



Teacher's Guide

FOCUScurriculum

Curriculum materials for your content standards



Teacher's Guide

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At Last—
the BRAND NEW
Books You
Need to Meet
Pennsylvania's
Eligible Content . . .

At Three Different
Reading Levels!

Focus on Pennsylvania Standards provides you with a new, simplified, and effective choice for teaching science. Your students will no longer spend time deciphering text that has little, if any direct link to Pennsylvania's Assessment Anchors and Eligible Content. They will explore in depth, the concepts that are relevant and required of Pennsylvania learners at a pace and level that meets their individual needs.

Your Lesson Plans Will Match Pennsylvania's Eligible Content in Science

- Guessing and searching for relevant text, hoping that it covers a standard, is a time consuming process that can now be eliminated.
- Every title of *Focus on Pennsylvania Standards* is clearly linked to Pennsylvania's Eligible Content in Science.
- That means your lesson plans directly reflect the Eligible Content your students are required to learn.

Three Reading Levels for Each Title Provides Differentiated and Value-Added Instruction

- Many science texts are often difficult for students to read. Thus they retain very little because the text is above their reading level. In contrast, some learners are not challenged by the material and become disconnected from what they read. *Focus on Pennsylvania Standards* provides an opportunity for all levels of learners to be engaged in nonfiction text.

When Instruction Is Focused, Assessment Is Also Focused

- When you teach with *Focus on Pennsylvania Standards*, you will know exactly which Assessment Anchors and Eligible Content have been mastered and which need further instruction. Three forms of assessment are provided to assist you.
- **Check Understanding** assessments evaluate your students' comprehension of each *Focus on Pennsylvania Standards* book. You will find multiple choice and short-answer questions that assess literal and interpretive comprehension of each book's content. They are designed to be used after completing each book.
- **Extended Response** assessments evaluate your students' ability to synthesize and apply the content and concepts identified in the Pennsylvania Eligible Content. Extended Response assessments are designed to be used after a major unit of study, or as an end-of-year assessment.
- **A Half-length Practice Test** at each grade level, designed to mirror the Pennsylvania System of School Assessment, assesses key grade-level standards. This test can be used as a pre-test at the beginning of the year or as a post-test to evaluate mastery.

Covers Pennsylvania's Eligible Content in reading as Well

- *Focus on Pennsylvania Standards* covers important nonfiction reading skills and strategies required by Pennsylvania's Reading Assessment Anchors and Eligible Content.
- Each title includes four reproducible activities that introduce and reinforce nonfiction reading skills and strategies.

Nonfiction Text Features SCIENCE

Heads and subheads guide students in predicting and organizing the text.

Day and Night

The spinning of Earth around its axis is what causes day and night. As the spinning Earth turns us towards the sun, it becomes morning. At noon, we face the sun. It appears directly over our heads. When the spinning Earth turns us away from the sun, it becomes night.

Morning

Midday

Night

Students are encouraged to interpret graphic information to build critical thinking skills.

CHAPTER 1

Heat Versus Temperature

Heat and temperature are terms whose meaning people frequently confuse. Temperature measures the average amount of thermal energy and is measured using a thermometer. Think about ice, water, and steam as an example.

Ice, water, and steam are all made of the same thing—**H₂O molecules**. In ice, these molecules are arranged in a set pattern and move relatively slowly. This motion does not generate much heat, therefore, ice is extremely cold.

Water is a **liquid**. The molecules in water move around more. They move more quickly and generate more heat.

Steam is a **gas**, so the molecules in steam are very spread out. Thus, they move very rapidly and generate lots of heat.

molecule: the smallest unit of a substance that still has all the characteristics of that substance
liquid: a state in which matter flows freely when poured; liquids take the shape of whatever holds them
gas: matter that has no shape; gases spread out to fill the space around them; many cannot be seen

Ice

In ice, the molecules are arranged in a pattern in which they don't move much, so they don't generate much thermal energy.

Water

In water, molecules move a bit faster and generate a bit more thermal energy.

Steam

In steam, molecules are furthest apart, so they move most rapidly and generate the most thermal energy.

Key vocabulary is highlighted and defined on the page.

Nonfiction Text Features SCIENCE

CHAPTER 1

The Water Cycle

The water cycle has four parts, each of which is essential to life on Earth.

Evaporation—The sun warms water on the surface of the Earth. Gradually, the water changes to a gas and rises.

Condensation—When the warm gas rises and moves over land, the air cools and the gas begins to change back to a **liquid**. Tiny water droplets form clouds.

Precipitation—More and more water collects in the cloud. Eventually, when there is enough water, it falls back to Earth's surface.

Runoff and Absorption—The water that falls from the cloud collects on Earth in lakes, rivers, oceans, and some is absorbed into the ground.

Can you guess what happens next? Evaporation. The cycle repeats itself endlessly.

liquid: a state in which matter flows freely when poured; liquids take the shape of whatever holds them

Describe how water exists in the air in different forms.

Active reading prompts reinforce key concepts from Pennsylvania's Eligible Content.

Weather Maps

Scientists need to show other people about what they have learned. Sometimes they do this by using graphs and tables. They also use weather maps.

Weather maps show a place such as a state within the United States. Then, scientists use symbols to represent weather conditions. For example, a symbol of the sun means it is currently sunny or it is **forecasted** to be sunny in the future.

A cloud symbol means cloudy weather in the area. A cloud symbol with a raindrop means it is raining or likely to rain soon. A symbol of a snowflake means snow. A lightning bolt means a thunderstorm.

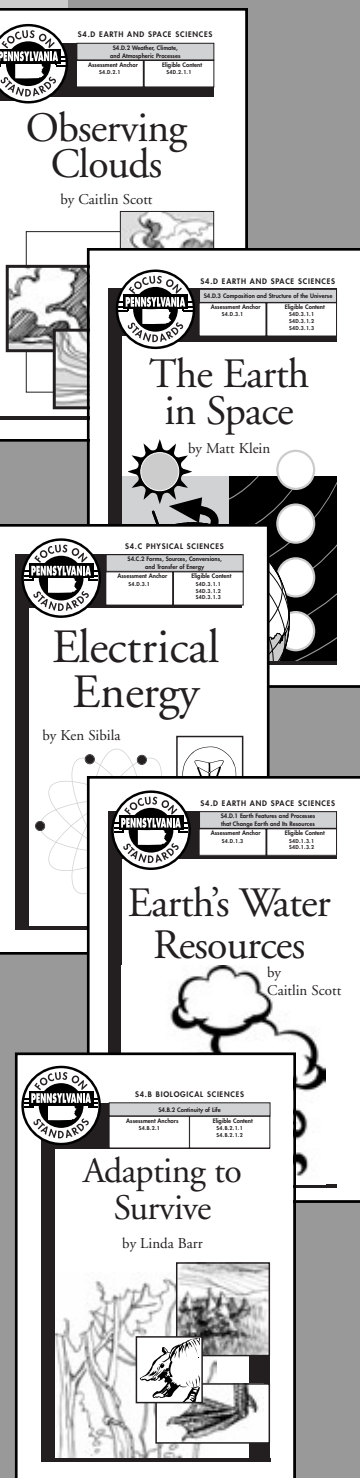
Scientists also show temperatures on weather maps. Again, they may be the current temperature or a forecast for the high and low temperatures for the day.

forecast: to try to tell how something will turn out; to predict

Describe the weather in Pennsylvania based on this map.

Weather Map of Pennsylvania

Illustrations, diagrams, and maps aid students' comprehension and build visual literacy skills.



Shown here are just a few of the 19 science titles. Go to www.focuscurriculum.com to see all the titles.

SCIENCE ELIGIBLE CONTENT

Grade 4 The Nature of Science		
Title	Assessment Anchors	Eligible Content
Searching for Solutions and Studying Change	<p>S4.A.1.1 Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems.</p> <p>S4.A.1.3 Recognize and describe change in natural or human-made systems and the possible effects of those changes.</p>	<p>S4.A.1.1.1 Distinguish between a scientific fact and an opinion, providing clear explanations that connect observations and results (e.g., a scientific fact can be supported by making observations).</p> <p>S4.A.1.1.2 Identify and describe examples of common technological changes past to present in the community (e.g., energy production, transportation, communications, agriculture, packaging materials) that have either positive or negative impacts on society or the environment.</p> <p>S4.A.1.3.1 Observe and record change by using time and measurement.</p> <p>S4.A.1.3.2 Describe relative size, distance, or motion.</p> <p>S4.A.1.3.3 Observe and describe the change to objects caused by temperature change or light.</p> <p>S4.A.1.3.4 Explain what happens to a living organism when its food supply, access to water, shelter, or space is changed (e.g., it might die, migrate, change behavior, eat something else).</p> <p>S4.A.1.3.5 Provide examples, predict, or describe how everyday human activities (e.g., solid waste production, food production and consumption, transportation, water consumption, energy production and use) may change the environment.</p>
Conducting Experiments and Using Tools	<p>S4.A.2.1 Apply skills necessary to conduct an experiment or design a solution to solve a problem.</p> <p>S4.A.2.2 Identify appropriate instruments for a specific task and describe the information the instrument can provide</p>	<p>S4.A.2.1.1 Generate questions about objects, organisms, or events that can be answered through scientific investigations.</p> <p>S4.A.2.1.2 Design and describe an investigation (a fair test) to test one variable.</p> <p>S4.A.2.1.3 Observe a natural phenomenon (e.g., weather changes, length of daylight/night, movement of shadows, animal migrations, growth of plants), record observations, and then make a prediction based on those observations.</p> <p>S4.A.2.1.4 State a conclusion that is consistent with the information/data.</p> <p>S4.A.2.2.1 Identify appropriate tools or instruments for specific tasks and describe the information they can provide (e.g., measuring: length - ruler, mass - balance scale, volume - beaker, temperature - thermometer; making observations: hand lens, binoculars, telescope).</p>
Studying Systems and Observing Patterns	<p>S4.A.3.1 Identify systems and describe relationships among parts of a familiar system (e.g., digestive system, simple machines, water cycle).</p> <p>S4.A.3.2 Use models to illustrate simple concepts and compare the models to what they represent.</p> <p>S4.A.3.3 Identify and make observations about patterns that regularly occur and reoccur in nature.</p>	<p>S4.A.3.1.1 Categorize systems as either natural or human-made (e.g., ballpoint pens, simple electrical circuits, plant anatomy, water cycle).</p> <p>S4.A.3.1.2 Explain a relationship between the living and nonliving components in a system (e.g., food web, terrarium).</p> <p>S4.A.3.1.3 Categorize the parts of an ecosystem as either living or nonliving and describe their roles in the system.</p> <p>S4.A.3.1.4 Identify the parts of the food and fiber systems as they relate to agricultural products from the source to the consumer.</p> <p>S4.A.3.2.1 Identify what different models represent (e.g., maps show physical features, directions, distances; globes represent Earth; drawings of watersheds depict terrain; dioramas show ecosystems; concept maps show relationships of ideas).</p> <p>S4.A.3.2.2 Use models to make observations to explain how systems work (e.g., water cycle, Sun-Earth-Moon system).</p> <p>S4.A.3.2.3 Use appropriate, simple modeling tools and techniques to describe or illustrate a system (e.g., two cans and string to model a communications system, terrarium to model an ecosystem).</p> <p>S4.A.3.3.1 Identify and describe observable patterns (e.g., growth patterns in plants, weather, water cycle).</p> <p>S4.A.3.3.2 Predict future conditions/events based on observable patterns (e.g., day/night, seasons, sunrise/sunset, lunar phases).</p>

SCIENCE ELIGIBLE CONTENT

Grade 4 Biological Sciences		
Title	Assessment Anchors	Eligible Content
Looking at Living Things	<p>S4.B.1.1 Identify and describe similarities and differences between living things and their life processes.</p> <p>S4.B.2.2 Identify that characteristics are inherited and, thus, offspring closely resemble their parents.</p>	<p>S4.B.1.1.2 Compare similar functions of external characteristics of organisms (e.g., anatomical characteristics: appendages, type of covering, body segments).</p> <p>S4.B.1.1.4 Describe how different parts of a living thing work together to provide what the organism needs (e.g., parts of plants: roots, stems, leaves).</p> <p>S4.B.2.2.1 Identify physical characteristics (e.g. height, hair color, eye color, attached earlobes, ability to roll tongue) that appear in both parents and could be passed on to offspring.</p>
Comparing Life Cycles of Animals	<p>S4.B.1.1 Identify and describe similarities and differences between living things and their life processes.</p>	<p>S4.B.1.1.1 Identify life processes of living things (e.g., growth, digestion, respiration).</p> <p>S4.B.1.1.3 Describe basic needs of plants and animals (e.g., air, water, food).</p> <p>S4.B.1.1.5 Describe the life cycles of different organisms (e.g., moth, grasshopper, frog, seed-producing plant).</p>
Comparing Life Cycles of Plants	<p>S4.B.1.1 Identify and describe similarities and differences between living things and their life processes.</p>	<p>S4.B.1.1.1 Identify life processes of living things (e.g., growth, digestion, respiration).</p> <p>S4.B.1.1.3 Describe basic needs of plants and animals (e.g., air, water, food).</p> <p>S4.B.1.1.5 Describe the life cycles of different organisms (e.g., moth, grasshopper, frog, seed-producing plant).</p>
Adapting to Survive	<p>S4.B.2.1 Identify and explain how adaptations help organisms to survive.</p>	<p>S4.B.2.1.1 Identify characteristics for plant and animal survival in different environments (e.g., wetland, tundra, desert, prairie, deep ocean, forest).</p> <p>S4.B.2.1.2 Explain how specific adaptations can help a living organism survive (e.g., protective coloration, mimicry, leaf sizes and shapes, ability to catch or retain water).</p>
Looking at Ecosystems	<p>S4.B.3.1 Identify and describe living and nonliving things in the environment and their interaction.</p>	<p>S4.B.3.1.1 Describe the living and nonliving components of a local ecosystem (e.g., lentic and lotic systems, forest, cornfield, grasslands, city park, playground).</p> <p>S4.B.3.1.2 Describe interactions between living and nonliving components (e.g. plants – water, soil, sunlight, carbon dioxide, temperature; animals – food, water, shelter, oxygen, temperature) of a local ecosystem.</p>
What Happens When Ecosystems Change?	<p>S4.B.3.2 Describe, explain, and predict change in natural or human-made systems and the possible effects of those changes on the environment.</p>	<p>S4.B.3.2.1 Describe what happens to a living thing when its habitat is changed.</p> <p>S4.B.3.2.2 Describe and predict how changes in the environment (e.g., fire, pollution, flood, building dams) can affect systems.</p> <p>S4.B.3.2.3 Explain and predict how changes in seasons affect plants, animals, or daily human life (e.g. food availability, shelter, mobility).</p>

SCIENCE ELIGIBLE CONTENT

Title	Assessment Anchors	Eligible Content
Humans and the Environment	S4.B.3.3 Identify and describe human reliance on the environment at the individual or the community level.	S4.B.3.3.1 Identify everyday human activities (e.g., driving, washing, eating, manufacturing, farming) within a community that depend on the natural environment. S4.B.3.3.2 Describe the human dependence on the food and fiber systems from production to consumption (e.g., food, clothing, shelter, products). S4.B.3.3.3 Identify biological pests (e.g., fungi – molds, plants – foxtail, purple loosestrife, Eurasian water milfoil; animals – aphides, ticks, zebra mussels, starlings, mice) that compete with humans for resources. S4.B.3.3.4 Identify major land uses in the urban, suburban and rural communities (e.g., housing, commercial, recreation). S4.B.3.3.5 Describe the effects of pollution (e.g., litter) in the community.

Grade 4 Physical Sciences

Title	Assessment Anchors	Eligible Content
What Is Matter?	S4.C.1.1 Describe observable physical properties of matter.	S4.C.1.1.1 Use physical properties [e.g., mass, shape, size, volume, color, texture, magnetism, state (i.e., solid, liquid, and gas), conductivity (i.e., electrical and heat)] to describe matter. S4.C.1.1.2 Categorize/group objects using physical characteristics.
What Is Energy?	S4.C.2.1 Recognize basic energy types and sources, or describe how energy can be changed from one form to another.	S4.C.2.1.1 Identify energy forms, energy transfer, and energy examples (e.g., light, heat, electrical). S4.C.2.1.2 Describe the flow of energy through an object or system (e.g., feeling radiant heat from a light bulb, eating food to get energy, using a battery to light a bulb or run a fan).
Sound Is Energy	S4.C.2.1 Recognize basic energy types and sources, or describe how energy can be changed from one form to another.	S4.C.2.1.4 Identify characteristics of sound (e.g., pitch, loudness, reflection).
Electrical Energy	S4.C.2.1 Recognize basic energy types and sources, or describe how energy can be changed from one form to another.	S4.C.2.1.1 Identify energy forms, energy transfer, and energy examples (e.g., light, heat, electrical). S4.C.2.1.2 Describe the flow of energy through an object or system (e.g., feeling radiant heat from a light bulb, eating food to get energy, using a battery to light a bulb or run a fan). S4.C.2.1.3 Recognize or illustrate simple direct current series and parallel circuits composed of batteries, light bulbs (or other common loads), wire, and on/off switches.
How Things Move	S4.C.3.1 Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion.	S4.C.3.1.1 Describe changes in motion caused by forces (e.g., magnetic, pushes or pulls, gravity, friction). S4.C.3.1.2 Compare the relative movement of objects or describe types of motion that are evident (e.g., bouncing ball, moving in a straight line, back and forth, merry-go-round). S4.C.3.1.3 Describe the position of an object by locating it relative to another object or a stationary background (e.g., geographic direction, left, up).

SCIENCE ELIGIBLE CONTENT

Grade 4 Earth and Space Sciences

Title	Assessment Anchors	Eligible Content
Pennsylvania Landforms	S4.D.1.1 Describe basic landforms in Pennsylvania.	S4.D.1.1.1 Describe how prominent Earth features in Pennsylvania (e.g., mountains, valleys, caves, sinkholes, lakes, rivers) were formed. S4.D.1.1.2 Identify various Earth structures (e.g., mountains, watersheds, peninsulas, lakes, rivers, valleys) through the use of models.
What Is Soil?	S4.D.1.1 Describe basic landforms in Pennsylvania. (also S4.A.2.1)	S4.D.1.1.3 Describe the composition of soil as weathered rock and decomposed organic remains. (also S4.A.2.1.1)
Renewable and Non-Renewable Resources	S4.D.1.2 Identify the types and uses of Earth's resources.	S4.D.1.2.2 Identify the types and uses of Earth materials for renewable, nonrenewable, and reusable products (e.g., human-made products: concrete, paper, plastics, fabrics).
Water We Use	S4.D.1.2 Identify the types and uses of Earth's resources S4.D.1.3 Describe Earth's different sources of water or describe changes in the form of water.	S4.D.1.2.3 Recognize ways that humans benefit from the use of water resources (e.g., agriculture, energy, recreation). S4.D.1.3.1 Describe types of freshwater and saltwater bodies (e.g., lakes, rivers, wetlands, oceans). S4.D.1.3.3 Describe or compare lentic systems (i.e., ponds, lakes, and bays) and lotic systems (i.e., streams, creeks, and rivers). S4.D.1.3.4 Explain the role and relationship of a watershed or a wetland on water sources (e.g., water storage, groundwater recharge, water filtration, water source, water cycle).
The Water Cycle	S4.D.1.3 Describe Earth's different sources of water or describe changes in the form of water.	S4.D.1.3.2 Explain how water goes through phase changes (i.e., evaporation, condensation, freezing, and melting).
Observing Clouds	S4.D.2.1 Identify basic weather conditions and how they are measured.	S4.D.2.1.1 Identify basic cloud types (i.e., cirrus, cumulus, stratus, and cumulonimbus) and make connections to basic elements of weather (e.g., changes in temperature, precipitation). S4.D.2.1.2 Identify weather patterns from data charts or graphs of the data (e.g., temperature, wind direction, wind speed, cloud types, precipitation).
Tracking Weather Patterns	S4.D.2.1 Identify basic weather conditions and how they are measured. (also S4.A.1.3)	S4.D.2.1.2 Identify weather patterns from data charts or graphs of the data (e.g., temperature, wind direction, wind speed, cloud types, precipitation). S4.D.2.1.3 Identify appropriate instruments (i.e., thermometer, rain gauge, weather vane, anemometer, and barometer) to study weather and what they measure. (also S4.A.1.3.1)
The Earth In Space	S4.D.3.1 Describe Earth's relationship to the Sun and the Moon.	S4.D.3.1.1 Describe motions of the Sun - Earth - Moon system. S4.D.3.1.2 Explain how the motion of the Sun - Earth - Moon system relates to time (e.g., days, months, years). S4.D.3.1.3 Describe the causes of seasonal change as they relate to the revolution of Earth and the tilt of Earth's axis.

NONFICTION READING ACTIVITIES

Focus on Pennsylvania Standards Also Integrates Pennsylvania's Eligible Content in Reading

Focus on Pennsylvania Standards provides practice in important nonfiction reading skills and strategies required by Pennsylvania's Reading Assessment Anchors and Eligible Content. Each title is accompanied by four reproducible activities that teach and apply comprehension and vocabulary skills and strategies. You will cover science content AND teach nonfiction reading skills at the same time. Here are just some of the skill activities you'll find:

- Identify Main Ideas and Supporting Details
- Identify Cause and Effect
- Make Inferences from Relevant Information
- Draw Conclusions
- Compare and Contrast
- Classify and Categorize
- Summarize
- Distinguish Fact from Opinion
- Use Context Clues
- Prefixes, Suffixes, and Roots
- Synonyms and Antonyms
- Interpret Graphic Information
- Locate Information Using Table of Contents, Index, and Glossary

Prefixes

TRY THE SKILL

Prefixes are groups of letters that are added to the beginning of a base word. They change the meaning of the word. Here are three common prefixes that you must know.

un- meaning "not": unsure, unhappy, uncover
re- meaning "again": replace, reproduce, return
pre- meaning "before": prefix, prepare, prevent

Understanding these prefixes can help you figure out the meanings of new words. To practice, read each definition. Then shade the circle next to the word that matches it. Pay attention to the prefixes.

- To make up your mind before you have all the information you need
 - prejudice
 - retrieve
 - unnecessary
 - regret
- Remembering something that happened in the past and feeling sad about it
 - retrieve
 - prejudice
 - undecided
 - regret
- Something that is extra and not required
 - regret
 - undecided
 - unnecessary
 - retrieve

Think of more words that use the prefixes *un-*, *re-*, and *pre-*. Write them on the lines. Use a dictionary for help.

Vocabulary and Concept Development, 1.8

Four different reading activities accompany each book.

NONFICTION READING ACTIVITIES

Skills and strategies are explained and modeled for students.

Then students apply the skills and strategies using information from the book.

Interpret Graphic Information

TRY THE SKILL

Graphic information can help you understand a process. The following illustration shows the water cycle. The steps in the process are numbered.

Look at the diagram and write about how hail forms.

The picture can remind you of the steps in the water cycle. For example, you might look at this diagram and then write the following:

Water evaporates and rises into the air. Next, it condenses. Then, water falls as precipitation. Water is collected in lakes, rivers, oceans, or underground. Finally, the water cycle repeats itself.

Cause and Effect

TRY THE SKILL

To find out an effect, you ask, "What happened?" To find out a cause, you ask, "Why did that happen?" Read this passage from the book.

The spinning of Earth around its axis is what causes day and night. As the spinning Earth turns us towards the sun, it becomes morning. At noon, we face the sun. It appears directly over our heads. When the spinning Earth turns us away from the sun, it becomes night.

This graphic explains one cause-and-effect relationship in this passage.

CAUSE	EFFECT
Spinning of Earth around its axis	It becomes morning.

1. Why is it morning?

CAUSE	EFFECT

2. Why is it night?

CAUSE	EFFECT

Comprehension and Analysis of Grade-Level-Appropriate Text, 2.6

Graphic organizers are used to help students organize and synthesize information.

Compare and Contrast

Comparing and contrasting can help you understand what you read.

- Comparing tells how things are alike.
- Contrasting tells how things are different.

Read these paragraphs from *Water Is in the Air*. Then, read the Venn diagram that compares and contrasts.

Snow is water that freezes in a cloud. As it falls to the ground, it stays frozen. Because snow freezes in a cloud and stays frozen, each flake has beautiful patterns.

Sleet is also water that freezes in a cloud. But, sleet doesn't stay frozen. It passes through warmer air and melts. Then, it goes through colder air again. It refreezes just before it hits the ground.

A gas is a state of matter. Most gases have no shape. They spread out to fill the space around them. Most cannot be seen.

Liquids are also a state of matter. Liquids flow freely when you pour them. They take the space of whatever holds them.

Reading Process, Comprehension Strategies, 3

Students are provided many opportunities to reread the text for a variety of purposes.

ACCOMMODATING STUDENTS' NEEDS

Differentiated and Value-Added Instruction

The aim of differentiated and value-added instruction is to maximize each student's growth by meeting each student where he or she is and helping the student to progress. In practice, differentiation involves offering several different learning experiences in response to each student's varied needs. Using *Focus on Pennsylvania Standards*, classroom teachers are able to differentiate with leveled text experiences. The text is differentiated by reading ability; therefore, students are engaged with text at their individual reading level. By offering three levels of text for every title, *Focus on Pennsylvania Standards* provides students with the ability to easily move up or down a level based on current mastery.

Below Level

Below level titles are written approximately one reading level below the intended grade level. The books cover the main ideas and important details suggested by Pennsylvania's Eligible Content. Sentences are shorter and easier to read. The concept load is lighter, yet important content vocabulary is taught. A great start for struggling readers as well as ESL and special needs students.

On Level

These versions are written at grade level. The books cover the important content standards and provide more details and information related to the main ideas. Sentences are more complex and vocabulary is appropriate to the grade level.

Above Level

Above level books are written approximately one reading level above the intended grade level. The books delve deeper into the content expanding on the main ideas and supporting details. There is more text on each page with richer vocabulary for value-added instruction to help your highest achievers show growth.

ACCOMMODATING STUDENTS' NEEDS

Response to Intervention (RTI)

Response to Intervention aims to prevent unnecessary assignment to special education. With RTI, low-performing children are offered individualized academic intervention. The classroom teacher must provide tier one interventions that are integrally connected to the core programs of the regular classroom.

Focus on Pennsylvania Standards provide core content material that can be used as part of the Response to Intervention Model. The Assessment Anchors and Eligible Content are isolated and clearly labeled for each title. When students need more than the traditional text, *Focus on Pennsylvania Standards* books serve as a means of intervention by providing direct reinforcement of specific Pennsylvania standards.

ELL Instruction

The *Focus on Pennsylvania Standards* books address the needs of English language learners by providing differentiated reading levels. In addition, students are able to write translations and additional definitions in their personal text. When the research-based strategies are used, language learning is strengthened as they gain background knowledge in science and social studies. The content embedded instruction provides opportunities for students to negotiate meaning, use gestures, read facial expressions, hear changes in intonation, and make references to the text while working with classmates.

Home Connection

Focus on Pennsylvania Standards provides an invaluable library for classrooms—and also for homes. A *Focus on Pennsylvania Standards* home library is an inexpensive way to involve parents with the content required of Pennsylvania students. It is easy to partner with parents to help their children increase their content area knowledge.

Each title of *Focus on Pennsylvania Standards* also includes a list of Web sites correlated to the content. These Web sites are great for student stations or independent work in the classroom. They are also a beneficial way to provide a link between school and home. By sending home the list of sites to explore, families can discover and learn together.

TIPS FOR BUILDING YOUR NONFICTION LIBRARY

Consider the Following Suggestions Prior to Making the Books

While it does take some time to create the library, it is well worth the effort. Your instruction will be focused on Pennsylvania's Assessment Anchors and Eligible Content—and you will save a considerable amount of money. Even with the cost of paper, ink, and aide time to compile, the books are less expensive than any other available option.

- Prepare in advance for the process of assembling the books.
- Decide how many books of each title will be needed.
- Decide how many of each level will be needed.
- Determine if the titles will be stored in a central library in the school, or if each teacher will want her or his own classroom set.
- Determine if each student will keep each book to create a home library.
- Decide if you want to create the library at one time, or over the course of the year.
- If you wish to create the books at one time:
 - * teams of teachers can be assigned titles so that they can mass produce books to share with colleagues.
 - * parents or aides can be easily trained on the assembly process and can make the books for the classrooms.
 - * utilize high school honor students needing community project hours to create the books.
- Before printing, be sure your printer functions are set correctly including printing in landscape (horizontal) format.
- An extended length stapler is required to bind the books together.
- To make the cover more durable and color coded, by subject or grade level, you may want to use heavier paper. (Do not color code by reading level. It is beneficial to have all levels the same color to protect the self-esteem and comfort of all students.)

HOW TO MAKE A STUDENT'S BOOK

- To make one student book, or a two-sided master copy that can be photocopied, you will print on both sides of seven sheets of 8.5"x 11" paper.
- Do a test printout of one book first to familiarize yourself with the procedure.
- Follow these instructions carefully.

First Since you will be printing on both sides of the sheets of paper, select a good quality white paper. We recommend using at least a 22lb sheet.

Second Be sure you have the correct page setup settings for your computer and printer. You will print these pages in landscape format.

Third Open the PDF of the book you want to print. Select print from your file menu. In your printer's dialogue box enter pages 5–18 to print. Then select EVEN pages only. It is important to print only the EVEN pages first. Click "Print" to print the even pages. (**Important note:** The first page that prints will be blank. DO NOT discard this page. It will be needed to print the cover in the next step.)

Forth When the even pages have printed, flip the stack of pages over to print the odd pages. Place the stack back in your printer. Select print from the file menu again. In your printer's dialogue box, select pages 5–18 to print. Then select ODD pages. Click "Print" to print the odd the pages.

Fifth You now have a complete book. Check to be sure the pages are in the correct order with the book's cover as the top page. Then fold the stack of paper in half.

Sixth Use an extended-length stapler to staple the pages together. Place the cover facing up and staple two staples in the spine of the book.

Please note that printers vary in how they output pages. Do a test printing with one book and adjust the procedure as necessary.

If you want to make a one-sided master copy, print ALL pages 5–18 at once. Then select "one-sided to two-sided" on the copy machine.

NONFICTION READING STRATEGIES

Use These Research-Based Strategies to Ensure Success

Whole Group Instruction

Distribute the books according to your students' reading abilities. If you are not sure of the reading level, it is best to start with the lower level book. Children do not need to know who has Below Level, On Level, or Above Level books. Note that there is a small circle on the back cover with a BL, OL, or AL to indicate reading level.

For large group instruction the text in each book will not be read aloud unless the students are paired with a partner reading the same text. Allow for independent silent reading opportunities. Sharing is encouraged following the assigned section or chapter. The major content will be the same in each book, regardless of the level of the book.

Small Group Instruction

Focus on Pennsylvania Standards makes small group instruction practical and uncomplicated. The leveled text is very helpful. Content teachers can pull small groups of learners together to reinforce content standards. Language arts teachers can use *Focus on Pennsylvania Standards* to teach Pennsylvania's Eligible Content in Reading with text that is relevant to the content standards.

Some struggling readers may still experience difficulty with the Below Level texts, especially because important content vocabulary has not been omitted. Do not be discouraged. Even with initial struggles, at-risk readers benefit from *Focus on Pennsylvania Standards*. The books are designed to be visually simple and appealing and are not filled with unnecessary text. By using the vocabulary and nonfiction reading strategies that follow in this Teachers Guide, all readers can successfully comprehend the content.

NONFICTION READING STRATEGIES

Build a Knowledge Base

The information and instruction given to students before they read is known as *front loading*. What you do before and during reading can matter more than what you do after reading.

Focus on Pennsylvania Standards provides you with many key vocabulary terms students will encounter. Print the words on index cards prior to the reading assignment to "front load" the vocabulary. Use the words in real-world sentences and questions. Then have students explain what the words mean.

Next, look at the table of contents, headings, and subheadings and discuss what might occur in the text students are about to read. Use graphic organizers such as KWL charts to tap prior knowledge. Talk about what they know, what they want to know, and then follow up with what they have learned.

Knee-to-Knee Sharing

Knee-to-Knee Sharing is an effective strategy to implement with large groups or small groups. Children retain content when they are given the opportunity to talk about what they have read. By practicing communicating with a partner while facing each other sitting knee-to-knee, the sharing is brief but powerful.

Take a minute from reading to break and share what has been learned. Ask pairs of students to take turns for a 30 second sharing of one of the following:

- Share one fact that they learned.
- Share one interesting word.
- Share a vocabulary word.
- Summarize the page, or short chapter.

Model the appropriate way to share, with proper eye contact and the knee-to-knee position. Remind students that their sharing must be original. They cannot share the same fact. If their partner used the fact or word that they were planning to share, allow them to look back at text to find an original piece of information to share. Have students take turns sharing first. Use a clock and insist that the sharing remain brief. Some students like to have a sticky-note, a sheet of paper, slate board, or dry-erase board to make notes as they read to help with this activity.

NONFICTION READING STRATEGIES

Reciprocal Teaching

Reciprocal teaching refers to an instructional activity that takes place as dialogue between teachers and students regarding segments of text. The dialogue is structured by the use of four strategies: predicting, summarizing, questioning, and clarifying. The teacher and students take turns assuming the role of teacher in leading this dialogue. The *Focus on Pennsylvania Standards* books are a perfect length to use with reciprocal strategies. All four comprehension strategies should be modeled and used with the *Focus on Pennsylvania Standards* books at each reading.

Predicting

- Prior to reading the text, encourage students to skim through the books looking at graphics, headings, and boldfaced vocabulary in order to discuss what the text is likely to be about. Guide incorrect predictions back to the graphics, headings, or vocabulary words. It is essential to get a knowledge base correlated to upcoming content.

Summarizing

- Summarizing text helps students learn to pull the main ideas from the paragraphs or chapters. Sometimes more than one page must be covered in the Below Level books to form a complete idea. Strategies such as “Key Words,” “Significant Point,” and “Hide and Speak” (explained in the next few pages) all help to practice summarizing.

Questioning

- After reading a book, students practice generating questions. Questions can be based on personal inquiry, something they are curious about, or based on general knowledge recall. The activity Quiz Maker, is an easy activity that promotes questioning. Students who can construct questions are able to deconstruct questions on standardized tests. It is important for you to model questioning by thinking aloud. Instruct children to use sticky-notes in the margins and note questions as they read.

Clarifying

- Making sense of a difficult word or passage is known as *clarifying*. Rereading, reading on, and using inferential clues all help students clarify information. To help students who are reluctant to share a personal need to clarify, it helps to ask them to clarify for a younger friend. “If a second grader read this page of the book, what might they need help in understanding?” This allows children to openly discuss, risk-free, the areas that may be misunderstood.

NONFICTION READING STRATEGIES

Vocabulary Wall

Use the words found in the *Focus on Pennsylvania Standards* books as word wall words. Keep them posted as the students work through the books. In addition to the words found in vocabulary boxes at the bottom of each page and in the glossary in each book, note key words for which students needed clarification as they read to add to the word wall.

Hide and Speak

Using the *Focus on Pennsylvania Standards* books and index cards, have students read a section that is approximately the size of the index card. Cover the text with the index card and then share what that text was about without looking back at the text. This activity works best with partners matched to the same reading level. The index cards also serve as a slide for lower level or distractible readers. If index cards are not available, students can cover the text with their hand.

Personal Reaction

Ask students to decide on a stopping point as they read a *Focus on Pennsylvania Standards* books. Instruct students to read silently to their stopping point and share a personal reaction to the text. There is no incorrect response. This is a self-to-text sharing. A personal connection to the nonfiction text increases content retention and understanding.

Quiz Maker

This activity can be directed to the class as a whole with independent writing or partner writing. Using the *Focus on Pennsylvania Standards* books, have students read a passage or read to a decided stopping point. After reading the selected text, instruct students to work alone or with a partner to create two questions about the topic. This activity can be geared towards “stumping the teacher.” The questions can also be used for group games such as Jeopardy® or team tally games. The questions can be saved as test review, or you can select ten of the questions and generate a quiz that has been created by the students. All submitted questions must include an answer and a page number indicating where the answer can be found.

NONFICTION READING STRATEGIES

Significant Points

Using the *Focus on Pennsylvania Standards* books, have students independently read and mark pages or paragraphs that they feel have made a strong point. Use strips of sticky-notes to mark significant points or to extend from the paper's edge to mark significant points in each chapter. These can be points of main events, interest, or confusion. Share all significant points before moving on to the next reading assignment.

Key Words

Have students read a short chunk of text and stop. They then select one word (or two words) that they feel is the most important on that page. Have students jot the word(s) down on a sticky-note. At the end of the chapter, have each student compile the sticky-notes to create a summary based on the key words.

Highlighter Tape

Highlighter tape can be used to highlight significant points or key words. Highlighter tape dispenses like any transparent tape and comes in a variety of colors. It can be peeled off and reused. Students like the tape because it adds a splash of color to their text. Instructions for gentle hands will help ensure that the tape strips may be reused for multiple lessons.

NONFICTION READING STRATEGIES

Sticky-Note Coding

Have each student use sticky-notes which have been cut into strips. Instruct students to stop reading after each paragraph and indicate their personal reaction and level of understanding on a sticky-note. Have students use the following codes:

- √ "I already knew this."
- * "New information."
- ! "Wow—interesting!"
- ? "I don't understand."

As the students code their own individual understanding, circulate around the room and make notes for grouping and lesson planning using student coding as comprehension data. You may also give time at the end of each section for all question mark sections to be discussed.

Chart paper can be posted with the codes: √, *, !, or ? at the top of four separate sheets. All four codes could be available on large charts at the end of the lesson for students to contribute their findings, or just one or two code charts can be generated at one time. If you are asking for question mark selections to be shared, the poster with ? "I don't understand." should be up front in the classroom.

Invite students to write any words that were unclear. If another student had that same area marked, keep a tally beside each recorded selection. You will know immediately if you have to reteach a lesson or provide direct instruction based on the number of students represented on the chart. Providing immediate clarity and allowing group sharing and discussions will strengthen the lesson content.

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33 Milford Drive, Suite 1, Hudson, OH 44236

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