

Science Grades 3 – 4



Teacher's Guide

FOCUScurriculum

Curriculum materials for your content standards

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Teacher's Guide

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At Last—
the Books You
Need to Meet
Indiana's Academic
Content Standards
in Science . . .

At Three Different
Reading Levels!

Focus on Indiana Standards provides you with a new choice for teaching nonfiction literacy skills using Indiana's Academic Content Standards in Science. Your students will no longer spend time deciphering text that has little, if any direct link to Indiana's Academic Content Standards. They will explore in depth, the concepts that are relevant and required of Indiana learners in both reading and science at a pace and level that meets their individual needs.

Your Lesson Plans Will Match Indiana's Academic Content Standards 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 Indiana Standards* is clearly linked to Indiana's new Academic Content Standards in Science as well as the Reading Standards for Information Text.
- That means your lesson plans directly reflect the content standards 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 Indiana Standards* provides an opportunity for all levels of learners to be engaged in nonfiction text.

When Instruction Is Focused, Assessment Is Also Focused

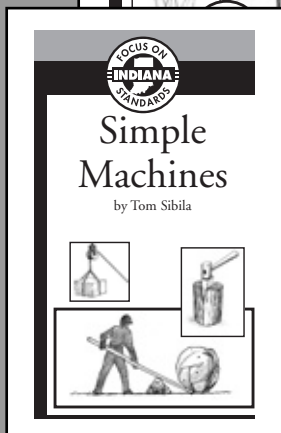
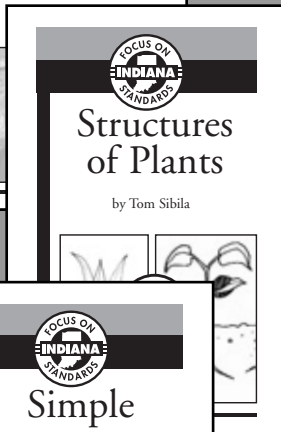
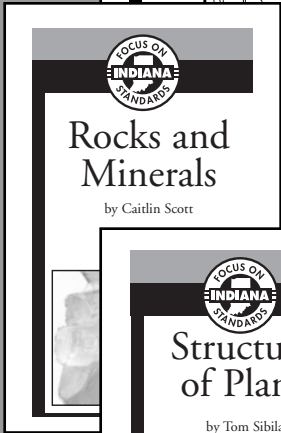
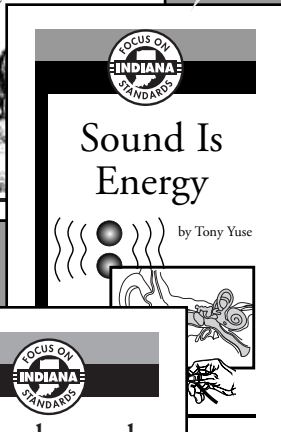
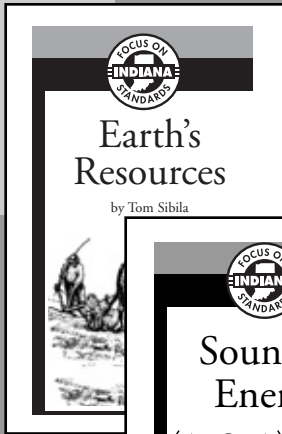
- When you teach with *Focus on Indiana Standards*, you will know exactly which Academic Content Standards have been mastered and which need further instruction. Two forms of assessment are provided to assist you.
- **Check Understanding** assessments evaluate your students' comprehension of each *Focus on Indiana Standards* book. You will find multiple choice, open response questions that assess literal and interpretive comprehension of each book's content. They are designed to be used after completing each book. In addition, students will obtain valuable practice in completing open responses similar to those they will encounter on the ISTEP+ in Science.
- **Pretests and Posttest** are provided at each grade level. They are designed to mirror the ISTEP+ and assess key grade-level standards. A student Assessment Record helps teachers keep track of student progress—especially useful for Response to Intervention record keeping.

Covers Indiana's Common Core Standards for English Language Arts as Well

- *Focus on Indiana Standards* covers important nonfiction reading skills and strategies required by Indiana's new Common Core Standards.
- Each title includes four reproducible activities that introduce and reinforce nonfiction reading skills and strategies.

NONFICTION TEXT FEATURES

Content is specifically written to match Indiana's new Academic Content Standards.



Shown here are just a few of the 18 science titles. Go to www.focuscurriculum.com to preview all the titles.

CHAPTER 2

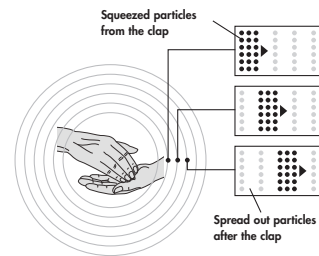
What Is a Sound Wave?

Imagine you and a friend are holding a rope. You flick your end of the rope up and down. The flick travels along the rope in a wave. When you flick the rope, the section of rope in your hand passes the energy on to the next section of rope, which passes it on again, and so on.



This is also how sound travels. For example, when you slap your hands together, the loud clap gives a sudden push to the air around your hands. This surge of energy passes on through the air like the wave traveling along the rope.

The wave of energy from the clap causes air particles to vibrate. The particles move slightly forward and squeeze together. When the sound wave passes, the air particles move slightly back and spread out. The movement of a sound wave is this pattern of squeezed and spread out particles.



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

CHAPTER 1

Simple Machines

Simple machines are **devices** that make work easier. They use pushes and pulls to move things. Simple machines allow us to use a smaller force to overcome a larger one.

Lever

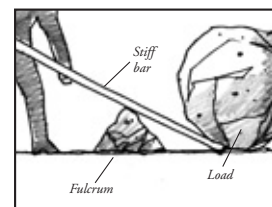
A lever is a straight, stiff bar that rests on a support or fixed point. This fixed point is called the **fulcrum**. An object that a lever lifts is called the **load**. The closer the load is to the fulcrum, the easier it is to lift up and move forward.

Levers are one of the most common simple machines. Just about everything with a handle has a lever attached to it. Think about pliers and hammer claws. They make it easier to do different forms of work.

devices: things made or invented for a special use
fulcrum: the support or fixed point that a lever rests on
load: an object that is lifted or about to be lifted by a lever



It is easier to move a heavier object with a lever. The force to push the lever down is less than the force required to pick the heavy object up.



Key vocabulary is highlighted and defined on the page.

NONFICTION TEXT FEATURES

CHAPTER 2

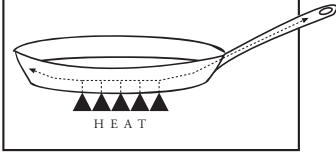
Heat Transfer

Heat moves, or **transfers**, from a warmer object to one that is cooler. For example, if you are outside on a cold day, your body heat is transferred to the colder air. There are three main types of heat transfer—conduction, convection, and radiation.

Conduction

Conduction is the movement of heat through solid objects. Think about a metal frying pan with a metal handle. If you are grilling a cheese sandwich, what happens to the metal handle? The handle should get hot after a while. This is because the heat from the stove heats the bottom of the frying pan and then it is transferred up the sides of the pan and into the handle.

transfer—to move from one place to another



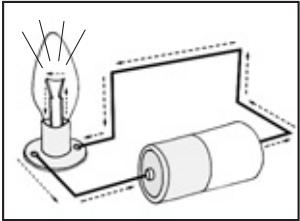
HEAT

— Explain —
How does conduction cause heat to transfer from a stove to the handle of a frying pan?

Active reading prompts reinforce key concepts from Indiana's Standards.

Closed Circuit

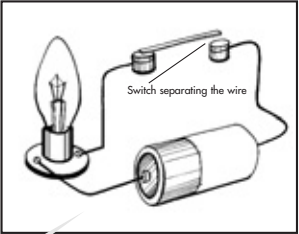
How does electricity get to the light bulb? The light bulb is connected to a power source by wires. Electricity flows from the power source through the filament. Then it returns to the power source through another wire. This electrical loop is called a closed circuit.



A battery is one type of electric power source. Electricity flows from the battery to the light bulb. Electricity then flows back to the battery.

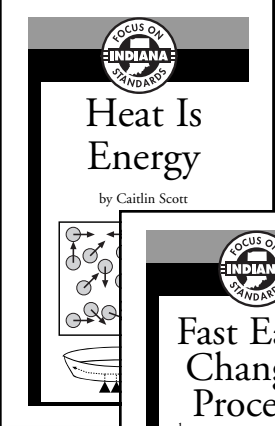
Open Circuit

How do you turn a light bulb off? You turn a switch. Look at this diagram. A switch has been placed in the electrical loop. The switch separates the wire. Now electricity has no place to go. The electricity stops flowing through the circuit when the switch is open.

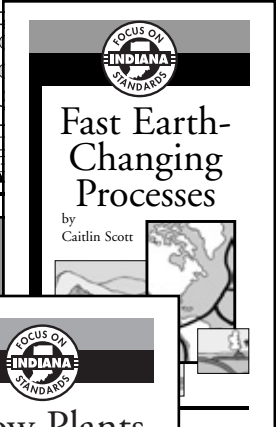


This light bulb will not produce light. The flow of electricity has been stopped by a switch.

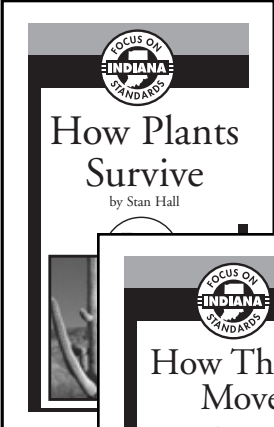
Illustrations and diagrams aid students' comprehension and build visual literacy skills.



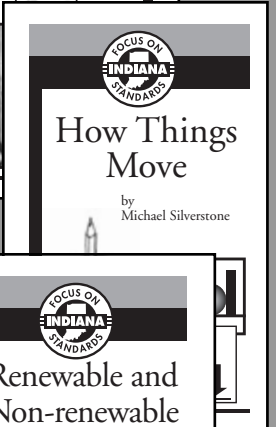
Heat Is Energy
by Caitlin Scott



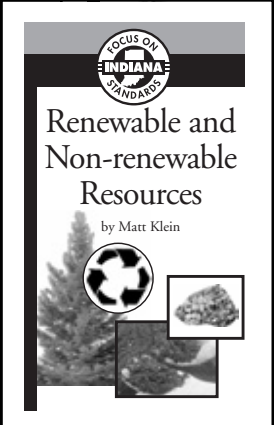
Fast Earth-Changing Processes
by Caitlin Scott



How Plants Survive
by Stan Hall

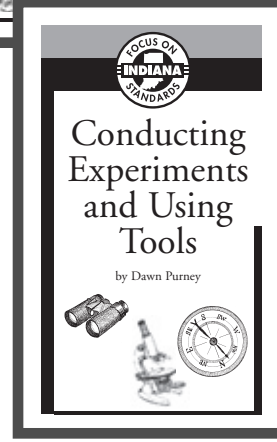
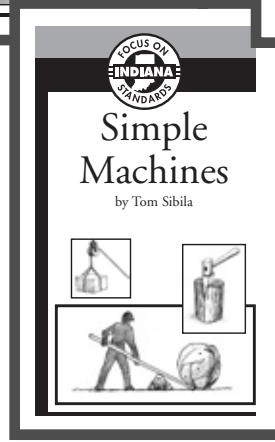
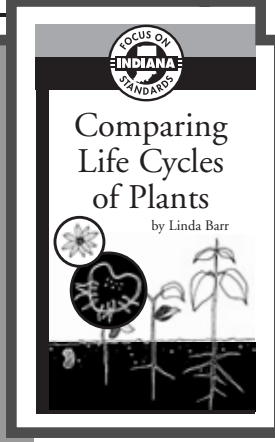
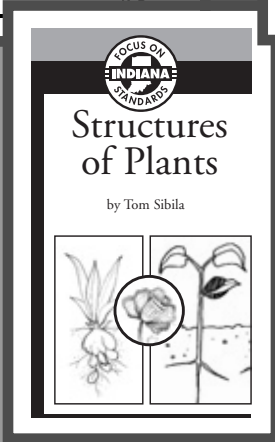
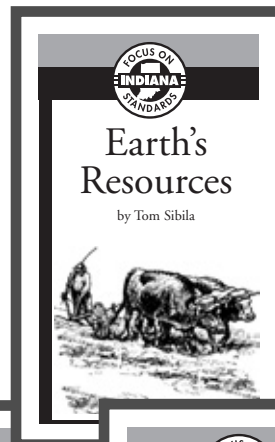
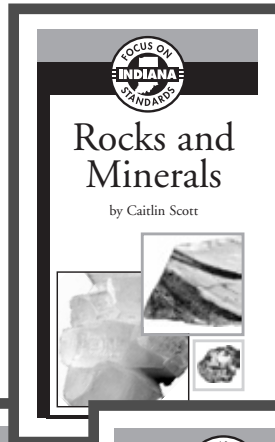
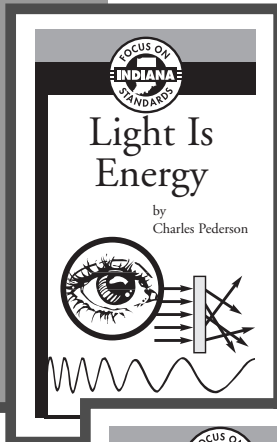
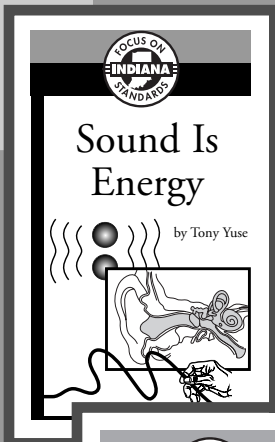


How Things Move
by Michael Silverstone



Renewable and Non-renewable Resources
by Matt Klein

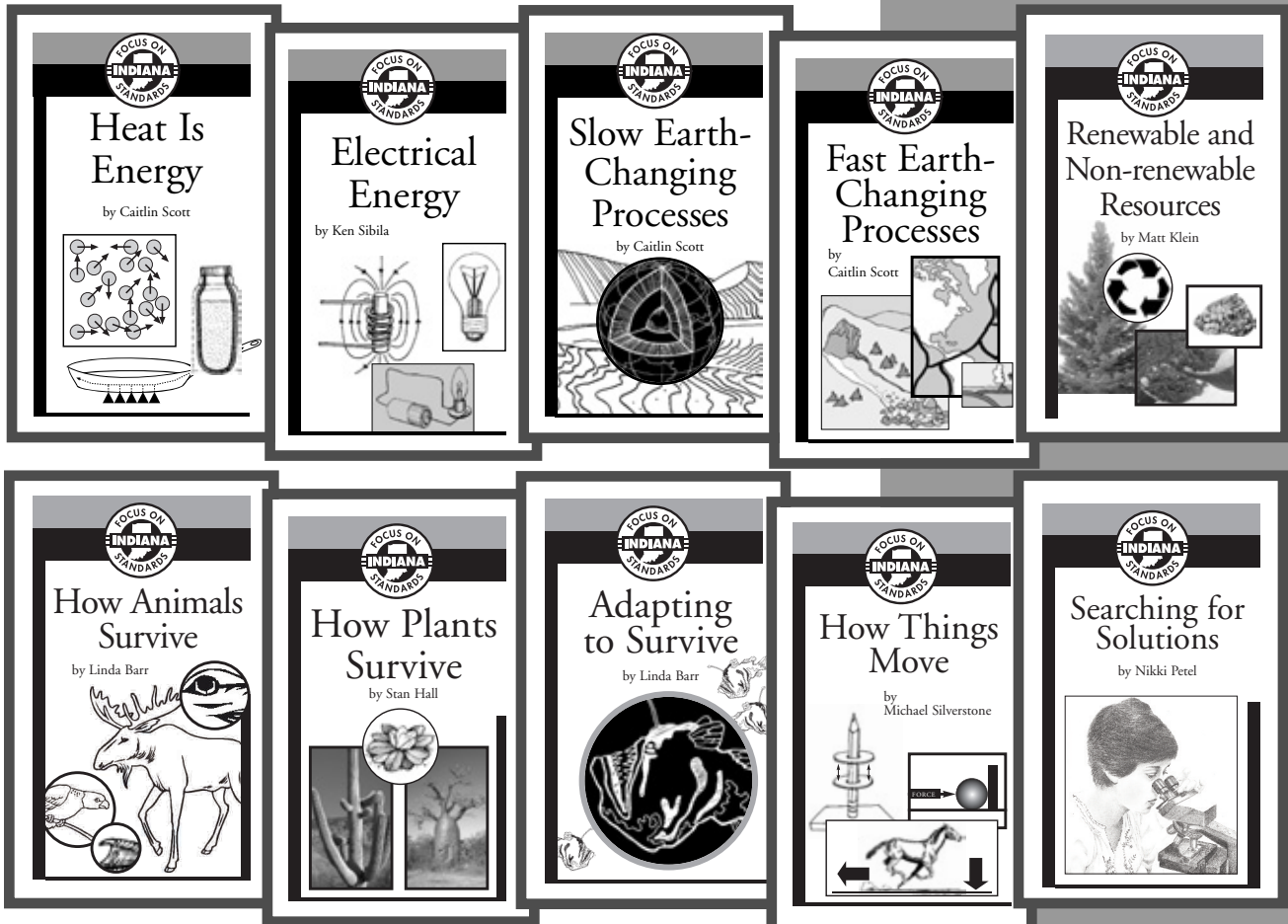
Indiana's ACADEMIC CONTENT STANDARDS MET



Science—Grade 3

Title	Content Standard	Core Standard
Sound Is Energy	Standard 1: Physical Science	3.1.1, 3.1.2, 3.1.3, 3.1.6
Light Is Energy	Standard 1: Physical Science	3.1.4, 3.1.5, 3.1.6
Rocks and Minerals	Standard 2: Earth Science	3.2.1, 3.2.2, 3.3.3, 3.2.4
Earth's Resources	Standard 2: Earth Science	3.2.5, 3.2.6
Structures of Plants	Standard 3: Life Science	3.3.1
Comparing Life Cycles of Plants	Standard 3: Life Science	3.3.2
Simple Machines	Standard 4: Science, Engineering, & Technology	3.4.2
Conducting Experiments and Using Tools	Standard 4: Science, Engineering, & Technology Process Standards	4.4.1 The Nature of Science, The Design Process

Indiana's ACADEMIC CONTENT STANDARDS MET



Science—Grade 4

Title	Content Standard	Core Standard
Heat Is Energy	Standard 1: Physical Science	4.1.1, 4.1.2
Electrical Energy	Standard 1: Physical Science	4.1.3, 4.1.4, 4.1.5
Slow Earth-Changing Processes	Standard 2: Earth Science	4.2.1, 4.2.2
Fast Earth-Changing Processes	Standard 2: Earth Science	4.2.3
Renewable and Non-renewable Resources	Standard 2: Earth Science	4.2.4, 4.2.5, 4.2.6
How Animals Survive	Standard 3: Life Science	4.3.1, 4.3.2, 4.3.4
How Plants Survive	Standard 3: Life Science	4.3.1, 4.3.2, 4.3.4
Adapting to Survive	Standard 3: Life Science	4.3.1, 4.3.2, 4.3.4
How Things Move	Standard 4: Science, Engineering, and Technology	4.4.1, 4.4.2, 4.4.3, 4.4.4
Searching For Solutions	Process Standards	The Nature of Science The Design Process

Nonfiction **LITERACY SKILLS**

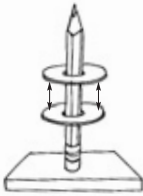
Focus on Indiana Standards Also Integrates Indiana's Common Core State Standards

Focus on Indiana Standards covers important nonfiction reading skills and strategies required by Indiana's Common Core State Standards. 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:

Interpret Graphics

TRY THE SKILL

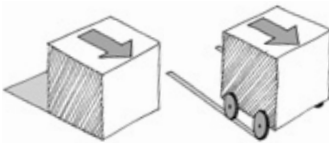
Graphics can give you information quickly and help you understand how something occurs or works. Look at the graphic showing two magnets repelling each other.



Why doesn't the top magnet fall down?

- The arrows between the magnets indicate that a force is keeping the magnets apart. Magnets can attract or repel each other with a force that can be stronger than gravity.

Study this picture from *How Things Move*. What does it tell you about friction? Write about it.



How Things Move AL

Reading Applications: Informational, Technical and Persuasive Text, 4

- 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

Four different English Language Arts activities accompany each book.

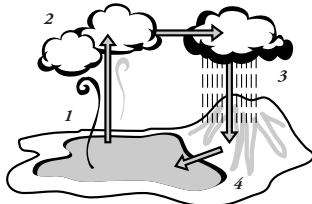
Nonfiction LITERACY SKILLS

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.



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, water cools and condenses. Then, water falls as precipitation. Then, water is collected in lakes, rivers, oceans, or underground. Finally, the water cycle repeats itself.

Look at the diagram and write about how hail forms.



Cause and Effect

TRY THE SKILL

A cause makes something happen. An effect tells what happens. Sometimes, a sentence states the cause first. Look at the following sentence.

Turning on a light causes the light bulb to release light and heat.

Why something happens is stated first: "Turning on a light . . ." Then what happens is stated: ". . . causes the light bulb to release light and heat."

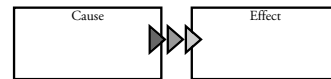
Now read the following sentence.

To make soup, you mix water with soup ingredients.

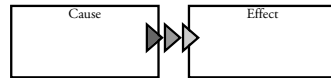
In this sentence, the effect (what happens) is stated first: "To make soup." The cause (why it happens) is stated second: "you mix water with soup ingredients."

A graphic organizer can help you identify cause and effect. Read each sentence below. Then, in the first box, write the cause (why something happens). In the second box, write the effect (what happens).

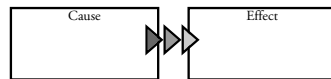
1. Adding heat (a match or other source) ignites the fuel (wood).



2. But even a tiny crack in the paint allows rust to begin forming.



3. Your body stays warm because of the energy released during breathing and digestion.



Reading Applications: Informational, Technical and Persuasive Text, 4

Skills and strategies are explained and modeled for students.

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

Compare and Contrast

TRY THE SKILL

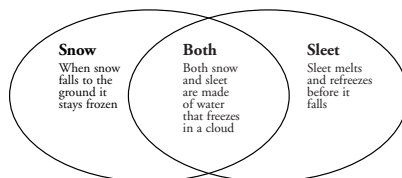
Comparing and contrasting can help you understand what you read.

- 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.

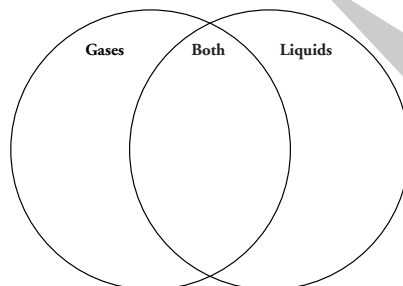
Sleet is also water that freezes in a cloud. But, sleet doesn't stay frozen. It passes through warmer air and melts. Then, it goes through colder air again. It refreezes just before it hits the ground.



Read the paragraphs. Think about comparing and contrasting. Then complete the Venn diagram.

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.

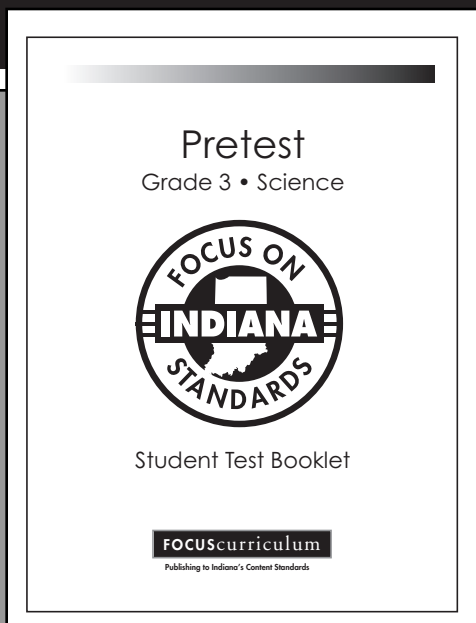
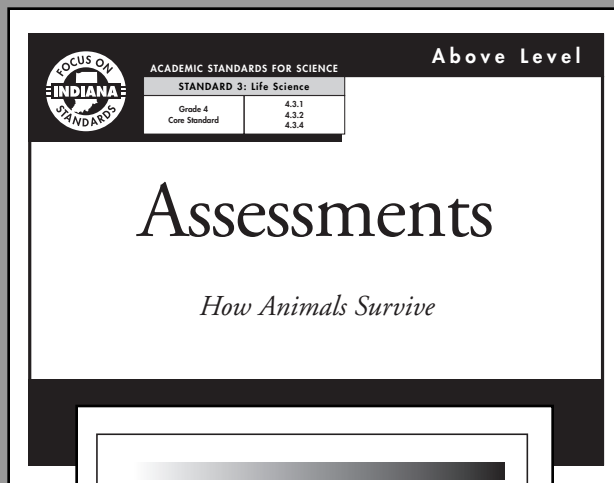


Students are provided many opportunities to reread the text for a variety of purposes.

Reading Process, Comprehension Strategies, 3

Science **ASSESSMENT**

Focus on Indiana Standards Provides On-going and Cumulative Assessments to Track Each Student's Progress



When you teach with *Focus on Indiana Standards*, you will know exactly which Academic Standards have been mastered and which need further instruction. Two forms of assessment are provided to assist you.

Check Understanding assessments evaluate your students' comprehension of each *Focus on Indiana Standards* book. They are designed to be used after completing each book. You will find multiple choice and open response questions that assess literal and interpretive comprehension of each book's content.

In addition, Check Understanding assessments evaluate your students' ability to synthesize and apply the content and concepts identified in the Indiana Academic Standards. Students will obtain valuable practice in answering open response items similar to those they will encounter on the ISTEP+ Science Assessment.

Pretests and Posttests Pretests for each grade level provide a test experience for students and allow you to better determine how ready your students are for instruction. A summative posttest for each grade level allows you to measure overall progress before your students take the ISTEP+ Science Assessment.

Science ASSESSMENT

Check Understanding from Grade 4:
How Animals Survive

How Animals Survive Check Understanding

Shade the circle next to the correct answer or write your answers on the lines provided.

4. The picture below shows a webbed foot.



This adaptation helps the animal to

- Ⓐ fly
- Ⓑ swim
- Ⓒ run
- Ⓓ jump

5. Identify the TWO groups that scientists use to classify animals.

- (1) _____
- (2) _____

How Animals Survive AL

6. Explain ONE reason why hawks have sharp eyesight.

- _____
- _____
7. Describe TWO reasons why animals migrate during winter.
- (1) _____
- _____
- _____
- (2) _____
- _____

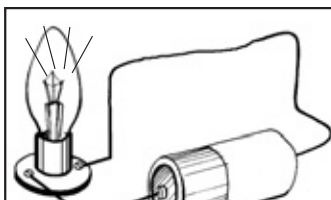
Assessments are written in the same format as the ISTEP+

Electrical Energy Check Understanding

Write your answers in the boxes.

4. The illustration below shows a closed electrical circuit.

Describe how electricity flows through a closed circuit and lights the bulb. Begin with the battery as the power source. (4 points)



First

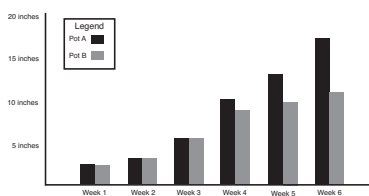
Next

Then

14. Ted performed a science experiment in which he did the following:

- He planted the same type of seeds in pots A and B.
- He used the same type of soil in each pot.
- He watered both pots and equal amount on the same days for three weeks.
- For the next three weeks, he watered both pots the same amount. However he skipped watering pot B every other time he watered pot A.

Each week, Ted observed the plants in both pots and measured how tall each plant had grown. Ted predicted that the plants in pot A would grow taller than the plants in pot B. He recorded his measurements in a bar graph shown below.



Name TWO tools Ted used to complete his experiment.

Does the data in the chart support Ted's prediction? Explain why or why not.

Grade 3 Science Pretest

[6]

One of Ted's classmates does not think that Ted's results are valid. What should Ted's classmate do next?

What are TWO conclusions can you make from reading the data in the bar graph?

15. The diagram below shows a plant during which stage of its life cycle?



- A. maturation
- B. germination
- C. reproduction
- D. death

Grade 3 Science Pretest

[7]

Check Understanding from
Grade 4: Electrical Energy

Pretest from Grade 3 Science

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 Indiana 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 Indiana 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 Indiana's Academic Standards in Science. Sentences are shorter and easier to read. The concept load is lighter, yet **all 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 Academic Standards in Science 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 Indiana Standards provide core content material that can be used as part of the Response to Intervention Model. The Academic Standards for Science are isolated and clearly labeled for each title. When students need more than the traditional text, *Focus on Indiana Standards* books serve as a means of intervention by providing direct reinforcement of specific Indiana standards.

ELL Instruction

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

Each title of *Focus on Indiana 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 Indiana's content standards—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.
- A heavy duty stapler (3/8" staples) 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 22 lb 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.)

Fourth 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, enter pages 5–18 to print. Then select ODD pages. Click "Print" to print the odd 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:

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 Indiana 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 Indiana Standards* to teach Indiana's Common Core Standards for English Language Arts 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 Indiana 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 Indiana 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 Indiana Standards* books are a perfect length to use with reciprocal strategies. All four comprehension strategies should be modeled and used with the *Focus on Indiana 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 Indiana 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 Indiana 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 Indiana Standards* book. 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 Indiana 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 Indiana 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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