

Weather and Forecasting

Grade 4

Physical Science

Unit 1: Measuring and Comparing Louisiana Comprehensive Curriculum

Unit Description

In this unit, various investigations require accurate measurements using a variety of tools. Taking measurements and making comparisons are two skills that are developed throughout the science units and practiced across the curriculum.

Student Understanding

As students explore the properties of materials, they develop the skill in measuring and recording quantitative data. Graphing skills develop as students explore motion and analyze positional changes over time. Students develop an understanding of types of forces and the relation of force to motion. Students develop the ability to model or diagram the motion of particles in relation to temperature and changes in state.

Guiding Questions

1. Can students recognize the effect that temperature, density, and volume have on the functioning of a variety of materials?
2. Can students use a graph to illustrate the interrelationship of measurements such as time, speed, and temperature?

Physical Science	
24.	Illustrate how heating/cooling affects the motion of small particles in different phases of matter (PS-E-A4)
25.	Describe various methods to separate mixtures (e.g., evaporation, condensation, filtration, magnetism) (PS-E-A5)
26.	Measure, record, and graph changes in position over time (e.g., frontal movement) (PS-E-B3)

Unit 6: Planet Earth and Its Moon
Louisiana Comprehensive Curriculum

Unit Description

During this unit activities explore some of the processes and cycles experienced at Earth's surface. Investigations involve the study of weather and prediction.

Student Understandings

Students will be introduced to and use the basic weather prediction. Students will be able to explain the cause of weather patterns, different types of fronts and the relation between air masses and weather.

Guiding Questions

1. Can students use simple weather analysis tools to predict the weather?
2. Can students explain the density principle and apply it to weather forecasting.

Unit 6 Grade-Level Expectations (GLEs)

57.	Explain how unequal heating of Earth's land and water affects climate and weather by using a model (ESS-E-A2)
59.	Measure, chart, and predict the weather using various instruments (e.g., thermometer, barometer, anemometer) (ESS-E-A4)
60.	Identify various types of weather-related natural hazards and effects (e.g., lightning, storms) (ESS-E-A4)
61.	Identify safety measures applicable to natural hazards (ESS-E-A4)