



RIVER CITY SCIENCE ACADEMY ELEMENTARY K-5



RCSA Elementary Summer Project: **4th Grade**

PROJECT DUE DATE: **September 7th, 2021**

Upcoming 4th Graders Should Know:

<p>Math • Explain what multiplication and division are • Know the times tables up to 12 and multiply numbers by 10 • Use addition, subtraction, multiplication, and division to solve word problems involving more than one step • Understand the concept of area and how it relates to multiplication • Understand and identify fractions as numbers that can be placed on a number line; compare two fractions (like knowing that $\frac{2}{3}$ is bigger than $\frac{3}{5}$)</p>	<p>Science • Classify flowering and nonflowering plants into major groups such as those that produce seeds, or those like ferns and mosses that produce spores, according to their characteristics. • Identify the Sun as a star that emits energy; some of it in the form of light. • Recognize that the Sun appears large and bright because it is the closest star to Earth. • Define Gravity as being a force that pulls us towards the Earth. • Demonstrate that radiant energy from the Sun can heat objects and when the Sun is not present, heat may be lost.</p>
<p>Social Studies • Identify the levels and branches of government • Read a map (key/legend, cardinal directions) • Conduct research using online and printed material • Understand 1st hand and 2nd hand Accounts • Use primary and secondary resources</p>	<p>Social Skills • Work independently • Interact with peers and explore concepts & Work cooperatively in a group • Follow directions and participate in group activities • Share and communicate appropriately with other students & Respect their peers • Sit for a longer period of time than in third grade (90 minutes)</p>
<p>ELA • Determine the main idea and details in a story • Use other forms of print (newspapers, magazines, websites) • Compare and contrast information in multiple texts and learn how to use organizational methods (Venn diagrams, maps, webs) • Recall and retell events from a story in order • Tell how the author uses details to support their story or text</p>	<p>Writing • Use linking words (because, since, therefore, for example) • Know how to write a story with a beginning, middle, and an end. • Know how to revise, edit, and proofread their work • Know how to write multiple paragraphs and cite evidence • Know proper punctuation</p>



Recommended Reading List

Fiction	Nonfiction
<u>Tales of a Fourth Grade Nothing</u> - Judy Bloom (AR- 3.3)	<u>Sea Turtles</u> - Gail Gibbons- (AR- 4.1)
<u>Because of Winn-Dixie</u> - Kate DiCamillo (AR- 3.9)	<u>Who Was Roald Dahl?</u> - True Kelley (AR- 4.6)
<u>Harriet the Spy</u> - Louise Fitzhugh (AR- 4.5)	<u>Dangerous Jane</u> - Suzanne Slade (AR- 4.3)
<u>The Boxcar Children</u> - Chandler Gertrude (AR- 3.9)	<u>Muhammad Ali</u> - Michael Rajczak (AR- 5.5)
<u>Matilda</u> - Roald Dahl (AR-5.0)	<u>Serena Williams: Athletes Who Made A Difference</u> - Sam LeDoyen (AR- 3.9)
<u>Escape from Mr. Lemoncello's Library</u> - Chris Grabenstein (AR- 4.5)	<u>Jesse Owens: Athletes Who Made A Difference</u> - Blake Hoena (AR- 4.1)
<u>The Adventures of Stuart Little</u> - Daphne Skinner (AR 3.5)	<u>Manfish: A Story of Jacques Cousteau Plus Compass Pendant</u> - Jennifer Berne (AR- 4.3)
<u>The Wild Robot</u> - Peter Brown (AR- 5.1)	<u>When the Beat Was Born. DJ Kool Herc and the Creation of Hip Hop</u> - Laban Carrick Hill (AR- 4.2)

Recommended Reading Resources

- www.getepic.com
- <https://learn.khanacademy.org>
- <https://readtheory.org/>
- <https://home.oxfordowl.co.uk/>
- <https://www.factmonster.com/features/all-about-books>
- <https://www.storynory.com>

Recommended Math Fluency Activities

- Multiplication.com
- Mathplayground.com
- <https://www.mathsisfun.com/games/>
- <https://www.sheppardsoftware.com/math.htm>
- <https://www.prodigygame.com/main-en/>
- www.splashlearn.com



ELA CHOICE BOARD

Complete 2 tasks in each column. Each task should be put on a separate sheet of paper with the subject and number as the header. (i.e. ELA: Reading Informational Text Task #2) You will need to choose a fiction and nonfiction book to complete the choice board.

Reading Literature	Reading Informational Text	Writing	Language	Foundations
<p>1. Text a Character- Pretend you are sending a text message to a character about something that happened in the book. Record (write) what your conversation would look like.</p>	<p>1. Write a Speech- Write a short informational speech to give to your classmates about the topic you read about.</p>	<p>1. Write- Many children and teenagers spend hours playing video games. Write a made-up story about getting trapped in a video game. (5 or more sentences)</p>	<p>1. Article- Write a newspaper article about your author. When you are done highlight the nouns, verbs, adverbs, adjectives, and pronouns in different colors.</p>	<p>1. Fluency- Record yourself reading and rate your fluency. Read a passage for 60 second and record the number of correct words you have.</p>
<p>2. Create a Comic- Create a one-page comic strip showing an important event that happened in the book.</p>	<p>2. 3-2-1- Write down 3 things you learned, 2 questions you still have, and 1 opinion you have about what you read.</p>	<p>2. Write- Some people love trying new things and some people do not. Write about a time you tried something new. (5 or more sentences)</p>	<p>2. The Same and Opposite- Choose 5 vocabulary words from your book. Write a synonym and antonym for each word.</p>	<p>2. Decode- Choose 10 root words add a suffix to the word. Ex: Root word- observe Suffix- observation</p>
<p>3. Letter to the Author- Write a letter to the author. Tell them what you liked or disliked about the book. Let them know what you thought of the characters and the story.</p>	<p>3. Fact and Opinion- Find and write down 5 facts from the book. Then, write an opinion that goes with each fact.</p>	<p>3. Write- Imagine you are at the park with friends when you discover a rusty old key. Write about what happens next. (5 or more sentences)</p>	<p>3. Sort your parts of Speech- Create a list of 5 words for each of the following categories: nouns, verbs, adverbs, adjectives, and pronouns.</p>	<p>3. Decode- Choose 10 root words add a prefix to the word. Ex: Root word- determine Prefix- predetermine</p>
<p>4. Vocab Whiz- Find 7 words you don't know and look-up the definitions for them. Create your own mini dictionary.</p>	<p>4. Main Idea & Details- Identify the main idea of the book. Then identify 5 detail that support the main idea.</p>	<p>4. Write- Think about the best field trip you have ever had. Writing about this day. (5 or more sentences)</p>	<p>4. Illustrations- Choose 5 vocabulary words from your text. Write the definition and draw a picture.</p>	<p>4. Fluency- Choose a fluency passage and read it to your parents. Have them time your rate.</p>
<p>5. Theme song- Write a theme song for the main character. Think about their personality and things they did.</p>	<p>5. Write a Song- Write a song about what you learned from the book.</p>	<p>5. Write- If I could only see one color for the rest of my life it would be _____. (5 or more sentences)</p>	<p>5. Quiz- Create a quiz to test someone else's vocabulary knowledge.</p>	<p>5. Fluency- Choose a fluency passage to complete.</p>



MATH CHOICE BOARD

Complete 2 task(s) in each column. Each task should be put on a separate sheet of paper with the subject and number as the header. (i.e. MATH: Operations & Algebraic Thinking Task #4)

Operations & Algebraic Thinking	Number & Operations (Base 10)	Numbers & Operations (Fractions)	Measurement & Data	Geometry
1 Set a timer for 2 minutes. See how many multiplication and division facts you can solve before the timer goes off. Do it daily for 1 week to see if you can break your record.	1 Create a worksheet with 20 multidigit addition and subtraction problems that require regrouping. Be sure to include an answer key with explanations.	1 Define and illustrate these words: Numerator, denominator, equal parts, equivalent fractions and whole	1 Create a set (at least 10 pieces) of flip-flop cards (use index cards) in conversion units. Ex. One side is 1h 20 min Other side is 80 min.	1 Watch the read aloud for the book <i>The Greedy Triangle</i> on YouTube. Create a timeline of the triangle's life.
2 Practice multiplication timetable daily for one week. Download from google	2 Explain the concept of borrowing. Why is borrowing needed when subtracting?	2 Where do you see fractions in real life? Give 10 examples of fraction in real life.	2 Draw a clock and show the following times: 3:45, 5:15, 6:05, 12:55, 2:35	2 Research a famous mathematician. Create an informational fact card about them with at least 10 facts.
3 Write multiplication problems for the following scenarios: 6 groups of 4 4 groups of 3 7 groups of 5 5 groups of 8	3 Create word problems for these addition and subtraction problems. Compare and contrast the problems. $648 + 357 =$ $648 - 357 =$	3 Draw a model to show each fraction. Label the models. $1/2$ $3/4$ $4/6$ $5/8$	3 Write 6 of your own word problems involving measurement units such as kilogram-gram, liter-milliliter, meter-centimeter etc. Create an answer key.	3 Create a vocabulary book (at least 10 vocabulary words) in Geometry. It will include three columns. 1. Name 2. Definition 3. Drawing/shape
4 Explain the concept of division. Write your answer with equations, models, and words.	4 Explain why you may have to regroup when adding multi-digit numbers.	4 Write a letter to a friend explaining how to find equivalent fractions.	4 Write 6 of your own word problems involving area and perimeter. Create an answer key.	4 Create a quiz with 10 questions including geometry shapes, lines, symmetry etc. Provide answer key, too.
5 Draw arrays to represent the following multiplication problems. Then solve the problem. $3 \times 7 =$ $4 \times 4 =$ $5 \times 3 =$ $2 \times 6 =$ $6 \times 4 =$	5 Complete 5 lessons in any of provided links on Addition and Subtraction.	5 Create a poster showing the differences between whole numbers and fractions. Include models and words.	5 Create 10 flip flop cards (use index cards), for vocabulary in one word and other side definition including area-perimeter, measurement.	5 Create your own geometric monster. It must include a minimum of 2 rectangles 2 squares 2 triangles. You may add more shapes/lines if you would like/need. After you make it, make a color code for each shape and color your monster.



SCIENCE CHOICE BOARD

Complete 1 task(s) in each column. Each task should be put on a separate sheet of paper with the subject and number as the header. (i.e. Science: Nature of Science Task #1)

Life Science	Physical Science	Earth & Space Science
<p>1 Lifecycle Diagram</p> <p>Research and create a diagram on an incomplete and complete metamorphosis. Be sure to draw out and label each part of the lifecycle. What conclusion can you draw about the similarities and differences between the two lifecycles.</p>	<p>1 Gravity Experiment</p> <p>Gather 2 objects of similar mass. Come up with a testable question (How does...affect...) about what will happen when they are dropped from the same height at the same time. Create a hypothesis to match your testable question. The hypothesis must match an "If...then.... because" statement. Complete the experiment.</p>	<p>1 Weather Graph</p> <p>Record the weather in Jacksonville, FL for 1 week. Then compare our weather to a city on a different continent. Make a line graph to display your data. Do not forget to have a title, label your axes, and have equal intervals on your scale.</p>
<p>2 Adaptations Computer Project</p> <p>Design a computer project on adaptations. What are some of the adaptations that plants and animals need to help them survive? Include examples and show real world connections. Include pictures, graphics and key vocabulary words. What conclusions can you draw about the similarities and differences between plant and animal adaptations.</p>	<p>2 Forms of Energy Foldable</p> <p>Create a foldable on the different types of energy. What is important to know about each type of energy? You must have at least 6 parts to your foldable. Include real world examples, key vocabulary words, pictures and graphics, and real-world connections.</p>	<p>2 Moon Data Collection</p> <p>Observe the moon each day for one month. For each observation, record the date and time and illustrate how the moon looks each day in a table format. Your table should be organized and easy to read. (3rd grade can keep the nasa link)</p>
<p>3 Food Chain Diorama</p> <p>Create a diorama on food chains. Include different organisms in the food chain and label them. Show and explain how they relate and depend on each other. What conclusion can you draw about the similarities and differences between producers and consumers.</p>	<p>3 States of Matter Experiment</p> <p>Part 1 - Get a cup of water and cover it with plastic wrap. Create a testable question (How does....affect...) about what will happen to the water when it is placed on a windowsill for 5 days.</p> <p>Part 2 – Freeze a cup of water. After a day place the cup from the freezer in the refrigerator with a coin on top of the frozen water. Create a hypothesis about what will happen after 2 days. It must be an "If...then...because" statement.</p>	<p>3 Rock Cycle Scavenger Hunt</p> <p>Collect 10 different rocks from around your neighborhood. Classify the rocks based on one of the following properties: texture, color, size, or luster. Create a bar graph to display your results. Do not forget to label your axes, title, and have equal intervals on your scale.</p>



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