Teacher's Guide



(Up in) the air

MAGAZINE ARTICLES

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OVERVIEW

In this magazine, readers will learn about aerodynamics and how planes fly. **Click: Up in the Air** includes information about the

technology used both inside airplanes and from the ground for support, how pilots communicate, and how planes appear to defy gravity!

ESSENTIAL QUESTION:

How and why do airplanes fly?

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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 - 10

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: How and why do planes fly?

MAGAZINE ARTICLES	CORE CONTENT CONCEPT	LITERACY SKILLS	CORRESPONDING CCSS ANCHOR STANDARDS
Take Me to the Airport! Expository Nonfiction	A system is a group of related parts that make up a whole.	 Close Reading Interpret Illustrator's Purpose Interpret Visual Information Write an Adventure Story 	Reading 1, 2, 3, 6 & 7 Writing 3
On the Runway Infographic	A situation that people want to change can be approached as a problem to be solved through engineering.	 Close Reading Identify Word Choice Interpret Visual Information Research and Give a Presentation 	Reading 1, 2, 3, 4 & 7 Speaking & Listening 4 & 7
Airplane Acrobat Expository Nonfiction	When past motion exhibits a regular pattern, future motion can be predicted from it.	 Close Reading Analyze Mood Interpret Visual Information Write a Report 	Reading 1, 2, 3, 4 & 7 Writing 2
How Do Planes Fly? Activity	The shape and stability of structures of natural and designed objects are related to their function.	 Close Reading Determine Author's Purpose Interpret Visual Information Collaborate on an Experiment 	Reading 1, 2, 3, 6 & 7 Speaking & Listening 1
Jacko's Special Day Contemporary Realistic Fiction	People in different types of communities use local and distant environments to meet their daily needs.	 Close Reading Analyze Narrator Analyze Setting Write a Persuasive Letter to a Character 	Reading 1, 2, 3 & 6 Writing 1

Comparing Texts: CCSS Reading 9

Mini-Unit: CCSS Reading 1, 2 & 3; CCSS Speaking & Listening 1



ARTICLE: Take Me to the Airport!

Magazine pages 8-11, Expository Nonfiction



An airport is like a city in some ways—it's a very busy place filled with people, workers, shops, and restaurants. Find out what happens inside, outside and all around an airport.

ESSENTIAL QUESTION

How and why do airplanes fly?

CORE CONTENT

Science A system is a group of related parts that make up a whole.

CROSS-CURRICULAR EXTENSION

Social Studies Waiting at the airport can be very boring. Design a special waiting area that would make waiting easier for kids. Fill it with fun furniture, toys, and games. Draw a picture of your waiting area and share it with the class.

KEY VOCABULARY

radar (p. 9) a device that sends out radio waves for finding out the position and speed of a moving object, such as an airplane

instruments (p. 12) devices that measure things, such as temperature or distance

PREPARE TO READ

Ask students to share their experiences at airports. What did they do at the airport? Where were they going? Was it a boring or fun experience? Then discuss with students what happens at an airport—who works at the airport and who works on the airplane?

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- With a group of classmates, take turns asking and answering questions about the article. Use the words who, what, when, where, and why to make up questions. Use information in the article to answer questions. *CCSS Reading 1*
- This article is about airports. Work with a partner to find and say two key details about the topic on each page of the article. *CCSS Reading 2*
- How do people on the ground help get a plane ready for takeoff? Use details from the text and the pictures to support your answer. *CCSS Reading 3*

Craft and Structure

- **Determine Illustrator's Purpose** Why did the illustrator create these drawings? Did he want to entertain you, to show you how to do something, or to give you information? What helped you figure this out? *CCSS Reading 6*
- Interpret Visual Information Identify the outside and inside parts of a plane.Use the Parts Chart to record these parts. *CCSS Reading 7*

WRITING

Write an Adventure Story Imagine being lost in a huge airport. What kind of adventures could you have? Would you ride the luggage carousel? Let dogs out of their carrying cases? Play tricks on people? Write a funny adventure story with lots of details. Get feedback from a classmate and then revise your story. After you make your final draft, add illustrations. Then read your story to the class.



ARTICLE: On the Runway

Magazine pages 18 - 19, Infographic



Pilots need to know how to drive their planes on the ground as well as fly them in the air. Special signs, codes, and colors on runways help pilots know what to do.

ESSENTIAL QUESTION

How and why do airplanes fly?

CORE CONTENT CONCEPT

Engineering A situation that people want to change can be approached as a problem to be solved through engineering.

CROSS-CURRICULAR EXTENSION

Design Draw or build a model airplane runway. Include all the features shown in this article, including the airport and the control tower. Look at photos of runways in books and on websites to get ideas for your runway design.

KEY VOCABULARY

apron (p. 18) the paved part of an airport where airplanes load or unload or are turned around

threshold (p. 18) the point or level at which something begins or changes

compass (p. 19) a device that is used to find direction by means of a needle that always points north

PREPARE TO READ

Display or draw some basic traffic signs, such as stop and railroad crossing, and discuss their functions. Then discuss why traffic signs are important. Ask students to guess what might happen if traffic signs did not exist. Finally, explain that the next article describes special traffic signs for airplanes.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Which markings show the difference between a runway and a taxiway? Why is this important? Find details to support your answer. *CCSS Reading 1*
- Read the main idea stated at the top of page 18. Work with a partner to find and write four key details that support this main idea. *CCSS Reading 2*
- What could happen to airplanes if runway markings did not exist? Use details from the text and illustrations to support your answer. *CCSS Reading 3*

Craft and Structure

- Identify Word Choice Make a visual glossary of runway markings. Use the Runway Glossary Chart to draw and label two markings. Include information about what each marking tells pilots. *CCSS Reading 4*
- Interpret Visual Information Work with a partner to write directions that will guide an airplane from the ramp to a takeoff position on the runway. Use letters, numbers, and terms in your directions. *CCSS Reading 7*

SPEAKING AND LISTENING

Research and Give a Presentation There are many different jobs at an airport. These include air traffic controller, firefighter, baggage attendant, and pilot. Choose one job that you might like to do. Look in the library or online to find out what the main responsibilities of the job are. Then present your findings to the class. In your presentation, identify the job, tell why you think it would be interesting, and explain the responsibilities.



ARTICLE: Airplane Acrobat

Magazine pages 20 - 21, Activity



Stunt pilots swirl, spin, and loop their planes through the air. They can fly upside down and perform amazing tricks. Students can try one of these exciting feats while still on the ground.

ESSENTIAL QUESTION

How and why do airplanes fly?

CORE CONTENT CONCEPT

Science When past motion exhibits a regular pattern, future motion can be predicted from it.

CROSS-CURRICULAR EXTENSION

Social Studies If you want to watch airplanes somersaulting in the sky, you should go to an airshow. Find out more about airshows in your state. Collect information and pictures to share with your class.

KEY VOCABULARY

landmark (p. 21) an object or structure on land that is easy to see and recognize

control stick (p. 21) a lever used to control an airplane

PREPARE TO READ

Share photos of acrobats and help students understand that an acrobat is a person who performs difficult and sometimes dangerous acts, such as walking on a high wire. Next, preview this article's title and pictures. Ask students to guess what an "airplane acrobat" might be. Then tell them to read to find out.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- How is the plane on page 20 like an acrobat? Use information from the text in your answer. *CCSS Reading 1*
- What does this article teach you about? Find key details in the article to support your answer. *CCSS Reading 2*
- Why does the author tell you to find a landmark in Step 1? How does the landmark help you know if you've done the trick correctly? *CCSS Reading 3*

Craft and Structure

- **Analyze Mood** What words does the author use on page 20 to describe the sensation of flying? What mood does this create? *CCSS Reading 4*
- Interpret Visual Information What do the pictures of the girl and the airplane on page 21 help you understand? Would the directions be clear without pictures? Work with a partner to answer these questions. *CCSS Reading 7*

WRITING

Write a Report Learn about the history of flight by reading about a famous aviator. Ask your librarian to help you find a book or encyclopedia article about Bessie Coleman, Amelia Earhart, Charles Lindbergh, or the Wright Brothers. Write a short report that includes (1) the dates of the person's life and death and (2) a short explanation of what the person did that was important. Draw a picture to go with your report and display your work in the classroom.



ARTICLE: How Do Planes Fly?

Magazine pages 22 - 26, Expository Nonfiction



Have you ever wondered what makes a big, heavy airplane stay up in the sky? This article explains the force that keeps planes—and birds—flying high.

ESSENTIAL QUESTION

How and why do airplanes fly?

CORE CONTENT

Science The shape and stability of structures of natural and designed objects are related to their function.

CROSS-CURRICULAR EXTENSION

Art Create a "Things with Wings" collage. Find or draw pictures of birds, butterflies, bats, and bugs. Try to include as many different wing shapes as you can. Label the pictures and then display your collage.

KEY VOCABULARY

force (p. 22) a natural power or effect that is able to change the speed or direction of something

gravity (p. 22) the force that causes things to fall toward the Earth

lift (p. 23) an upward force that makes it possible for aircraft to fly

PREPARE TO READ

Display a photo of an airplane and ask students to identify its parts. Then ask what happens when a plane takes off. Discuss how the parts help the plane get into the air. Work with students to come up with theories about how a plane stays in the air. Have students check their theories as they read.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Describe how an airplane flies. Use these four words in your description: lift, wing, air, engine. Use details from the text to support your answer.
 CCSS Reading 1
- Identify the main topic on page 22. Then do the same thing on pages 23 and 24. For each topic, find 1-2 key details that support it. CCSS Reading 2
- How are birds and airplanes similar? How are they different? Use information from the text to compare and contrast them. *CCSS Reading 3*

Craft and Structure

- **Determine Author's Purpose** What is the author's purpose in writing this article? Find text details that support your answer. *CCSS Reading 6*
- Interpret Visual Information With a partner, reread the two paragraphs at the bottom of page 24. Which ideas in the paragraphs are also shown in the diagram? *CCSS Reading 7*

SPEAKING AND LISTENING

Collaborate on an Experiment With a partner, conduct a gravity experiment. You will need two pieces of paper. Crumple one into a ball. Next, one partner should stand on a chair and drop both pieces of paper at the same time from the same height. The other partner should observe which piece of paper lands first. Partners should try to come up with an explanation for why one paper fell faster than the other. Partners should present the experiment and their conclusions to the class.

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ARTICLE: Jacko's Special Day

Magazine pages 27 - 32, Contemporary Realistic Fiction



Jacko and his family live in a small town in Canada that's far away from other people and towns. Airplanes are an important part of life to people in this isolated area.

ESSENTIAL QUESTION

How and why do airplanes fly?

CORE CONTENT CONCEPT

Social Studies People in different types of communities use local and distant environments to meet their daily needs.

CROSS-CURRICULAR EXTENSION

Geography Nain, the town where Jacko lives, is in Newfoundland, Canada. Find Nain and Happy Valley-Goose Bay on a map. With your finger, trace the route the airplane might have flown between Nain and Happy Valley-Goose Bay.

KEY VOCABULARY

porridge (p. 31) oatmeal cereal

propeller (p. 31) a device with two or more blades that turn quickly and cause a ship or aircraft to move

snowmobile (p. 31) a vehicle used for traveling on snow or ice

PREPARE TO READ

Preview the story title and pictures. Ask students to predict what will happen on Jacko's special day. Display a two-column chart labeled "Predictions" and "Evidence." Record students' ideas in the chart. Then read the story aloud. Pause to discuss and revise predictions with students.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- In what different ways are airplanes important in the story? Find details in the story to support your answer. *CCSS Reading 1*
- What makes the day in the story special for Jacko? Use information from the story to list all the special things that happen on that day. *CCSS Reading 2*
- Why was Jacko anxious at the beginning of the story? How did his feelings change as the story progressed? *CCSS Reading 3*

Craft and Structure

- **Analyze Setting** How would this story be different if the town of Nain was a big city with a hospital that people could drive to? Make a list of ways the story would change. Compare lists with classmates. *CCSS Reading 3*
- **Analyze Narrator** Who is telling this story? With a partner, look through the story to find places where the narrator talks about his thoughts, ideas, and feelings. Make a list of five examples. *CCSS Reading* 6

WRITING

Write a Persuasive Letter to a Character Imagine Jacko is your pen pal and write a letter to him, persuading him not to worry because airplane travel is safe. Get together with other letter-writers and take turns reading the letters aloud.

COMPARING TEXTS

CROSS-TEXT CONNECTIONS

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

You know that airplanes help people travel from one place to another. What else can airplanes do for people? Look through "Airplane Acrobat" and "Jacko's Special Day" for information about other ways people use airplanes. Write 1-2 sentences about this.

What parts of a plane help it to stay in the air? Draw a picture of a plane. Then use information in "Take Me to the Airport!" and "How Do Planes Fly?" to label these parts.

You read about different kinds of airplanes in this magazine. Compare the airplanes in "Take Me to the Airport!," "Airplane Acrobat," and "Jacko's Special Day." Use the Compare Airplanes chart on page 16 to record your ideas. Think about

- the size of the planes
- the types of engines
- the number of people that can ride in the planes.

Create a three-column chart with the headings "Inside the Airport," "Outside the Airport," and "Inside a Plane." Look through "Take Me to the Airport!" and "On the Runway" for information about the jobs and workers in these three places. Record this information in the chart.

Look at the information about pilots in "Take Me to the Airport!" and "On the Runway." What kinds of things does a pilot need to know to fly a plane safely? Make a list of these things.

EXPLORATORY LEARNING - FLEXIBLE MINI-UNIT DESIGN

ENGAGE

READ FOR A PURPOSE

APPLY

This mini-unit provides students an opportunity to apply what they learned about aeronautics and how airplanes fly by having them create their own working models! 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 airplanes and flight by asking students to consider the Essential Question: How and why do airplanes fly? Display an alphabet chart like the one below. Help students review what they learned from the magazine articles by adding important words and ideas to the chart.

A airplane airport	В	С	D	E	F
G gravity	Н	1	J	К	L lift
Μ	Ν	0	P pilot	Q	R
S	T taxiways	U	V	W	X
Y	Z				

AIRPLANES AND FLIGHT

READ FOR A PURPOSE

INTRODUCE THE ACTIVITY: Paper Airplane Flight Explain to students that they will be making and decorating paper airplanes and then testing the airplanes to see how far they can fly.

RETURN TO THE TEXT: Explain to students that before they can create and test their paper airplanes, they must gather information about aerodynamics, or what makes airplanes fly. Display a chart like the one below. Remind students that lift is the force that helps planes fly. Work with students to go through page 24 of "How Do Airplanes Fly?" to find out what gives planes lift. Record this information in the first column of the chart. Next, work with students to figure out how they can use this information when they make and fly their paper airplanes. Add this information to the second column. Display this chart for the duration of the Apply activity. You will need to refer to it later on.

What does lift depend on?	How can I give my paper airplane lift?
the size and shape of the wings	I can make my plane bigger or smaller. I can make a plane with wide wings or narrow wings.
how much the wings tilt up	I can hold the plane so the nose is pointed to the sky and the wings tilt up.
how fast a plane moves through the air	I can use my arm like an engine to give the plane speed when I throw it.

MINI-UNIT (cont.)

APPLY: PAPER AIRPLANE FLIGHT: Now that students have reviewed how planes fly, they are ready to make their own paper airplanes. Each student should have his or her own paper airplane to decorate and fly. Easy directions for making three different paper airplanes can be found on this website: http://www.foldnfly.com. Review these directions so you can guide students in folding their airplanes for this activity.

Materials

- Sheets of paper-8 1/2 x 11
- Markers, colored pencils, crayons
- Writing pencils
- Tape measure or ruler

STEP 2: CREATE Divide the class into two or three groups and assign one paper airplane type to each group. Guide groups in folding their airplanes. **STEP 1: GATHER INFORMATION** Remind students that they are going to make and fly their own paper airplanes. Explain that they will measure how far their planes fly. This measurement will be added to a class chart. Then students will discuss why some planes flew longer than others.

STEP 3: TEST One at a time, have students fly their planes. Help measure each flight distance. Then record this information on a class chart, or use the Flight Information chart (p. 13). Display completed chart.

STEP 4: DISCUSS Help students identify which plane flew the longest and which flew the shortest distances. Have these two students hold up their planes and ask the class to speculate which characteristics of each plane influenced the length of its flight.

Hold a similar discussion for planes that flew the same distance.

Finally, go over the classroom chart from the Return to the Text activity and discuss how those factors may have influenced the flight distances of the paper airplanes. Make a list of students' ideas during this discussion session.

STEP 5: DISPLAY Create a "Flight Wall" to display students' airplanes, their flight distances, and the ideas listed in Step 4.





FLIGHT INFORMATION

Name	Distance	Name	Distance



PARTS OF A PLANE

Parts on the Outside of a Plane	Parts on the Inside of a Plane



RUNWAY GLOSSARY

Marking	What It Tells Pilots
Label	
Label	

COMPARE AIRPLANES

Write information about the plane in each text.

"Take Me to the Airport!"	"Airplane Acrobat"	"Jacko's Special Day"

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

<u>ELA</u>

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	
Cite specific textual evidence to support conclusions drawn from the text.	Reading 1	
Determine central ideas or themes of a text and analyze their development.	Reading 2	
Summarize key supporting details and ideas.	Reading 2	
Analyze how individuals, events, and ideas develop and interact 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 word choices shape meaning or tone.	Reading 4	
Analyze the structure of texts (sequence, cause/effect, compare/ contrast, problem/solution)	Reading 5	
Recognize the genre , key elements, and characteristics of literary texts.	Reading 5	
Assess how point of view or purpose shapes the content and style of a text.	Reading 6	
Analyze how an author's style and tone 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 arguments 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 narratives to develop real or imagined experiences or events.	Writing 3	
Draw evidence from literary or informational texts to support analysis,	Writing 9	
reflection, and research.		
Conduct short as well as more sustained research projects.	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 policies intended to address social issues.	

ECONOMICS

Evaluate the benefits and costs of individual economic choices.	
Analyze economic incentives, 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.	
Explain the importance of competition in a market economy.	
Apply economic concepts (i.e. interest rate, inflation, supply and demand) and theories of how	
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 examples of historical change	
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.	

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 ٠

SPACE SYSTEMS

Moon

Sun

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 Things
- Life Cycles and Stages
- Reproduction & Inherited Traits
- Animals
- Plants

- PHYSICAL SCIENCE
 - Interactions
- Energy
- Light
- Sound
- Electricity/ • Magnetism
- Matter
- Waves
- Heat
- Chemistry Information Processing

- EARTH SCIENCE
- . Climate
- Rocks & Soil
- Erosion and Weathering
- Landforms
- Water
- Oceans
- History of Earth
- Plate Tectonics
- Volcanoes. Earthquakes.