4

Science 4

Microlearning Module

QUARTER 3 – Module 4

Simple Graphs of Different Speed

Microlearning Module

REGION XII - DIVISION OF SULTAN KUDARAT

Science 4
Microlearning Module (MLM)
Quarter 3 – Module 4: Simple Graphs of Different Speed
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MICROLEARNING MODULE

Name: _____Grade & Sec: _____ Score: _____
Subject: Science 4 Quarter: 3 MLM No. 4
Teacher: _____
Learning Competency: **The learners construct and label simple graphs of different speeds including stationary and uniform speeds, both fast and slow.**

Simple Graphs of Different Speed

A. Look Back!

Activity A.1- Solve Me!

Directions: Solve for the speed of the following vehicles on a separate sheet of paper.

Motorcycle	Distance travelled	Time	Speed
A	60 km	3 hours	
B	40 km	5 hours	

B. What's New?

Photographs play an important role in everyone's life. They connect us to our past, they remind us of people, places, feelings, and stories.

Graphs and photographs are both visual representations of information. They serve as powerful tools for condensing complex data into easily understandable formats. Visual aids help individuals process and retain information more effectively, making it easier to comprehend and remember.

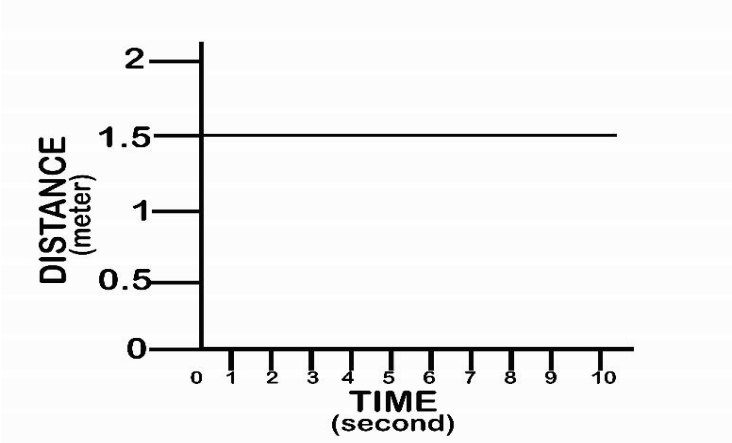
C. What Is It?

A distance-time graph visually displays how the distance traveled by an object changes over a set period. It illustrates the connection between distance and time, with distance shown on the vertical Y-axis and time on the horizontal X-axis.

The importance of distance-time graphs helps to study the motion of bodies. It shows how far someone or something has traveled and how long it took them/it to travel that distance. It is obtained when the data of distance and time obtained while studying the motion of a body is plotted on a rectangular graph.

The units of speed used for a distance-time graph can vary, but the most common are kilometers per hour (km/h), meters per second(m/s), and miles per hour (mph).

The graphs shown below are distance-time graphs for various types of body motion.



It shows a body that is steady or stationary (not moving at all). As time passes the distance does not change, its speed is zero and the direction is undefined. Think of a sporting example other than a racing car sitting on the start line.

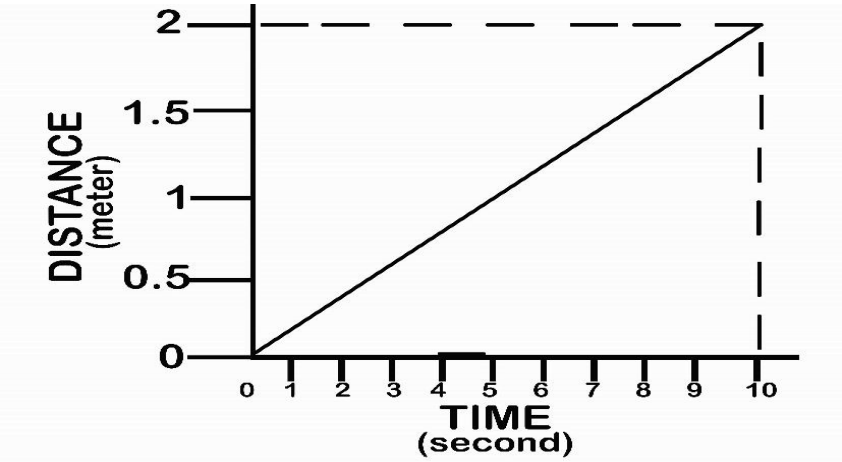


Figure B. Constant Speed

The graph shows a body moving at a constant or uniform speed. It relates to the movement of objects in a straight line. It refers to the fact that an object moves at the same rate, no matter how fast it is moving or where it is in space.

As time passes, the distance increased uniformly throughout the journey. In this example, speed=2m/10s= 0.2m/s. Think of an example in a sport other than the rising car cruising at a constant speed on the home straight having passed the checkered flag.

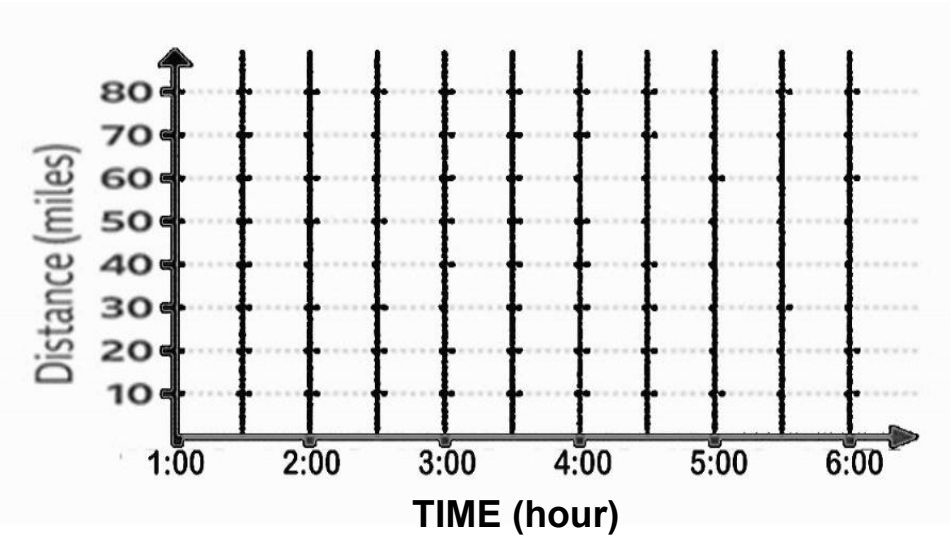
How to draw a distance-time graph

1. Draw a horizontal axis for the time and a vertical axis for the distance.
2. Use the information about the speed of the object to plot points on the graph.
3. Join the points with straight-line segments.

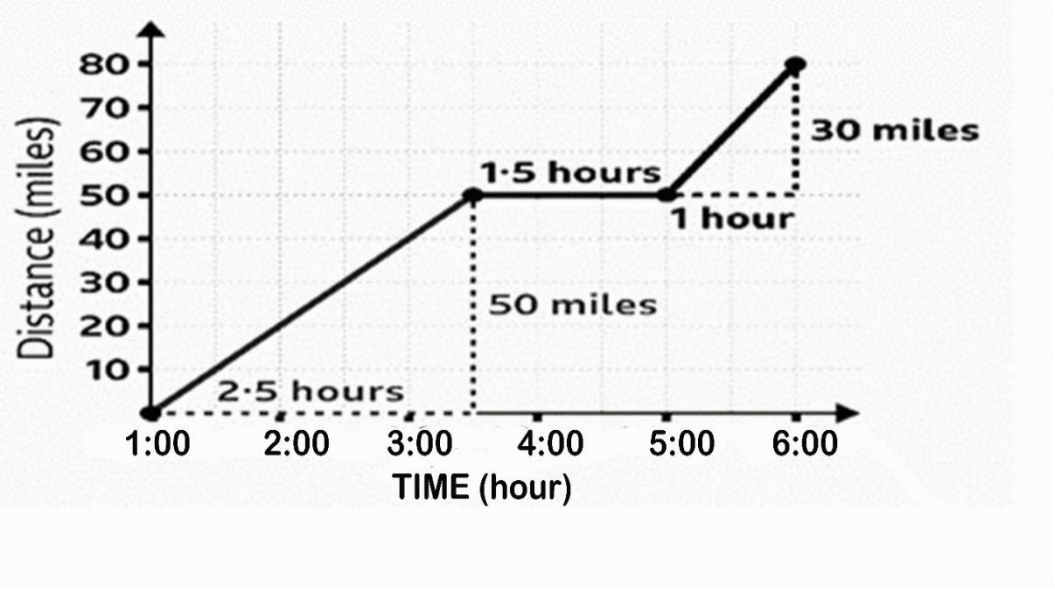
Example:

A vehicle starts its journey at 1:00 p.m. It travels at a speed of 20 mph for 2-5 hours. It stops for 1-5 hours before continuing its journey. It continuously travels 30 miles and arrives at its destination at 6:00 p.m.

First, you have to draw the X and Y axis.



Then, use the pieces of information above to label the graph.



D. Let's try!

Activity D.1: Construct Me!

Materials: graphing paper, ruler, pencil or ball pen

Procedure: Construct and label the distance-time graph on graphing paper.

A car leaves home at 8:00 am and sets off at a constant speed of 30 km/h. It arrives at the recreation center at 9:00 am.

Guide Questions:

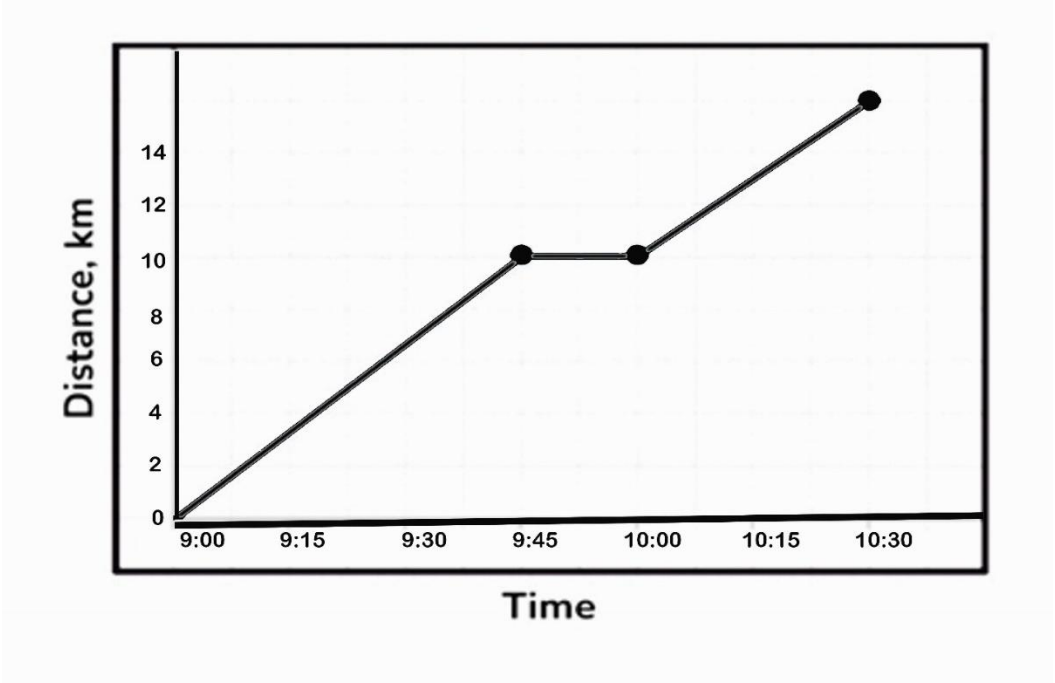
1. When does the car leave home?
2. When does it arrive at the recreation center?

Activity D.2: Interpret Me!

Materials: graphing paper, ruler, pencil or ball pen

Procedure: Construct and label the distance-time graph on graphing paper.

The distance-time graph shows part of a journey Nena took on a bike ride.



Guide Questions:

1. What did Nena do between 9:45 am to 10:00 am?
2. What was Nena's speed between 10:00 am and 10:30 am, in km/hr.

E. Let's Evaluate

Directions: Draw a distance-time graph based on the situations given below. Construct and label on the graphing paper.

1. Lily walks from home for 20 minutes to a distance of 2 kilometers.

2. Rene leaves home and travels at a constant speed. After 15 seconds, he has traveled 30 meters. He then takes a rest for 10 seconds. After the rest, he starts walking at a constant speed away from home. He walks for 5 seconds and travels 20 meters.

Rubrics for the activities in Distance-Time Graph

Indicators	**5 (Excellent)**	**4 (Adequate)**	**3 (Fair)**	**2 (Minimal)**	**1 (Poor)**
1. Graph is neat (Lines are straight) (Labels are legible)					
2. Graph is complete					
3. Horizontal Axis(Axis is labelled) Intervals are equal)					
4. Vertical Axis (Axis is labeled) (Intervals are equal)					
5. Graph is charted correctly (Lines or bars are constructed correctly)					

F. References

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ANSWER KEY

Grade 4 :Science: 4 Quarter : 3 LC No 4

A. Look Back

a. 20 km/h b. 8 km/h

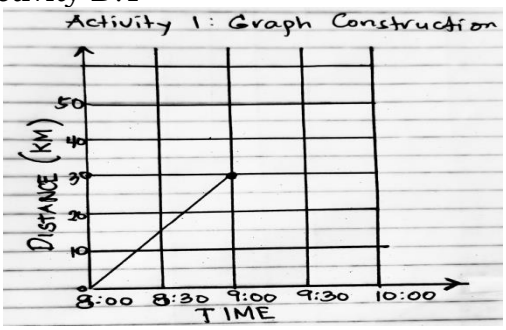
B. What's New

(Answers may vary.). Possible answers.

My idols are _____. I have some pictures of them because they are my inspiration.

D. Let's try

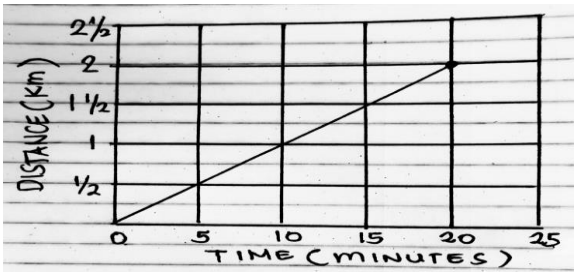
Activity D.1

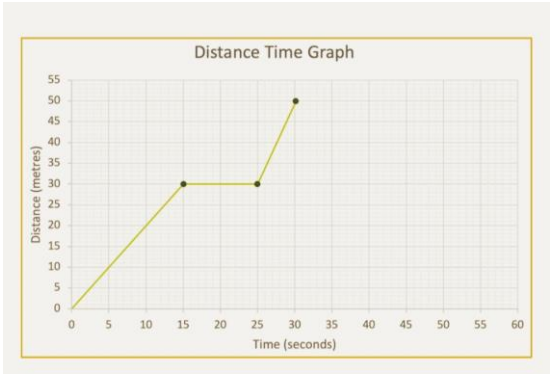


Activity D.2. Nena is at rest, so the distance remains the same.

1. 2. km/hr 2.1. 5 mph

E. Evaluation-(Note, you can use 0.5, 1, 1.5, 2, and 2.5 kilometer)

1. 

2. 

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