frac{distance}{time}$$

$$distance = speed * time$$

$$time = \frac{distance}{speed}$$

2. Recess time is almost over, so a Grade 4 pupil walks fast from the canteen to her classroom for 20 seconds. Her classroom is 10 meters from the canteen. How fast did she walk?

|                                                             |                                                      |
|-------------------------------------------------------------|------------------------------------------------------|
| 1. Identify what is known.                                  | distance = 10 meters<br>time = 20 seconds            |
| 2. Identify what is unknown.                                | speed = ?                                            |
| 3. Write the formula.                                       | $speed = \frac{distance}{time}$                      |
| 4. Substitute the given values in the formula.              | $speed = \frac{10\text{ meters}}{20\text{ seconds}}$ |
| 5. Write the final answer with the correct unit of measure. | speed = 0.5 meter/second                             |

**2. Lesson Activity (25-30 minutes)**

**a. Problem-solving: Motion Problems**

Let's answer the sample problems below:

1. The Philippine eagle is the national bird of the Philippines. If it can travel 100 kilometers in one hour, what is its speed?

|                                                             |                                                       |
|-------------------------------------------------------------|-------------------------------------------------------|
| 1. Identify what is known.                                  | distance = 100 kilometers<br>time = 1 hour            |
| 2. Identify what is unknown.                                | speed = ?                                             |
| 3. Write the formula.                                       | $speed = \frac{distance}{time}$                       |
| 4. Substitute the given values in the formula.              | $speed = \frac{100\text{ kilometers}}{1\text{ hour}}$ |
| 5. Write the final answer with the correct unit of measure. | speed = 100 kilometers/hour                           |

2. The Philippine tarsier is famous for being the smallest monkey in the world. These tiny creatures like to stay high up in the trees and jump from branch to branch in the jungle. They can travel 20 kilometers in 0.5 hour. Determine its speed.

|                                                             |                                                          |
|-------------------------------------------------------------|----------------------------------------------------------|
| 1. Identify what is known.                                  | distance = 20 kilometers<br>time = 0.5 hour              |
| 2. Identify what is unknown.                                | speed = ?                                                |
| 3. Write the formula.                                       | $speed = \frac{distance}{time}$                          |
| 4. Substitute the given values in the formula.              | $speed = \frac{20 \text{ kilometers}}{0.5 \text{ hour}}$ |
| 5. Write the final answer with the correct unit of measure. | speed = 40 kilometers/second                             |

### DAY 3

#### b. Activity 1: Who Wins the Race? (20 minutes)

Instructions: In groups with five members, students conduct a racing activity to determine which toy car is the fastest.

Assign the members of the groups a role to play:

|                     |                                                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------------------------|
| Leader              | Responsible for overseeing the cooperation of the group members.                                                    |
| Timer               | In charge of measuring the time it takes for the toy car to complete the race using a stopwatch or timer.           |
| Recorder            | Takes notes and records the toy car's distance and time of travel.                                                  |
| Toy car in-charge   | Responsible for handling and releasing the toy cars at the starting line.                                           |
| Racetrack in-charge | Responsible for checking the group's racetrack, ensuring that marks at the starting and finishing points are clear. |

Introduction: Briefly review the concepts of motion, speed, and distance with the students. Explain the activity's objective: to conduct a race using toy cars and determine which one is the winner based on their speed. For this activity, you will need toy cars for each group to explore speed. Ensure each group has the same type or model of toy car. You may ask each group to bring one battery-powered or pullback toy car. If there are no available toy cars, you may use a ball or any other toys that can be moved. Since this involves a race/contest, please always establish rules on honesty and safety.

Set up the racetrack using markers on the classroom floor or the corridor. Let the racetrack in-charge assist you in measuring and marking the tracks.

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><i>Group Preparation:</i></p> <ul style="list-style-type: none"> <li>• Assign roles within each group (e.g., one student measures distance, one operates the stopwatch, etc.).</li> <li>• Have each group inspect and test their toy car to ensure fair competition.</li> </ul> <p><i>Race Set-up:</i></p> <ul style="list-style-type: none"> <li>• Line up all the groups at the starting line.</li> <li>• Explain any specific rules, such as staying within the designated track.</li> </ul> <p><i>Guide Questions During the Race:</i></p> <ul style="list-style-type: none"> <li>• How will you measure the distance covered by your toy car?</li> <li>• What factors might affect the speed of your toy car?</li> <li>• How will you ensure a fair and accurate race?</li> </ul> <p><i>Race Execution:</i></p> <ul style="list-style-type: none"> <li>• Start the race, and have each group complete the course.</li> <li>• Ensure that each group measures the distance their toy car traveled.</li> <li>• In conducting the race, ask everyone to get ready to perform their assigned roles. Ask the toy car in charge to position itself at the starting point. When all of them are ready, give them a go signal for them to release their toy cars at the same time. Depending on the type of toy car, everyone must agree on what is allowed to make it move. At this point, the timers should start recording the time and stop when the toy car reaches the finish line. The recorders then record their data. Do two more trials. Then, ask them to return to their seats to reflect on what they just did and answer the process questions.</li> </ul> <p><i>Group Reflection:</i></p> <ul style="list-style-type: none"> <li>• Have each group discuss their strategies, challenges faced, and how they optimized the performance of their toy car.</li> <li>• Discuss the relationship between speed, time, and distance.</li> </ul> <p><i>Results and Awards:</i></p> <ul style="list-style-type: none"> <li>• Announce the winners based on the fastest time or farthest distance.</li> <li>• Consider giving awards for creativity, teamwork, or innovative strategies.</li> </ul> <p><i>Closure:</i></p> <ul style="list-style-type: none"> <li>• Conclude the activity by discussing the importance of understanding motion and the practical applications of these concepts in real life.</li> </ul> <p><b>Process questions:</b></p> <ol style="list-style-type: none"> <li>1. Which toy car has the shortest travel time?</li> <li>2. Who wins the race? Why?</li> <li>3. Why is it important to have accurate measurements when describing motion?</li> </ol> | <p>Ask the other students to observe. Recall their Grade 2 math lesson on measuring distances.</p> <p>If toy cars are unavailable, use a different object that can be used safely in a racing game. Since students bring their toy cars, they may vary. Explain to the students that the variety of toy cars makes the race unpredictable and exciting.</p> <ol style="list-style-type: none"> <li>1. To determine which toy car has the shortest travel time, review the recorded times for each car. Identify the one that took the least amount of time to reach the finish line.</li> <li>2. The toy car with the shortest travel time wins the race. This is because the concept of speed is directly related to time; the less time it takes for a car to complete the race, the higher its speed.</li> <li>3. Accurate measurements are crucial in describing motion because they provide objective and reliable data. In the context of the toy car race, precise measurements of time and distance are essential for calculating speed to determine the winner objectively.</li> </ol> <p>In Activity 2, emphasize safety as they conduct the walking activity. Ask the student to remain close by and watch how other members perform the activity if one member is ill or his or her pediatrician has forbidden them from doing so.</p> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | <p><b>c. Activity 2: Who is the fastest? (25 minutes)</b></p> <p>Instructions:<br/>In groups with five members, students conduct a walking activity to determine how fast or slow each walk is and who walks fastest in the group.</p> <p>Instruct the students to follow the following procedure:</p> <ol style="list-style-type: none"> <li>1. Go to the corridor or the nearest area to your room that is clear and safe for this walking activity.</li> <li>2. Using the meter stick, measure 10 meters. Use chalk or any marker to indicate the starting and ending points with a line.</li> <li>3. Let each member walk at a normal pace (not fast nor slow) along the path from the starting to the ending points. Ask another member to record the time taken to walk 10 meters.</li> <li>4. Let each member do two more trials by walking slower and faster than the first.</li> <li>5. Compute the fastest speed of each member by dividing the distance traveled by the shortest time of travel.</li> </ol> <p><b>Process questions:</b></p> <ol style="list-style-type: none"> <li>1. What happened to your travel time when you walked slower? faster?</li> <li>2. Who walked fastest in your group? What is the basis for concluding that he or she is the fastest in your group?</li> <li>3. Is it safe when you move fast? Why?</li> </ol> | <p>Possible answers to the process questions:</p> <ol style="list-style-type: none"> <li>1. When walking slower, your travel time increased, meaning it took more time to cover a certain distance. When you walk faster, your travel time decreases, indicating that you covered the same distance in less time.</li> <li>2. The person who walked the fastest in the group is the one with the shortest travel time. The basis is travel time, because with the least amount of time to cover the same distance the faster the speed.</li> <li>3. In some situations, moving fast can be unsafe, especially if it involves potential hazards or lack of control. It's important to prioritize safety and adjust speed accordingly, especially in unfamiliar or crowded areas.</li> </ol> |
| <b>D. Making Generalizations</b> | <p><b>DAY 4</b></p> <p><b>1. Learners' Takeaways</b></p> <p><b>a. Concept Mapping (15 minutes)</b></p> <p>Make a concept map about how motion is described in this lesson. Do this lesson map with the students to summarize the lesson.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>Towards the end of the lesson, the students will create a concept map to summarize their learnings on describing motion.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                     |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <div data-bbox="698 145 1400 544" data-label="Diagram"> </div> <p><b>2. Reflection on Learning (10 minutes)</b><br/>         Using the provided template, ask the students to reflect on bright ideas. In the light bulb image, they will write 2-3 things in this lesson that were new to them, 1 important thing to remember, and 4 ideas or words that they're not sure about.</p> <div data-bbox="1303 560 1610 879" data-label="Image"> </div> <p>Note: Reflecting on Bright Ideas (Reflecting on Bright Ideas, 2013)</p> | <p>The students, at this point, will reflect on their learning by answering Reflecting on Bright Ideas. This will allow them to map the ideas or words that they were not sure about, key concepts that were new to them, and the important things to remember.</p> |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | NOTES TO TEACHERS                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A. Evaluating Learning</b>                                          | <p><b>Formative Assessment</b></p> <p><b>I. Multiple Choice.</b> Carefully read the questions below. Choose the correct answer from the choices below each question. Encircle the letter corresponding to the correct answer.</p> <ol style="list-style-type: none"> <li>Which tool is best suited to precisely measure the distance traveled by a moving object?<br/>             A. calculator      B. clock      C. meter stick      D. stopwatch</li> <li>Which of the following measures how far two points are from each other?<br/>             A. distance      B. graph      C. speed      D. time</li> </ol> | <p>Teachers may encourage learners to have a quiz notebook to monitor learners' academic progress. The quiz notebook may also serve as homework notebook.</p> <p><b>ANSWER KEY:</b><br/>             I.<br/>             1. C<br/>             2. A<br/>             3. D</p> |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                          |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------|------------------|---------------------------------------------------------------|----------------|--------------------------------------------------------------------------|---------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | <div><div><div>3. The measure of the duration of an event taking place is called:<br/>A. distance      B. graph      C. speed      D. time</div><div>4. What is its speed if a bird flies 100 meters (m) in 50 seconds (s)?<br/>A. 2 m/s      B. 5 m/s      C. 10 m/s      D. 50 m/s</div><div>5. Kath walks to the canteen that is 10 meters (m) away from her classroom for 10 seconds (s). What is her speed?<br/>A. 1 m/s      B. 2 m/s      C. 5 m/s      D. 10 m/s</div></div><div><div>II. <b>Essay.</b> Read carefully the situation below. Answer the given question based on the rubric. Observe proper punctuation, capitalization, and spelling.</div><div>In speed contests, like a 100-meter sprint race, athletes do their best to speed up and win the contest. Sometimes, the difference is only a matter of few milliseconds. In these events, why is it important to have accurate measurements when describing motion? <i>Rubric for rating the answer:</i></div><table><tr><td>Excellent (4)</td><td>The answer is clear, easy to read, and covers the topic well. (5 points)</td></tr><tr><td>Proficient (3)</td><td>The answer is mostly clear but may have some confusing parts. (4 points)</td></tr><tr><td>Satisfactory (2)</td><td>The answer is hard to understand and lacks detail. (3 points)</td></tr><tr><td>Developing (1)</td><td>The answer is difficult to read or doesn't address the topic. (2 points)</td></tr><tr><td>Beginning (0)</td><td>No attempt to answer (0 points)</td></tr></table></div></div> | Excellent (4)       | The answer is clear, easy to read, and covers the topic well. (5 points) | Proficient (3) | The answer is mostly clear but may have some confusing parts. (4 points) | Satisfactory (2) | The answer is hard to understand and lacks detail. (3 points) | Developing (1) | The answer is difficult to read or doesn't address the topic. (2 points) | Beginning (0) | No attempt to answer (0 points) | <div><div>4. A<br/>5. A</div><div>II.<br/>In speed contests, accurate measurements of motion are required to ensure fairness and safety of athletes. They provide a reliable basis for determining winners and setting records.</div></div> |
| Excellent (4)        | The answer is clear, easy to read, and covers the topic well. (5 points)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |                                                                          |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |
| Proficient (3)       | The answer is mostly clear but may have some confusing parts. (4 points)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |                                                                          |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |
| Satisfactory (2)     | The answer is hard to understand and lacks detail. (3 points)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                     |                                                                          |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |
| Developing (1)       | The answer is difficult to read or doesn't address the topic. (2 points)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |                                                                          |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |
| Beginning (0)        | No attempt to answer (0 points)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                          |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |
| B. Teacher's Remarks | Note observations on any of the following areas:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Effective Practices | Problems Encountered                                                     |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |
|                      | strategies explored                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                     |                                                                          |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |
|                      | materials used                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                     |                                                                          |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |
|                      | learner engagement/ interaction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                     |                                                                          |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |
|                      | others                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                                                                          |                |                                                                          |                  |                                                               |                |                                                                          |               |                                 |                                                                                                                                                                                                                                             |



|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>C. Teacher's Reflection</b> | <p><i>A reflection guide or prompt can be on:</i></p> <ul style="list-style-type: none"> <li>▪ <u>principles behind the teaching</u><br/> <i>What principles and beliefs informed my lesson?</i><br/> <i>Why did I teach the lesson the way I did?</i></li> <br/> <li>▪ <u>students</u><br/> <i>What roles did my students play in my lesson?</i><br/> <i>What did my students learn? How did they learn?</i></li> <br/> <li>▪ <u>ways forward</u><br/> <i>What could I have done differently?</i><br/> <i>What can I explore in the next lesson?</i></li> </ul> |  |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|