Measuring Up®

Science

New!

Quick, yet comprehensive Next Generation Sunshine State Standards science coverage

Grades 5 and 8

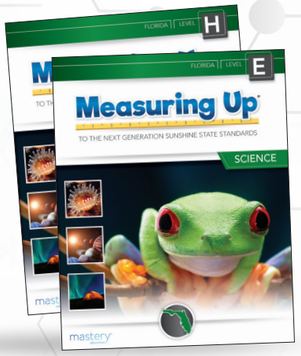
Measuring Up to the Next Generation Sunshine State Standards for science meets the needs of the FSA. The Instructional Worktexts promote the analysis and interpretation of data, critical thinking, problem solving, and connecting science curriculum to other subject areas.

Available for grades 5 and middle school grades 6–8

Lessons feature:

- Coverage of the most tested Next Generation Sunshine State Standards for science.
- Lesson goals that outline what students will learn, connecting prior knowledge to scientific concepts.
- Independent practice with items that meet the rigor of the FSA for science.
- Building Stamina unit tests that check for student understanding.
- Hands-on activities, experiments, and investigations.

Peoples Education Inc. DBA
mastery education



WHAT YOU'LL SEE IN EACH LESSON

THE BIG IDEA:
Lesson objectives set the stage for what students will learn.

WHAT I NEED TO KNOW:
Quickly highlights and reviews the lesson concept.

WORDS TO KNOW:
Vocabulary students will encounter is listed and defined in context.


UNIT 2

WORDS TO KNOW
nutrient
growth

Lesson 8
WHY DO LIVING THINGS NEED TO CONSUME FOOD?

THE BIG IDEA
- Animals eat food to get the energy they need to live and grow. This includes staying warm, moving, and repairing their bodies when they are hurt or sick.

TURN AND TALK
With a partner, talk about one of your favorite foods. What ingredients are in it? Where do these ingredients come from? Do they come from plants or animals?

WHAT I NEED TO KNOW
Everyone has some favorite foods. It is no surprise that we like food because our bodies need it to live and grow.

In fact, all plants and animals need food. Food contains nutrients, substances every living thing needs for energy. Living things use this energy for growth, the process by which plants and animals get bigger. Animals use nutrients to stay healthy and to repair their bodies after an injury or sickness. The body has to do work to stay alive! Animals use energy to do this work. They move around, run away, chase prey, and keep their bodies at the correct temperatures. You know it takes energy to jump, or read, or think, but did you know it takes energy when you shiver, or breathe, or sleep?

Plants make their own food using the energy in sunlight. Plants may also use some nutrients found in the soil. Animals do not make their own food, so they have to find food in order to stay alive and healthy. Many animals eat plants for energy, and some animals eat other animals. Can you think of examples of each of these kinds of animals? Other animals, such as pigs, bears, raccoons, rats, and even people eat foods that come from both plants and animals.

The energy in food comes from the energy stored in the plant or animal that was eaten. Where did that plant or animal get its energy?

THINK ABOUT IT
Think about what you ate for breakfast, or lunch. You ate it to give you energy. How did you use that energy? Can you trace the energy from your meal all the way back to the sun?

Copying is prohibited.

For example, imagine a person drinking milk. The energy in the milk came from the cow that made it. The energy the cow used came from the grass it ate. The energy in the grass came from the sun, which the grass used to grow tall and send up more shoots. We can trace the energy in all foods back to the sun!

WHAT I HAVE LEARNED

1. Which word correctly completes the statement?
The energy found in all food was once energy from the _____.
   - (A) Ground
   - (B) Ocean
   - (C) Air
   - (D) Sun

HINT, HINT
Think about how much cooler it is at night than during the day. Remember that heat and light are both forms of energy. Where does most of Earth's energy come from?

Copying is prohibited.

WHAT I HAVE LEARNED:
Offers independent practice with item types that meet the rigor of the PSSA exam.

CRITICAL-THINKING ITEMS:
Starred items indicate critical-thinking questions.

Grade 4 Sample Lesson

2. Imagine you found a small insect to keep in a cage. You are not sure what it is or what it eats, so you give it a variety of grass, leaves, and seeds from outside. If the insect gets bigger over the next week, what conclusion makes the most sense?
   - (A) The food did not have enough nutrients for growth.
   - (B) The food can be found in the insect's natural habitat.
   - (C) The food had enough nutrients for the insect to grow.
   - (D) The food was bad for the insect.

3. A polar bear needs to stay warm. A mouse needs to run from a cat. A starfish needs to regrow a leg that was injured. Where do these animals get the energy to meet these needs?
   - (A) Water
   - (B) Food
   - (C) Air
   - (D) Shelter

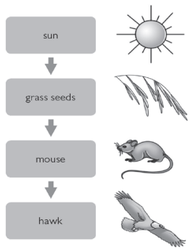
SKETCH IT
Try drawing a sketch of the strawberry sandwich problem. Draw all the places where the energy was stored before it landed in the student's stomach. Then, compare your sketch to the words in the model.

4. After lunch, a student made a model to show where the energy in her jam sandwich came from. Arrows show the flow of energy, where the energy came from, and where it went. Can you help complete the model?

_____ → strawberry plant → _____ → _____

   - (A) ground → strawberry plant → farmer → supermarket
   - (B) sun → strawberry plant → jam sandwich → farmer
   - (C) jam sandwich → strawberry plant → farmer → student
   - (D) sun → strawberry plant → jam sandwich → student

5. Here is a model of a food chain.



What is the best explanation of how energy moves through this model?

HINT, HINT
Photosynthesis is the process by which plants make their own food.

   - (A) Energy flows from the sun through plants and animals. Plants make food from sunlight. Animals eat plants or other animals and use their energy.
   - (B) All plants and animals make food from sunlight. Plants create energy from the sun, and animals create energy when they eat.
   - (C) Different plants and animals need different food, so each one has to make and use up its own energy.
   - (D) The same amount of energy from the sun eventually gets to the hawk.

LESSON PROMPTS:
Hints, Turn and Talk, Sketch It, and other prompts guide students throughout the lesson.

TEACHER EDITION

The **Teacher Edition** includes support for:

- performance expectations
- disciplinary core ideas
- cross cutting concepts
- prerequisite knowledge and standards
- misconceptions
- working with struggling, advanced, and English language learners

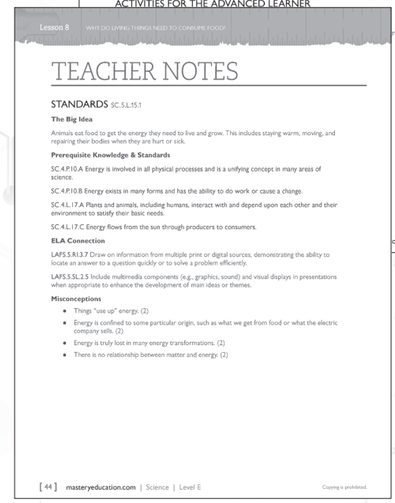
Full-length, grade-level practice tests built to the Next Generation Sunshine State Standards.

TEACHER NOTES

TIPS FOR THE STRUGGLING LEARNER
- Help students broaden their ideas of energy. Ask students what they think of when they hear the word energy. Many may think of electricity. Point out that electricity is just one form of energy (others include gravity, nuclear energy, and the chemical energy stored in food) and that food is the energy our bodies use to do everything a body does. Connect to the body's uses of food energy by having students get into groups to list as many things as they can do with their energy in- one minute. Then have them share with the whole group. Make sure it is clear that energy is required for all body functions, not just high-energy ones such as running.

TIPS FOR THE ENGLISH LANGUAGE LEARNER
- Support English language learners to understand the word nutrients. Draw on background knowledge of their own cultural or traditional foods. Have the students turn and talk with partners about different foods they eat and why people need to eat a variety of different foods. Encourage them so draw diagrams of energy flows for foods with which they are familiar.

ACTIVITIES FOR THE ADVANCED LEARNER



TEACHER NOTES

STANDARDS SC.5.L.15.1

The Big Idea

Animals eat food to get the energy they need to live and grow. This includes staying warm, moving, and repairing their bodies when they are hurt or sick.

Prerequisite Knowledge & Standards

SC.4.P.10.A Energy is involved in all physical processes and is a unifying concept in many areas of science.

SC.4.P.10.B Energy exists in many forms and has the ability to do work or cause a change.

SC.4.L.17.A Plants and animals, including humans, interact with and depend upon each other and their environment to satisfy their basic needs.

SC.4.L.17.C Energy flows from the sun through producers to consumers.

ELA Connection

LAFS.5.RI.3.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

LAFS.5.SL.2.5 Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

Misconceptions
- Things "use up" energy. (2)
- Energy is confined to some particular origin, such as what we get from food or what the electric company sells. (2)
- Energy is truly lost in many energy transformations. (2)
- There is no relationship between matter and energy. (2)

Copying is prohibited.

Measuring Up®
Science

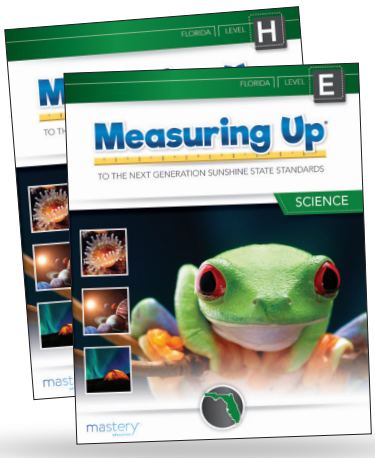
Measuring Up to the Next Generation Sunshine State Standards **worktext covers a wide variety of scientific concepts including life, earth, and physical science.**

Grade 5

- Physical and Chemical Changes
- Energy and Matter
- Earth's Systems
- Space Systems

Grades 6–8

- Human Body Systems
- Reproduction and Growth
- Energy Transfer and Weather
- Climates and Human Impacts
- Properties of Matter
- Dynamic Interactions within Ecosystems
- Geologic Changes in the Earth
- Forces and Energy
- Energy in Waves
- Mechanisms of Diversity
- Changing Earth



Learn More about ***Measuring Up to the Next Generation Sunshine State Standards*** and view lesson samples at MasteryEducation.com

ISBN	Level/Grade	Price
STUDENT EDITION		
978-1-64090-104-9	E/5	$12.95*
978-1-64090-105-6	H/8	$13.95*
ANNOTATED TEACHER EDITION		
978-1-64090-106-3	E/5	$32.95
978-1-64090-107-0	H/8	

20 minimum quantity purchase of Student Edition.
Free TE with purchase of 25 Student Editions.

Peoples Education Inc. DBA
mastery education