# **Teacher's Guide**

opening windows for young minds

#### MAGAZINE ARTICLES

Kelly and SkullyExpository Nonfiction540L	8
Joe's Lunch	13
Red, Luke, and Patty Narrative Nonfiction 740L	
Your Insides Speak Out Narrative Nonfiction 410L	20
Butterfly with a Broken Wi Contemporary Realistic Fiction	ng



From Cricket Media

What's

inside

your

body?

Click: What's Inside Your Body? © March 2017

# **Teacher's Guide for** *Click: What's Inside Your Body?*

Using This Guide	2
Skills and Standards Overview	3
Article Guides	4
Cross-Text Connections	9
Mini-Unit	10
Graphic Organizers	13
Appendix: Meeting State and	

National Standards



# **OVERVIEW**

In this magazine, readers will learn about bones, blood, organs, and the digestive system. Click: What's Inside Your Body? includes a

conversation between a girl and a skeleton as well as articles about what happens to pizza after you eat it, your hardworking blood, your organ team, and a girl's broken arm and how it heals.

## **ESSENTIAL QUESTION:**

*Why are different parts of the human body important?* 

14



# Using This Guide

We invite you to use this magazine as a flexible teaching tool, ideal for providing interdisciplinary instruction of social studies and science content as well as core literacy concepts. Find practical advice for teaching individual articles or use a mini-unit that helps your students make cross-text connections as they integrate ideas and information.

## **READ INDIVIDUAL ARTICLES** PAGES 4 - 8

Each article in this magazine is well-suited for teaching literacy concepts and content area knowledge. For each individual article in this guide, you'll find the following:





# TEACH A MINI-UNIT PAGES 10 - 12

Magazine articles can easily be grouped to make cross-text connections and comparisons. Our Mini-Unit allows students to read and discuss multiple articles and integrate ideas and information (CCSS.Reading.9). Discussing multiple articles (CCSS.Reading.9) prepares students to write texts to share and publish in a variety of ways (CCSS.Writing.2).



# Skills and Standards Overview

Essential Question: Why are different parts of the human body important?

MAGAZINE	CORE CONTENT	LITERACY	CORRESPONDING CCSS
ARTICLES	CONCEPT	SKILLS	ANCHOR STANDARDS
Kelly and Skully	Systems in the natural world	<ul> <li>Close Reading</li> <li>Analyze Perspectives</li> <li>Analyze Visual</li></ul>	Reading 1, 6 & 7
Expository Nonfiction	have parts that work together.	Information <li>Read Aloud</li>	Speaking & Listening 6
Joe's Lunch	Systems in the natural world	<ul> <li>Close Reading</li> <li>Analyze Text Features</li> <li>Identify Author's</li></ul>	Reading 1, 5 & 6
Expository Nonfiction	have parts that work together.	Purpose <li>Create a Diagram</li>	Writing 2
<b>Red, Luke, and Patty</b>	Systems in the natural world	<ul> <li>Close Reading</li> <li>Analyze Word Choice</li> <li>Interpret Visual</li></ul>	Reading 1, 4 & 7
Narrative Nonfiction	have parts that work together.	Information <li>Write a Report</li>	Writing 2
Your Insides Speak Out	Systems in the natural world	<ul> <li>Close Reading</li> <li>Analyze Text Structure</li> <li>Interpret Visual</li></ul>	Reading 1, 3, 5 & 7
Narrative Nonfiction	have parts that work together.	Information <li>Present a Text</li>	Speaking & Listening 1 & 6
<b>Butterfly with a Broken</b> <b>Wing</b> Contemporary Realistic Fiction	Sensory details are words and phrases that describe how things sound, smell, look, taste, and feel.	<ul> <li>Close Reading</li> <li>Identify Sensory Details</li> <li>Analyze Text Structure</li> <li>Write a Personal Narrative</li> </ul>	Reading 3, 4 & 5 Writing 3

Comparing Texts: Reading 9

Mini-Unit: Reading 1, 2, 3, & 7; Writing 2



# ARTICLE: Kelly and Skully

Magazine pages 8 - 12, Expository Nonfiction



Kelly's grandmother is a doctor who has a scary-looking skeleton named Skully in her office. One day Skully comes to life and explains to Kelly all the important things a skeleton does. Suddenly, Skully isn't so scary anymore.

# ESSENTIAL QUESTION

Why are different parts of the human body important?

# CORE CONTENT

**Life Science** Systems in the natural world have parts that work together.

### CROSS-CURRICULAR EXTENSION

**Science** Did you know that different bones have different names? Here are five: *ribs*, *vertebrae*, *humerus*, *femur*, *phalanges*. Use an encyclopedia to find out where these bones are located. Then draw a picture of a skeleton and label these bones.

## **KEY VOCABULARY**

**doze (p. 8)** to sleep lightly, especially for a short period of time

expert (p. 9) a person who has a special skill or knowledge about a particular subject

**skull (p. 9)** the bones that form the head and face of a person or animal

*hollow (p. 10)* having nothing inside

## PREPARE TO READ

Display a K-W-L chart and explain that this article is about a skeleton. Invite students to "feel their skeletons" by squeezing the bones in their arms, fingers, or legs. Then use the chart to discuss and record what students know and want to know about skeletons. Finally, read the article aloud.

## **CLOSE READING AND TEXT ANALYSIS**

#### Key Ideas

- What would our bodies be like if we did not have skeletons? Use details from the story to support your answer. *CCSS Reading 1*
- Name two parts of your skeleton that protect you. Support your answer using details from the text. *CCSS Reading 1*
- What is inside your bones? Use details from the article to support your answer. CCSS Reading 1

#### **Craft and Structure**

- **Analyze Perspectives** Compare how Kelly and Skully feel about skeletons at the beginning of the article. Do their feelings change? How do you feel about skeletons? Did your feelings change? *CCSS Reading 6*
- Analyze Visual Information What did you learn about skeletons from the words and pictures in this story? Write down 5 facts about skeletons. Then get together with a partner and compare facts. *CCSS Reading 7*

## SPEAKING AND LISTENING

**Read Aloud** Work with a partner to read this article. First, decide who will be Kelly and who will be Skully. Then read your parts out loud. Use the little pictures of Kelly and Skully to help you know which parts are yours. Try to make the words sound like a real conversation.



# ARTICLE: Joe's Lunch

Magazine pages 13 - 16, Expository Nonfiction



Learn about how the body processes food by following Joe's pizza lunch—from the plate to his mouth to his stomach and beyond.

### ESSENTIAL QUESTION

Why are different parts of the human body important?

# CORE CONTENT

**Life Science** Systems in the natural world have parts that work together.

### CROSS-CURRICULAR EXTENSION

Math Imagine that your class is going to have a pizza party. Your teacher says every student gets to eat half a pizza—yum! How many pizzas should your teacher order? HINT: First count how many students are in your class.

## **KEY VOCABULARY**

**dissolved (p. 15)** mixed with a liquid and becoming part of the liquid

## PREPARE TO READ

Ask students what they ate for breakfast. Then ask them to explain how they got the food from the plate or bowl into their bodies. (They put the food in their mouths, chewed it and swallowed.) Next ask what happens to food after it's swallowed. Finally, explain that they will learn about this in the article.

## **CLOSE READING AND TEXT ANALYSIS**

#### Key Ideas

- What happens to food when you chew it? Use details from the article to support your answer. *CCSS Reading 1*
- What do the muscles in your esophagus and your stomach do to the food you eat? Support your answer with details from the article. *CCSS Reading 1*
- How does food change as it goes through your body? Use details from the article to support your answer. *CCSS Reading 1*

#### **Craft and Structure**

- Analyze Text Features With a partner, study the pictures on pages 14-15. How do the small diagrams help you understand what's happening in Joe's body? Which words on this page seem important? Explain why. *CCSS Reading 5*
- Identify Author's Purpose What does the author of this article want you to learn about? How is this article different from a made-up story? How is it similar to a made-up story? *CCSS Reading 6*

## WRITING

**Create a Diagram** Look at different animal diagrams in books or online. Then create a diagram of your favorite animal, insect, fish, or bird. First draw a picture of the animal. Next, label the parts. Here's how: Write the label word next to the body part. Then draw a line from the word to the part. Share your diagram with the class.





# ARTICLE: Red, Luke, and Patty

Magazine pages 17 - 19, Narrative Nonfiction



Red is a red blood cell. Luke is a leukocyte, or white blood cell. Patty is a platelet. What do these three have in common? They are the workers in your blood. Read to find out why each worker is important for your body.

# ESSENTIAL QUESTION

Why are different parts of the human body important?

#### CORE CONTENT CONCEPT

**Life Science** Systems in the natural world have parts that work together.

### CROSS-CURRICULAR EXTENSION

Art Use pompoms, felt, jelly beans, buttons or anything else you can think of to make a collage that shows the four parts of blood: red blood cells, white blood cells, platelets, and plasma. Display your collage in your classroom.

## **KEY VOCABULARY**

*microscope (p. 17)* a device used for producing a much larger view of very small objects so that they can be seen clearly

*capillaries (p. 17)* one of the many very small tubes that carry blood within the body

constant (p. 18) happening all the time

particles (p. 19) very small pieces of something

## PREPARE TO READ

Explain that this article is about blood and uses some unfamiliar words. Display the following: *RBC, capillaries, leukocyte, WBC, plasma, platelets, blood vessel.* Read the words aloud with students. Have them listen for these words as you read the article aloud. Pause to add information about the words to the board.

## **CLOSE READING AND TEXT ANALYSIS**

#### **Key Ideas**

- What is a red blood cell's job? Use details from the text to support your ideas. CCSS Reading 1
- What is a leukocyte's job? Use details from the text to support your ideas. CCSS Reading 1
- What is a platelet's job? Use details from the text to support your ideas. CCSS Reading 1

#### **Craft and Structure**

- **Analyze Word Choice** Who are Red, Luke and Patty? Why do you think the author used these names? How do the names help you remember information in the article? *CCSS Reading 4*
- Interpret Visual Information With a partner, read aloud the speech balloons on page 19. What are the differences between an RBC and a leukocyte? What are the differences between an RBC and a platelet? *CCSS Reading 7*

## WRITING

**Write a Report** In this article you learned that the four basic parts of your blood are red blood cells, white blood cells, platelets, and plasma. Draw a picture that shows the different parts of your blood. Next, write 2-3 facts about blood under your picture. Use information from the article to help you write. Present your report to the class by showing the pictures and reading the facts aloud.

Click: What's Inside Your Body? © March 2017





# ARTICLE: Your Insides Speak Out

Magazine pages 20 - 23, Narrative Nonfiction



Different organs inside the human body take turns arguing why they are the best organ of all.

# ESSENTIAL QUESTION

Why are different parts of the human body important?

# CORE CONTENT

**Life Science** Systems in the natural world have parts that work together.

#### CROSS-CURRICULAR EXTENSION

**Science** You can tell your heart's working by putting your hand over it and feeling the beats. Count the number of beats in 10 seconds. Then run around until you're out of breath. Now count the number of beats in 10 seconds. What do you notice?

### **KEY VOCABULARY**

acid (p. 21) a chemical with a sour taste

scrunched (p. 22) squeezed into a small space

## PREPARE TO READ

Write the word *organs* on the board and ask if anyone knows what it means. Help students understand that organs are parts inside the body that have special jobs. Have students guess the names of a few organs (*brain, heart, lungs, stomach*) by giving clues and pointing to the location on your body.

## **CLOSE READING AND TEXT ANALYSIS**

#### **Key Ideas**

- Find two organs that help you when you are running and being active. Use details from the text to support your answer. *CCSS Reading 1*
- Find two organs that help you digest the food you eat. Support your answer with details from the article. *CCSS Reading 1*
- How is your appendix different from your other organs? How is the skin different? Use details from the article to support your answers. *CCSS Reading 3*

#### **Craft and Structure**

- **Analyze Text Structure** This article has two parts. Part one is on pages 20-22. Part two is on page 23. With a partner, talk about what kinds of information are in each part. How are the parts different? *CCSS Reading 5*
- Interpret Visual Information What does the diagram on page 23 help you understand about the organs? How are the pictures of the organs outside the girl's body different from the ones shown inside her body? *CCSS Reading 7*

### SPEAKING AND LISTENING

**Present a Text** Work with a group to read aloud the different organs' words. First, make sure everybody has an organ part. Then start at the beginning of the article and let everyone read their part aloud. Use expression and movement to act the way your organ acts in the article. Practice reading through the article several times. Then read to your class or another class.





# ARTICLE: Butterfly with a Broken Wing

Magazine pages 26 - 32, Contemporary Realistic Fiction



From accident to ice pack and x-rays to cast, learn what happens when Ella breaks her arm after jumping off a swinging swing.

# ESSENTIAL QUESTION

Why are different parts of the human body important?

#### CORE CONTENT CONCEPT

**English Language Arts** Sensory details are words and phrases that describe how things sound, smell, look, taste, and feel.

### CROSS-CURRICULAR EXTENSION

**Reading** Read other stories about broken bones, such as "I Broke My Trunk," by Mo Willems, "Charlie Is Broken," by Lauren Child, and "How to Heal a Broken Wing," by Bob Graham. Then tell classmates about the book.

## **KEY VOCABULARY**

**sling (p. 27)** a piece of cloth that hangs around your neck and is used to support an injured arm or hand

*x-ray (p. 28)* an image that is created by using invisible rays and that is usually used for medical purposes

*fiberglass (p. 30)* a light and strong material that is made from thin threads of glass and that is used in making various products

## PREPARE TO READ

Invite students to share their experiences having broken bones. Then preview the title and the illustrations on pages 26-27. Discuss what is happening in each picture and how the characters might be feeling (scared, concerned, worried). Finally, have students predict what will happen next in the story.

## **CLOSE READING AND TEXT ANALYSIS**

#### Key Ideas

- How did Ella break her arm? Use details from the story to support your answer.
   *CCSS Reading 3*
- What did Ella's mom and sister do to help her? Support your answer with details from the story. *CCSS Reading 3*
- What did the doctor do to help Ella? Use details from the story to support your response. *CCSS Reading 3*

#### **Craft and Structure**

- Identify Sensory Details How does Ella's arm feel when she first breaks it? How does it feel after her mom puts ice on it? With a partner, look for words and details that tell how Ella's arm feels at different times. *CCSS Reading 4*
- **Analyze Text Structure** Make a list of the important events that happen to Ella after she breaks her arm. Start with her mom putting ice on her arm and end when her cast comes off. *CCSS Reading 5*

## WRITING

Write a Personal Narrative Ella is very brave when she breaks her arm even though her arm hurts her. Write about a time when you were brave. Tell about what happened. Include information about how you felt and how you behaved. Draw a picture to go with your writing.



# COMPARING TEXTS

# **CROSS-TEXT CONNECTIONS**

**SYNTHESIZE:** Guide students to compare articles they read. Help students find the connections between pieces of information in multiple articles. Use prompts, such as the following examples, to have students work together to **Integrate Ideas and Information** *(CCSS.Reading.9)*.

- Some of the articles in the magazine tell you how long your body parts are. Compare information about the length of your intestines and your blood vessels. Use the clues below to find this information. Write the information down. Then figure out which number is the longest and which is the shortest.
  - Look in "Joe's Lunch" for information about how long your small intestine is.
  - Look in "Red, Luke, and Patty" for information about how long your blood vessels would be if you lined them up.
  - Look in "Your Insides Speak Out" for information about how long your intestines are.
- In case you haven't noticed, your body is full of tubes. Tubes are long hollow pipes that things like blood or oxygen flow through. Look for tubes in "Joe's Lunch," "Red, Luke, and Patty," and "Your Insides Speak Out." Make a list of the tubes you find and write what each tube does.
- Skully from "Kelly and Skully" and Dr. Doug from "Butterfly with a Broken Wing" are both experts on bones. What do these experts say about your bones? Use the Bone Experts graphic organizer (p. 14) to record five things you learn from each expert. Do Skully and Dr. Doug know the same information about bones?
- The articles in this magazine use different types of text features to help you understand important information. Use the Text Features graphic organizer (p. 15) to help you think about different text features in the magazine.
- "Butterfly with a Broken Wing" is a text that tells a story. "Joe's Lunch" is a text that gives information. How are these texts different? Answer the questions below to describe the differences.
  - Are the texts make-believe or real?
  - How are the illustrations in the texts different?
  - Why did the authors write the texts?

## **EXPLORATORY LEARNING - FLEXIBLE MINI-UNIT DESIGN**

### ENGAGE

#### READ FOR A PURPOSE

## APPLY

This mini-unit provides students with an opportunity to apply what they learned about their bodies by having them draw a body part and write about it. Begin with the Engage activity and then move on to the other mini-unit sections in the sequence that works best for your instructional goals.

**ENGAGE:** Engage students in the topic of the different parts that help a body function by asking them to consider the Essential Question: Why are different parts of the human body important? Next, display a chart like the one below. Ask students to name the topic of each article and the important body parts they read about in each. (The chart below shows sample text.) Invite volunteers to describe what the different parts do. Then discuss whether one body part is most important or all body parts are equally important.

	"Kelly and Skully"	"Joe's Lunch"	"Red, Luke, and Patty"	"Your Insides Speak Out"
In this article, we learned about	skeleton	digestion	blood	organs
The important parts are	skull ribs marrow joints	saliva esophagus stomach small intestine large intestine	red blood cells white blood cells platelets leukocytes	brain lungs heart stomach intestines muscles appendix

### **READ FOR A PURPOSE**

**INTRODUCE THE ACTIVITY: HOW DO I HELP?** Explain to students that they will be illustrating and writing about a body part from the magazine and the job that part performs. Continue by telling students that after they choose one body part they will:

- use their research skills to find magazine information about the body part
- use their writing skills to tell about the job the body part does and why it is important
- use their art skills to draw pictures of the body part
- use their speaking and listening skills to present their work to the class

Explain to students that they may choose any body part from the magazine to report on. Offer some examples, such as skull, rib cage, stomach, small intestine, red blood cell, white blood cell, brain, lungs, heart, etc. Now, have students choose which body part they will report on and record this information in case students need reminding later.

**RETURN TO THE TEXT:** Explain to students that the first step in this project is to find information about the body part in the magazine. Help all students locate the article they need to use to find information. Then distribute the How Do I Help? activity page (p. 13). Have students write down the name of their body part at the top of the page and use the bottom of the page (shown below with sample text) to record information from the article. Demonstrate how to fill in this section using the information about the heart on page 21 of the magazine.

#### Here's how I help.

I pump blood through your body and back again. I work all day and night, and I never get tired. Another interesting fact about me is I pump even when you are

sleeping. My beats sound like BOOM BOOM BOOM.



# MINI-UNIT (cont.)

**APPLY: HOW DO I HELP?** Now that students have gathered information from the magazine articles, they are ready to finish illustrating and writing about the body part they chose on their How Do I Help? worksheets. Students should work independently.

#### **Materials**

- How Do I Help? worksheet on page 13 (one copy per student)
- writing pencils
- crayons, markers, colored pencils

#### **STEP 1: Build Background**

Remind students that they already wrote some information about the body part they chose. Explain that now they will draw pictures of this body part. Continue by telling students that later they will be editing the information they wrote.

#### **STEP 2: Draw**

Distribute drawing materials to students. Tell students to look at the magazine illustrations to help them remember:

- 1. where their chosen body part is located
- 2. what this body part looks like up close

Allow time for students to add drawings to the top half of the How Do I Help? worksheet.

#### **STEP 3: Revise and Edit**

Tell students to reread the information they wrote at the bottom of their pages. Have them use this editing check list:

- I used capitals at the beginning of my sentences.
- I used periods at the end of my sentences.
- All my sentences make sense.
- I put space between my words.

#### **STEP 4: Present and Post**

Gather in a circle. One at a time, invite students to stand up, show their pictures, and read their words aloud. Display reports on a wall or bulletin board in the classroom.



Click: What's Inside Your Body? © March 2017

# NAME: \_\_\_\_\_

## **BONE EXPERTS**

Five things I learned about bones from <b>Skully</b>	Five things I learned about bones from <b>Dr. Doug</b>
1	1
2	2
3	3
4	4
5	5



## NAME: \_\_\_\_\_

# **TEXT FEATURES**

Text Feature	Article Title and Page	How It Helped Me
bold print words		
diagrams		
labels		
title		
caption		

## Appendix Meeting State and National Standards: Core Instructional Concepts

The articles in this magazine provide a wealth of opportunities for meeting state and national instructional standards. The following pages contain charts listing Core Instructional Concepts for each of three curricular areas: English Language Arts, Science, and Social Studies.

# **USING THE STANDARDS CHARTS**

## **ELA**

Corresponding CCSS anchor standards have been listed next to each item on the Core Instructional Concepts chart. To customize the chart, add your own grade, state, or district standards in the last column. Match the concepts and standards from the chart to the activities on each page of the Teacher's Guide to complete your lesson plans.

## SOCIAL STUDIES

Content Concepts in each Article Guide are based on Dimension 2 of the CS Framework for Social Studies: Applying Disciplinary Concepts and Tools. Use the last column in the accompanying chart to correlate these concepts to your state or district standards.

### **SCIENCE**

Content Concepts in each Article Guide are drawn from the Three Dimensions of the Next Generation Science Standards. You will also find connections to these concepts within individual close-reading questions.

### MATH

Content Opportunities for math activities are provided in the Cross-Curricular extensions on each Article Guide page.

## **CORE INSTRUCTIONAL CONCEPTS: READING, LITERATURE, AND LANGUAGE ARTS**

SKILLS AND CONCEPTS	CCSS ANCHOR STANDARD	CORRESPONDING STANDARD

#### **KEY IDEAS AND DETAILS**

Read closely to determine what a text says explicitly.	Reading 1	
Make logical inferences to determine what the text communicates implicitly.	Reading 1	
<b>Cite specific textual evidence to support conclusions</b> drawn from the text.	Reading 1	
<b>Determine central ideas or themes</b> of a text and analyze their development.	Reading 2	
Summarize key supporting details and ideas.	Reading 2	
Analyze how <b>individuals, events, and ideas develop and interact</b> over the course of a text.	Reading 3	

#### **CRAFT AND STRUCTURE**

Interpret words and phrases as they are used in a text.	Reading 4	
Determine technical, connotative, and figurative meanings.	Reading 4	
Analyze how specific <b>word choices</b> shape meaning or tone.	Reading 4	
Analyze the <b>structure of texts</b> (sequence, cause/effect, compare/ contrast, problem/solution)	Reading 5	
Recognize the <b>genre</b> , <b>key elements, and characteristics</b> of literary texts.	Reading 5	
Assess how <b>point of view or purpose</b> shapes the content and style of a text.	Reading 6	
Analyze how an <b>author's style and tone</b> affects meaning.	Reading 6	

#### INTEGRATION OF KNOWLEDGE AND IDEAS

Integrate and evaluate content presented in diverse media and formats.	Reading 7	
Identify and evaluate the argument and claims in a text.	Reading 8	
Analyze how two or more texts address similar themes or topics.	Reading 9	

#### WRITING

Write <b>arguments</b> to support claims, using valid reasoning and relevant	Writing 1	
and sufficient evidence.		
Write informative/explanatory texts to examine and convey complex	Writing 2	
ideas and information clearly and accurately.		
Write <b>narratives</b> to develop real or imagined experiences or events.	Writing 3	
Draw evidence from literary or informational texts to support analysis,	Writing 0	
reflection, and research.	writing 9	
Conduct short as well as more sustained <b>research projects.</b>	Writing 10	

## **CORE INSTRUCTIONAL CONCEPTS: SOCIAL STUDIES**

C3 INQUIRY ARC DIMENSION 2: APPLYING DISCIPLINARY CONCEPTS AND TOOLS	STATE OR DISTRICT STANDARD

CIVICS	
Analyze the origins, functions, and structure of different governments and the origins and	
purposes of laws and key constitutional provisions.	
Summarize core civic virtues and democratic principles.	
Evaluate <b>policies</b> intended to address social issues.	

#### **ECONOMICS**

Evaluate the <b>benefits and costs of individual economic choices.</b>	
Analyze <b>economic incentives,</b> including those that cause people and businesses to specialize	
and trade.	
Explain the importance of resources (i.e. labor, human capital, physical capital, natural	
resources) in methods of economic production.	
Explain the functions of money in a market economy.	
<b>Explain</b> the importance of <b>competition</b> in a market economy.	
Apply economic concepts (i.e. interest rate, inflation, supply and demand) and theories of <b>how</b>	
individual and government actions affect the production of goods and services.	
Analyze economic patterns, including activity and interactions between and within nations.	

#### GEOGRAPHY

Construct and use maps and other graphic representations (i.e. images, photographs, etc.) of	
different places.	
Explain cultural influences on the way people live and modify and adapt to their environments.	
Analyze places, including their physical, cultural and environmental characteristics and how	
they change over time.	
Analyze movement of people, goods, and ideas.	
Analyze regions, including how they relate to one another and the world as a whole from a	
political, economic, historical, and geographic perspective.	

#### HISTORY

Interpret historical context to understand relationships among historical events or	
developments.	
Evaluate historical events and developments to identify them as <b>examples of historical change</b>	
and/or continuity.	
Analyze perspectives, including factors that influence why and how individuals and groups	
develop different ones.	
Evaluate historical sources, including their reliability, relevancy, utility, and limitations.	
Analyze causes and effects, both intended and unintended, of historical developments.	

CORE INSTRUCTIONAL CONCEPTS: SCIENCE

## **DIMENSION 1: SCIENTIFIC AND ENGINEERING PRACTICES**

Dimension 1 focuses on the practice of science, and how knowledge is continually adapted based on new findings. The eight practices of the K-12 Science and Engineering Curriculum are as follows:

- Asking questions (for science) and defining problems (for engineering)
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data

- Using mathematics and computational thinking
- Constructing explanations (for science) and designing solutions (for engineering)
- Engaging in argument from evidence
- Obtaining, evaluating, and communicating information

## **DIMENSION 2: CROSSCUTTING CONCEPTS**

Dimension 2 provides an organizational schema for integrating and interrelating knowledge from different science domains. The eight NGSS Crosscutting Concepts are as follows:

- Patterns
- Similarity and Diversity
- Cause and Effect
- Scale, Proportion, and Quantity

- Systems and System Models
- Energy and Matter
- Structure and Function
- Stability and Change

## **DIMENSION 3: DIMENSIONS AND DISCIPLINARY CORE IDEAS**

Dimension 3 presents a contained set of Disciplinary Core Ideas to support deeper understanding and application of content. The following chart details Core Ideas for curriculum, instructional content, and assessments within four domains.

#### LIFE SCIENCE

- Structure and Function of
- Living ThingsLife Cycles and Stages
- Reproduction & Inherited Traits
- Animals
- Plants

PHYSICAL SCIENCE

Forces and

Interactions

Energy

Light

•

Sound

Matter

Waves

Heat

Electricity/

Magnetism

Chemistry

Information

Processing

- **EARTH SCIENCE** 
  - Weather
  - Climate
  - Rocks & SoilErosion and
  - Weathering
  - Landforms
  - Water
  - Oceans
  - History of Earth
  - Plate Tectonics
  - Volcanoes,

- SPACE SYSTEMS
  - Solar System
  - Planets
  - MoonSun