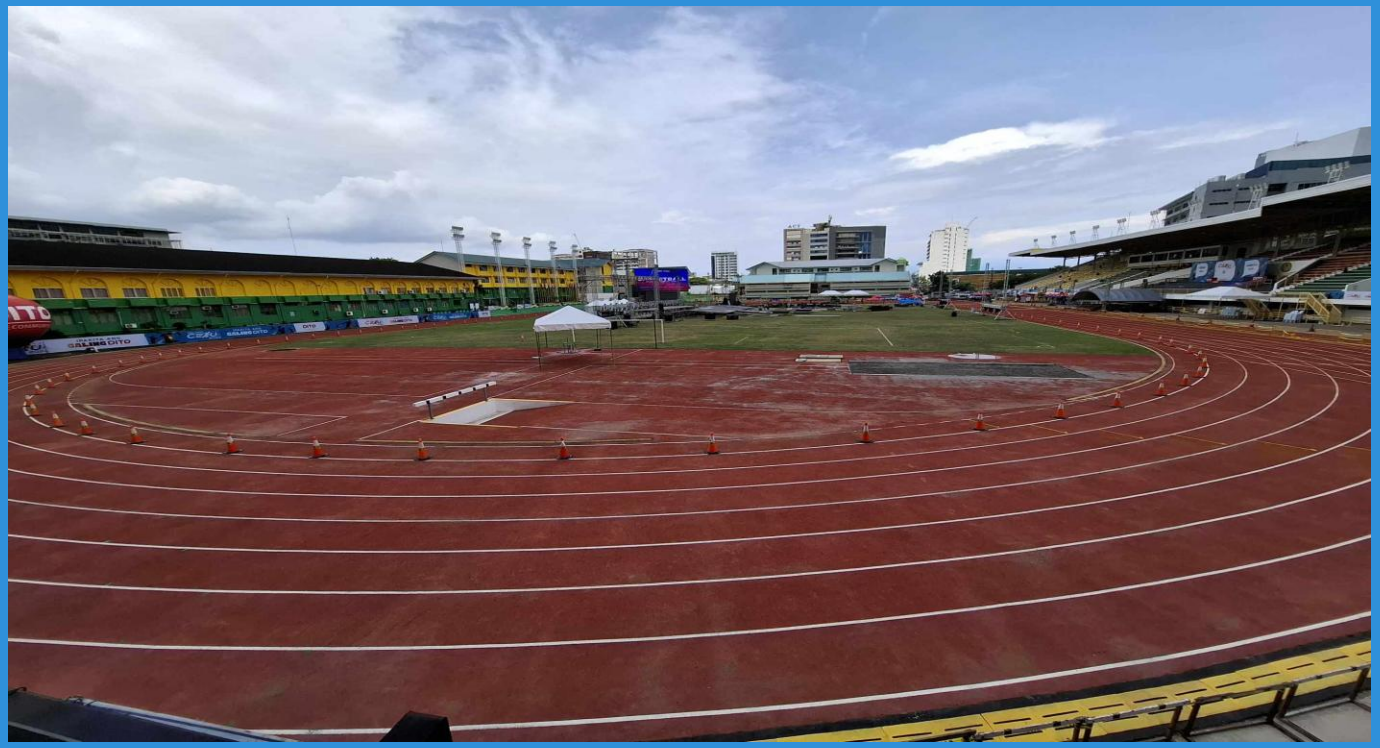
Lesson 23
Distance



A typical track and field oval is 400 meters. Suppose a runner trains for his upcoming marathon in this oval everyday. He usually runs around it five times. How far is he running everyday.

You learned in the previous lesson how to tell if an object is moving or not. In this lesson, you will learn how to measure how far have the object moved. Distance is an important factor in measuring motion. You can tell how fast or slow we are moving depending on the distance that you are taking. Going back to the example on the runner on a track field oval, it is important that he knows the distance that he is taking everyday to check his progress in his marathon training.

Distance is measure of how far or near two points are from one another. It can be measured using different ways such as time, landmark or body parts. But it is inaccurate because there are factors that may affect the movement between. For example, you cannot tell that the school is two kilometers away is nearer just because you spent less time in going there while you spend an hour and a half in going to church. Some factors like traffic or a winding road may affect the travel time, thus, making you think that the school is nearer than the church. There are appropriate tools and ways to measure distance so that you can tell whether an object is far or near.

Appropriate Tools for Measuring Distance

In Science, distance should always be exact, measured accurately, and based on a standard unit of measurement.

Scientifically, distance should be measured by using measuring tools such as the ruler, meters stick, tape measure, measuring wheel, and ultrasonic distance measurer.

The Metric System of Measurement

The metric system is the world standard measurement. It is used by scientists throughout the world. Having a standard unit of measure makes it easier for scientist and other people to understand each other's data. Using different unit of measurement may lead to misunderstanding and confusion among people.

In the metric system, the standard unit of measurement used for distance or length is meter. You just add the prefix kilo when you are referring to distance is quite far. Prefixes like deci, centi, and milli are used if the length is quite short.

Effect of Speed and Time and Distance

The distance is covered by moving object is affected by its speed, or the measure of how fast it moves. The faster it moves, the shorter time it takes for it to cover the same distance. Inversely , the slower moves, the longer it takes for it to cover the same distance . Thus in a given time, the faster an object moves, the greater the distance that it covers; and the slower it moves, the less the distance that it covers.

Speed can be calculated by dividing the distance covered by an object in motion by the time spent to cover the distance.

This can be expressed as:

speed = distance cover/time

Chapter 8

How do Light, Heat, and Sound affect our Daily Life?

The Appearance of a rainbow in the sky never ceases to amaze us. does the harmonious music that we hear from a musical instrument.

A rainbow appears in the sky as a result of the reflection and refraction of white light from the sun as it shines through the water droplets in the atmosphere. The water droplets act as a prism that reflects ,reflects ,and then splits the white light into an arc of visible colors. Meanwhile the sound produced from a stringed instrument, like a guitar depends on the tensions, length and thickness of the strings of the instrument.

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The picture above represent what you can learn in this chapter- how light can be blocked , absorbed or transmitted by certain materials ; how color affect the ability of the material to absorb heat; the properties of sound; and the effect of light, heat, and sound on people

THANK YOU