

Curriculum Mapping: Integrating Magnet Theme with Ongoing Units
 School: Johnson STEM
 Grade One 2008 - 2009

BB = Big Book
 TB = Trade Book

Essential statement: Johnson STEM students will become life long learners in science, technology, engineering and mathematics. These disciplines will be integrated into all content areas through investigation, problem solving and inquiry-based learning. Our goal is to inspire students to continue their education at institutions of higher learning and pursue STEM Careers.

Engineering: Students will learn and use the engineering design process (EDP) to create solutions to everyday problems.

Literacy	Unit 1: Digging for Treasure: Finding the Meaning in Nonfiction Text	Unit 2: How Do Our Books Go? Finding the Meaning in Fictional Text and Poetry	Unit 3: Going for Gold: Discovering Main Ideas I Nonfiction Text	Unit 4: The Life in Literature: Exploring Theme Through Character and Poetry	Unit 5: Discovery By Design: Exploring the Research Process	Unit 6: What Is This Really About? Exploring Ideas Across Fictional Text	Unit 7: Operation Communication: Sharing Our Messages About the World
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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Process, product, and materials</p>	<p>Unit of Study text listed in Instructional guide in addition to the following technology resources:</p> <p>United Streaming Brainpopjr.</p> <p>NASAKids Club: Students use this technology resource to better understand space exploration.</p> <p>Alphasmart Neoboards : These is a laptop keyboard that allows students to generate their written work in legible form.</p> <p>Pixie: Students use the technology resource to add graphic text features to written work.</p>	<p>Starfall.com : Students follow along with text read text online.</p> <p>Alphasmart Neoboards : These is a laptop keyboard that allows students to generate their written work in legible form.</p>	<p>NASAKids Club: Students use this technology resource to better understand space exploration.</p> <p>Alphasmart Neoboards : These is a laptop keyboard that allows students to generate their written work in legible form.</p> <p>Pixie: Students use the technology resource to add graphic text features to written work.</p>	<p>Starfall.com : Students follow along with text read text online.</p> <p>Alphasmart Neoboards : These is a laptop keyboard that allows students to generate their written work in legible form.</p>	<p>NASAKids Club: Students use this technology resource to better understand space exploration.</p> <p>Alphasmart Neoboards : These is a laptop keyboard that allows students to generate their written work in legible form.</p> <p>Pixie: Students use the technology resource to add graphic text features to written work.</p>	<p>Alphasmart Neoboards : These is a laptop keyboard that allows students to generate their written work in legible form.</p>	<p>Alphasmart Neoboards : These is a laptop keyboard that allows students to generate their written work in legible form.</p>
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Science	<p style="text-align: center;">Air and Weather</p> <p>The Air and Weather Module supports the following Physical and Earth Sciences Content Standards for grade 1.*</p> <p>PS1 Materials come in different forms (states), including solids, liquids, and gases. As a basis for understanding this concept:</p> <p>PS1a <i>Students know</i> solids, liquids and gases have different properties.</p> <p>ES3 Weather can be observed, measured, and described. As a basis for understanding this concept:</p> <p>ES3a <i>Students know</i> how to use simple tools (e.g., thermometer, wind vane) to measure weather conditions and record changes from day to day and across the seasons.</p> <p>ES3b <i>Students know</i> that the weather changes from day to day but that trends in temperature or of rain (or snow) tend to be predictable during a season.</p> <p>ES3c <i>Students know</i> the Sun warms the land, air, and water.</p> <p>I&E4 Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:</p> <p>I&E4a Draw pictures that portray some features of the thing being described.</p> <p>I&E4b Record observations and data with pictures, numbers, or written statements.</p> <p>I&E4c Record observations on a bar graph.</p> <p>I&E4d Describe the relative position of objects by using two references (e.g., above and next to, below and left of).</p> <p>I&E4e Make new observations when discrepancies exist between two descriptions of the same object or phenomenon.</p>	<p style="text-align: center;">Solids and Liquids</p> <p>Physical sciences</p> <p>PS1 Materials come in different forms (states), including solids, liquids, and gases. As a basis for understanding this concept:</p> <p>PS1a <i>Students know</i> solids, liquids, and gases have different properties.</p> <p>PS1b <i>Students know</i> the properties of substances can change when the substances are mixed, cooled, or heated.</p> <p>The Solids and Liquids Module supports the following Investigation and Experimentation Content Standards for grade 1.*</p> <p>investigation and exPerimentation</p> <p>I&E4 Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:</p> <p>I&E4a Draw pictures that portray some features of the things being described.</p> <p>I&E4b Record observations and data with pictures, numbers, or written statements.</p> <p>I&E4c Record observations on a bar graph.</p> <p>I&E4e Make new observations when discrepancies exist between two descriptions of the same object or phenomenon.</p>	<p style="text-align: center;">Plants and Animals</p> <p>Life sciences</p> <p>LS2 Plants and animals meet their needs in different ways. As a basis for understanding this concept:</p> <p>LS2a <i>Students know</i> different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of places.</p> <p>LS2b <i>Students know</i> both plants and animals need water, animals need food, and plants need light.</p> <p>LS2c <i>Students know</i> animals eat plants or other animals for food and may also use plants or even other animals for shelter and nesting.</p> <p>LS2d <i>Students know</i> how to infer what animals eat from the shapes of their teeth (e.g., sharp teeth: eats meat; flat teeth: eats plants).</p> <p>LS2e <i>Students know</i> roots are associated with the intake of water and soil nutrients and green leaves are associated with making food from sunlight.</p> <p>The Plants and Animals Module supports the following Investigation and Experimentation Content Standards for grade 1.*</p> <p>investigation and experimentation</p> <p>I&E4 Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:</p> <p>I&E4a Draw pictures that portray some features of the things being described.</p> <p>I&E4b Record observations and data with pictures, numbers, or written statements.</p> <p>I&E4c Record observations on a bar graph.</p> <p>I&E4d Describe the relative position of objects by using two references (e.g., above and next to, below and left of).</p> <p>I&E4e Make new observations when discrepancies exist between two descriptions of the same object or phenomenon.</p>
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Process, product, and materials	<p>Parachutes Bubbles Pin Wheels Balloon Rockets Air and Water Fountains Kites</p> <p>United Streaming video resources: <i>Air is Everywhere</i> <i>Weather</i></p> <p>Brainpopjr</p>	<p>Brainpopjr. Content –based movie series with Annie and Moby (the robot) <i>States of Matter</i> <i>Changes</i></p> <p>Discovery Education - Streaming video resources</p> <p>Extended Educational Experiences: San Diego Zoo Field Trip Camp Cahito</p>	<p>Brainpopjr. United Streaming video resources: <i>Properties of Matter</i> <i>Matter Takes Up Space</i></p> <p>Extended Educational Experiences: San Diego Zoo Field Trip Reuben H. Fleet Center Field Trip Plant-Eat-Grow San Diego County Fair</p>
Social Studies	<p style="text-align: center;">Developing Social Skills and Responsibility</p> <p>GRADE 1 A CHILD'S PLACE IN TIME AND SPACE COURSE DESCRIPTION Students continue to work cooperatively as citizens, learning more about their responsibilities to other people. Neighborhoods serve as the canvas of study for geographic and economic education. As knowledge about the interrelationships between people and places increases, so too will studies that connect to the larger world. Units of study focus on the diversity and culture of people living today and long ago. Students are exposed to various cultures, places, and dilemmas of our past and present societies.</p> <p>BASIC TEXTS AND TEACHING GUIDES Porter et al., <i>A Child's View</i>, Harcourt, 2007. It is important that students understand why some things change and others remain the same over time. Studies support learning about local and national heroes who make a difference in the world. Students explore local and national holidays and historic figures who have contributed to today's economic world.</p> <p>BASIC TEXTS AND TEACHING GUIDES Porter et al., <i>Our Communities</i>, Harcourt, 2007 Students use Alphaneo Smart Boards while in small groups to learn how to listen to each other and record their big idea.</p>	<p style="text-align: center;">Expanding Children's Geographic and Economic Worlds</p> <p>Students used Alphasmart neoboards to type labels and captions for their research on a South American country.</p>	<p style="text-align: center;">Developing Awareness of Cultural Diversity Now and Long Ago</p> <p>Students worked in diads and triads. They learned how to emulate national and international leaders as they engage in inquiry-based learning.</p>

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Math	<p>By the end of grade one, students understand and use the concept of ones and tens in the place value number system. Students add and subtract small numbers with ease. They measure with simple units and locate objects in space. They describe data and analyze and solve simple problems.</p>	<p>Number Sense 1.0 Students understand and use numbers up to 100: 1.1 Count, read, and write whole numbers to 100. 1.2 Compare and order whole numbers to 100 by using the symbols for less than, equal to, or greater than (<, =, >). 1.3 Represent equivalent forms of the same number through the use of physical models, diagrams, and number expressions (to 20) (e.g., 8 may be represented as 4 + 4, 5 + 3, 2 + 2 + 2 + 2, 10 – 2, 11 – 3). 1.4 Count and group object in ones and tens (e.g., three groups of 10 and 4 equals 34, or 30 + 4). 1.5 Identify and know the value of coins and show different combinations of coins that equal the same value.</p>	<p>2.0 Students demonstrate the meaning of addition and subtraction and use these operations to solve problems: 2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory. 2.2 Use the inverse relationship between addition and subtraction to solve problems. 2.3 Identify one more than, one less than, 10 more than, and 10 less than a given number. 2.4 Count by 2s, 5s, and 10s to 100. 2.5 Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference). 2.6 Solve addition and subtraction problems with one- and two-digit numbers (e.g., 5 + 58 = __). 2.7 Find the sum of three one-digit numbers. 3.0 Students use estimation strategies in computation and problem solving that involve numbers that use the ones, tens, and hundreds places: 3.1 Make reasonable estimates when comparing larger or smaller numbers.</p>	<p>Algebra and Functions 1.0 Students use number sentences with operational symbols and expressions to solve problems: 1.1 Write and solve number sentences from problem situations that express relationships involving addition and subtraction. 1.2 Understand the meaning of the symbols +, –, =. 1.3 Create problem situations that might lead to given number sentences involving addition and subtraction.</p>	<p>Measurement and Geometry 1.0 Students use direct comparison and nonstandard units to describe the measurements of objects: 1.1 Compare the length, weight, and volume of two or more objects by using direct comparison or a nonstandard unit. 1.2 Tell time to the nearest half hour and relate time to events (e.g., before/after, shorter/longer). 2.0 Students identify common geometric figures, classify them by common attributes, and describe their relative position or their location in space: 2.1 Identify, describe, and compare triangles, rectangles, squares, and circles, including the faces of three-dimensional objects. 2.2 Classify familiar plane and solid objects by common attributes, such as color, position, shape, size, roundness, or number of corners, and explain which attributes are being used for classification. 2.3 Give and follow directions about location. 2.4 Arrange and describe objects in space by proximity, position, and direction (e.g., near, far, below, above, up, down, behind, in front of, next to, left or right of).</p>	<p>Statistics, Data Analysis, and Probability 1.0 BStudents organize, represent, and compare data by category on simple graphs and charts: 1.1 Sort objects and data by common attributes and describe the categories. 1.2 Represent and compare data (e.g., largest, smallest, most often, least often) by using pictures, bar graphs, tally charts, and picture graphs. 2.0 Students sort objects and create and describe patterns by numbers, shapes, sizes, rhythms, or colors: 2.1 Describe, extend, and explain ways to get to a next element in simple repeating patterns (e.g., rhythmic, numeric, color, and shape).</p>	<p>Mathematical Reasoning 1.0 Students make decisions about how to set up a problem: 1.1 Determine the approach, materials, and strategies to be used. 1.2 Use tools, such as manipulatives or sketches, to model problems. 2.0 Students solve problems and justify their reasoning: 2.1 Explain the reasoning used and justify the procedures selected. 2.2 Make precise calculations and check the validity of the results from the context of the problem. 3.0 Students note connections between one problem and another.</p>		
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Process, product, and materials	<p>Brainpopjr. Content – based movie series with Annie and Moby (the robot): <i>Addition and subtraction,</i> <i>Geometry:solid and plane shapes</i> <i>Time</i> <i>Patterns</i></p> <p>Discovery Education Streaming: <i>Math Monster-Patterns</i></p> <p>NASAKidsClub – Art Supplies to make geometric character Illuminations.com – Ten Frame Mindresearch Primarygames.com</p> <p>Students use classroom laser printer, computer and Alphasmart neoboards to make math concept books.</p>								