

Fifth Grade Curriculum Guide 2017-2018

English Language Arts

Fernandez, Baldwin, Chambers, and Sluder

Note: Content order subject to change in accordance with meeting student needs

Trimester #1 Interpretation Book Clubs and Narrative Craft Writing (August 29 - November 21)

In the initial reading unit, "Narrative Structure Study," students will focus on writing about reading with voice and investment, raising the level of their thinking and talking about literature, and analyzing symbolism in a book club. In the initial writing unit, "Narrative Craft," students will draw on all they know about narrative writing to write personal narratives from their own lives. Students will rely on mentor texts to elevate their writing; they will learn to elaborate with greater sophistication and highlight the central ideas that they want readers to draw from their writing.

Unit Topics & Objectives

Narrative Structure Study

Students will...

- Take charge of personal reading by setting goals
- Establish reading logs, book-shopping schedules, workshop structures and expectations
- Write about reading with voice and investment
- Link ideas to build larger theories and interpretations
- Debate about book ideas and defend with claims, reasons, and evidence

Narrative Craft

Students will...

- Generate ideas for personal narratives
- Use mentor texts to uncover internal details and revise
- Move through the writing process: rehearsing, drafting, revising, and editing
- Convey the main feeling through elaboration
- Set goals for next steps of writing
- Read with a "writer's eye" to find strategies for narrative writing

Trimester #2 Tackling Complexity in Information Texts and Featured Articles (November 28 - March 2)

This unit teaches students to embrace the complexities of their high-interest nonfiction texts. Students will investigate the ways nonfiction texts are becoming more complex, and they'll learn strategies to tackle these new challenges, such as expecting to encounter multiple main ideas, some taught implicitly. Instruction emphasizes the strong foundational skills, such as fluency, orienting to texts, and word solving, that are required to read complex nonfiction. Students will pursue independent inquiry projects, drawing on all their skills to tackle complex texts. Reading analytically is critical for fifth-graders. Students will analyze differences in perspective across texts, particularly differences that tie into the author's craft or structure decisions. Fifth-graders will make their own connections and spark their own ideas as they think deeply about a text, so they can contribute their own thinking to conversations on their topics.

In writing, "Feature Articles," students will embrace the complexities of their high-interest nonfiction texts. Students will investigate the ways nonfiction texts are becoming more complex, and they'll learn strategies to tackle these new challenges, such as expecting to encounter multiple main ideas, some taught implicitly. Instruction emphasizes the strong foundational skills, such as fluency, orienting to texts, and word solving, that are required to read complex nonfiction. Students will pursue independent inquiry projects, drawing on all their skills to tackle complex texts. Students will analyze differences in perspective across texts, particularly differences that tie into the author's craft or structure decisions.

In conjunction with reading lessons on fiction and literary nonfiction, students will comment on and analyze works that they have read. Literary essays will follow standard writing conventions and the structure of a formal, academic essay, and students will base their observations and extensions on instances and evidence from the texts they read. Literary essays should reflect not merely an understanding of the literature that students read, but also of literary conventions and elements in general. Very importantly, each student's writing must reflect a genuine curiosity about literature and its reflection of human truths and experience.

We will begin the new year with a mini-unit, "Reading and Writing Poetry," in which students will explore the differences between poems, drama, and prose, and analyze structural elements of poems in writing and speaking. During the unit, students will also select mentor poems to use as inspiration to create their own poetry.

Unit Topics and Objectives

Tackling Complexity in Information Texts

Students will...

- Determine multiple main ideas of a text and summarize the text, including how key details support the main ideas
- Study structures of texts and considering how the choice of text structures support the author's purposes
- Determine the meaning of unfamiliar words in content-based texts
- Compare and contrast multiple authors' points of view
- Consider the relationships of events, including their causes and consequences
- Ground ideas in text-based evidence, quoting from the text
- Integrate different texts to speak and write about a topic
- Conduct short research projects to research different aspects to build their knowledge of that topic
- Take various forms of notes with summarizing and paraphrasing

Featured Articles

Students will...

- Examine a topic and convey ideas and information clearly
- Engage in research, keep track and cite relevant sources
- Analyze what writers do in terms of craft, structure, and perspective
- Move through the writing process: rehearsing, drafting, revising, and editing
- Set goals for next steps of writing
- Make effective choices about the logical structure of their informational writing

Literary Essay: Opening Texts and Seeing More

- Analyze the transformation of dynamic characters in literature
- Apply the basic skills of spelling, capitalization, and punctuation properly to their writing
- Assist and receive assistance from peers in developing ideas, writing, revising, and editing
- Discern the theme or central idea of a literary text and analyze its development throughout the work
- Interpret on both literal and inferential levels
- Provide a clear introduction, a thoughtful and elaborate body, and a solid conclusion, all coherently supporting an explicit thesis statement
- Use appropriate transitions to optimize continuity
- Use evidence to back up their literary analysis

Reading and Writing Poetry

Students will...

- Describe the overall structure of poems (stanzas, lines, verse, line break, etc.)
- Determine the theme of the poem
- Determine how parts of a poem fit together and into the whole
- Understand the relationship between readers and writers with attention to the craft of a text
- Write a variety of poetry incorporating learned poetic elements

Trimester #3 Researching Debatable Issues and Testing Genre Study (March 6 - June 6)

“Argument and Advocacy” is a reading unit that supports students in reading more complex, challenging nonfiction. It is also a unit that aims to support fifth graders in becoming more active and critical citizens. In today’s world, we need people who read to be informed, who try to truly understand an issue before having an opinion, and who do not just accept what they read, but who think deeply enough to question what they read. As fifth graders transition toward middle school, they are figuring out who they are and what they stand for. This unit aims to help them think for themselves, to learn to have an informed viewpoint and to communicate it clearly, as well as to listen to others. The unit also enables them to think about complicated issues with which the world is dealing and to make decisions that will let them live more informed lives (and when needed, to advocate).

In the writing unit “Research-Based Argument Essay,” students will write opinion pieces in which they argue and support their position on a debatable issue. As argument writers, students are expected to structure their writing so that it includes claims that are supported by reasons that are backed by evidence. They’ll learn to suspend judgment, to read critically, to note-take, to build an argument, and to revise and rethink and rebuild.

The big work of the Testing Genre study is to support students in bringing forward all they have learned all year about each genre. It is also about helping students see connections between genres, for example, reminding them to use all they know about story structures in fiction to identify important elements in narrative nonfiction articles. The main goals of the unit are to support students in reading passages and holding on to meaning, to review strategies students already know for each genre, to teach strategies to quickly identify genres, and to teach predictable question types for each one.

Unit Topics & Objectives

In these units, students will...

- Build their reading behaviors, decoding skills and fluency
- Develop Fiction/Literature Reading and Writing skills, namely:

Argument and Advocacy

- Investigate debatable issues through reading complex text sets
- Mine texts for relevant information on both sides of the argument
- Summarize texts to hold on to what’s most essential
- Compare and contrast multiple authors’ points of view
- Consider bias and credibility of authors
- Deepen understanding by talking about and reading complex texts with others
- Take various forms of notes with summarizing and paraphrasing

Lens of History: Research Reports

- Investigate to understand an argument
- Use evidence to build arguments
- Bring a critical perspective to their writing
- Consider counterclaims and integrate into writing
- Annotate sources
- Analyze what writers do in terms of craft, structure, and perspective

- Revise writing to strengthen arguments

Testing Genre Studies

- Monitor for understanding while reading a variety of passages
- Transfer reading strategies from other genres
- Identify elements of fiction and nonfiction genres
- Identify predictable question types
- Search for evidence in passages to support thinking

ELA Personalized Learning Approach

Students will work in differentiated groups based on their individual needs. Instruction will be a combination of: whole class instruction, small group instruction, partner work and independent work. Differentiated groups will be determined through ongoing formal and informal assessments and will support their work in strategy and guided reading groups.

Student Work

The majority of student work will be completed within their Reader's and Author's notebooks. This year, Charlotte Lab School will also use an online portfolio system called SeeSaw which will enable students to independently showcase what they are learning in each one of their content areas. Both students and teachers will be able to view and assess progress and growth over time. In ELA, students will post to SeeSaw at least once per week to share their current work and progress toward their personalized goals. Teachers will provide feedback weekly as well. Families are invited to also leave encouraging comments on their student's work as well. For more information about SeeSaw go to - <http://web.seesaw.me/learn-more>

Homework and Home-School Connections

Homework will only consist of daily reading and work that students did not finish during the school day. There will be no formally assigned homework this year. Research has been unable to prove that homework improves student performance. Rather, we ask that you spend your evenings doing other activities that correlate with student success - reading with your student, eating dinner together, playing outside, participating in after school activities, and getting your student to bed early. Students will be encouraged to read and write independently or with adults whenever possible and appropriate. Students will also have a reading log for their out of school reading to foster independence and reflection on their reading habits. Families are NOT expected to sign this log. Students are responsible for filling out their logs in order for teachers to discuss and reflect on the student's book choices, stamina, and reading habits.

Parent-Teacher Communication

The best way to communicate general questions is through your student's advisor because multiple teachers work with each student. If a specific ELA question arises, please directly email the ELA team and an answer will be provided within 48 hours.

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Mathematics

Brown, Boidy, Davino, Newswanger

Trimester #1 - Numerical expressions, order of operations, ordered pairs, coordinate planes, geometry, multiplication and division (August 28- November 21)

In this unit, students will explore ordered pairs and how to use them on coordinate planes. They will also learn about numerical expressions and use the order of operations to determine the answers to various equations. Students will revisit multiplication and division standards from fourth grade.

Unit Topics, Objectives & Vocabulary

Below is a list of the topics that will be introduced this trimester. While this represents pacing for a typical 5th grader, teachers will group students according to their level of mastery in each of these concepts and will personalize pacing and work for the students; some students may need to review prerequisite topics while others may have already mastered what is listed below and will move on to deeper content.

<u>Topics</u>	<u>Objectives</u> Students will...	<u>Vocabulary</u>
Numerical Expressions/ Order of Operations	<ul style="list-style-type: none"> Explore different numerical expressions using all four operations Use the associate property and distributive property to solve whole number expressions ie: $(8 + 27) + 2$ or $(6 \times 30) + (6 \times 7)$ Verbally describe expressions without calculating them 	<i>Associative property, distributive property, expression, order of operations (to an extent), equation</i>
Ordered Pairs/ Coordinate Planes	<ul style="list-style-type: none"> Generate two numerical patterns given two rules Turn the numerical patterns into a line graph on a coordinate plane Use ordered pairs to plot on a coordinate plane 	<i>Independent variable, dependent variable, constant rate, numerical pattern, line (linear) graph, coordinate plane, rate, x-axis, y-axis</i>
Geometry	<ul style="list-style-type: none"> Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles Classify two-dimensional figures in a hierarchy based on properties 	<i>Two-dimensional, angles, hierarchy, properties, attributes</i>
Multiplication/ Division	<ul style="list-style-type: none"> Review various strategies related to multiplying multi-digit whole numbers Multiply multi-digit whole numbers using the standard algorithm Review multi-digit division strategies Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors using the standard algorithm 	<i>Quotient, standard algorithm, dividend, divisor, product</i>

Trimester #2 - Decimals and Fractions (November 28- March 2)

Students will review what decimals are, and explore place value associated with decimals.

Students will add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Students will also apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They will develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them.

<u>Topics</u>	<u>Objectives</u> Students will...	<u>Vocabulary</u>
Place Value/ Decimals	<ul style="list-style-type: none"> Recognize that in a multi-digit number, a digit in the ones place represents 10 times as much as it represents in the place to its right and $1/10$ of the place to its left Recognize place value in whole numbers and decimals Review comparing decimals 	<i>Base-ten system, decimals, greater than, less than, equal to</i>
Add, subtract, multiply, and divide decimals to hundredths.	<ul style="list-style-type: none"> Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10; use whole-number exponents to denote powers of 10 	<i>Decimal, decimal point, tenths, hundredths, products, quotients, dividends</i>
Add and subtract fractions with unlike denominators (including mixed numbers)	<ul style="list-style-type: none"> Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators; for example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$ 	<i>Fraction, equivalent, unlike denominator, numerator, mixed numbers</i>
Multiply and divide fractions	<ul style="list-style-type: none"> Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions 	<i>Fraction, equivalent, unlike denominator, numerator, mixed numbers</i>
Word Problems	<ul style="list-style-type: none"> Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators Create expressions and equations to represent word problems 	<i>Addition/ add, sum, subtraction/subtract, difference, estimate, reasonableness</i>

Trimester #3 - Measurement and Data, Volume, & Spiral Review (March 6 - June 6)

Students will explore measurement and data at the beginning of this trimester. In 5th Grade, students extend their abilities from Grade 4 to express measurements in larger or smaller units within a measurement system. We will have the opportunity to reinforce notions of place value for whole numbers and decimals, and the connection between fractions and decimals (e.g., 2 ½ meters can be expressed as 2.5 meters or 250 centimeters). Building on the skills from 4th grade, 5th grade students might complete a table of equivalent measurements in feet and inches. They will learn and use such conversions in solving multi-step, real world problems.

In addition, students will recognize volume as an attribute of three-dimensional space. They will understand that volume can be measured by finding the total number of same size units of volume required to fill the space without gaps or overlaps. They will also understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume; then they will measure necessary attributes of shapes in order to determine volumes and solve real world and mathematical problems.

<p>Converting Among Standard Measurement Units</p>	<ul style="list-style-type: none"> • Convert different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m) • Use these conversions in solving multi-step, real world problems 	<p><i>length, mass, liquid volume, measurement, attribute, volume, solid figure, right rectangular prism</i></p>
<p>Representing and Interpreting Data</p>	<ul style="list-style-type: none"> • Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8) • Use operations on fractions for this grade to solve problems involving information presented in line plots 	<p><i>line plot, data point, unit</i></p>
<p>Understanding and Measuring Volume</p>	<ul style="list-style-type: none"> • Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume • Recognize volume as an attribute of solid figures (their capacity) and understand concepts of volume measurement (Example: a cube with side length 1 unit, called a “unit cube” has “one cubic unit” of volume) 	<p><i>volume, capacity, unit, unit cube, gap, overlap, cubic units (cubic cm, cubic in., cubic ft., nonstandard cubic units), edge lengths, height, area of base</i></p>

We will be reviewing all of the concepts from the year for the rest of the trimester. All of these topics are in the tables above.

Math Personalized Learning Approach

Personalized learning is instruction that offers specific curriculum and learning environments that meet each individual student's needs. Students will approach the content in a variety of ways and paces based upon their mastery of each concept. This process will look like this:

- Students will take a pre-assessment
- Once the assessment is scored, students will be placed into one of the 3 personalized learning groups for enrichment, review, mini-lesson and foundation skills
- Students will stay in that specific skill group for several weeks depending on the skill
- The skill is taught and practiced and then students will take a post assessment
- After the post assessment is scored, students will either remain in the same group to focus on the same skill with more practice or move on to another skill

Student Work

This year, Charlotte Lab School is using an online portfolio system called SeeSaw, which enables students to independently showcase what they are learning in each one of their content areas. Both students and teachers are able to view and assess progress and growth over time. In Math, parents are able to view snapshots of some of the content activities that are taking place in class. Ask your children to explain the learning that these pictures reflect!

In addition, students are expected to correct and comment on their work as needed and teachers will provide weekly feedback on their submitted work through the Seesaw program. Students should have relevant and current Do Now math problems in their binders behind the Math tab and in their Math journals.

Homework and Home-School Connections

Homework will be assigned as needed to complete in-class tasks and for extra practice. If homework is assigned, its purpose is to ensure that students are practicing independently at home. We also encourage parents to review SeeSaw at home with their children; this allows parents to connect with what your child is learning in Math. Here are some other things you can do at home to reinforce the learning that is taking place at school:

- *Measure objects around the house, comparing lengths, heights, volume, and time*
- *Create line plots using measurements and data of the family (heights, ages, family tree/members, etc.)*
- *Measure volumes as capacity (when cooking, working with liquids, filling the bath, etc.)*

Parent-Teacher Communication

The best way to communicate general questions is through your student's advisor because multiple teachers work with each student. If a specific Math question arises, please directly email the Math team and an answer will be provided within 48 hours.

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Quest

Brown, Boidy, Wycinsky

Trimester #1: Green Our School- Energy Audit (August 28-November 21)

The Challenge

We can all agree that we have an awesome school! As you walk around, you can see students working on hands on activities and projects, interacting and collaborating with each other, and even doing yoga and playing ukuleles. We have so many great aspects of our school, but we are missing some key components. Those key components are very important because they are contributing to the impact we have on the environment. Lights are left on, chargers are plugged without devices, we do not actively use window coverings to supplement/limit heat, and we generate enormous amounts of photocopies. We need your help to reduce our energy waste and improve our carbon footprint at Charlotte Lab School. How can we reduce our usage of energy and ,therefore, save money for our school? How do businesses in our community reduce their environmental impact? What types of business practices and models can we incorporate to increase our dedication to protecting the world around us?

The Quest

In this Quest, students will study energy as it relates to heat waste and the environment. Students will explore energy and heat transfer and how various energy uses affect our planet. We will explore local and global relationships between environments and 'heat waste' through field observations, as well as collecting and analyzing data. We will use this research to test school and home energy saving theories and the possible impact of these savings. Students will visit LEED buildings, in addition to interacting with EPIC faculty, Duke Energy, and other local energy experts. Students will also explore and research various business models that encourage fair trade, sustainability, e-commerce, and environmental business practices. Students will perform an energy audit of Lab and ultimately make recommendations to the network and leadership teams how how to improve our energy efficiency. Maker Lab is part of Quest, so students will participate in a variety of maker-based activities to reinforce concepts throughout the year.

Course Objectives

<u>Big ideas</u>	<u>Content and Concepts</u>	<u>Survival Skills</u>
<p>Science: Build understanding of energy, heat, and an appreciation of their environmental impact. Develop a deeper understanding of heat transfer and how it relates to natural resources</p>	<p>5.P.3 Energy Conservation and Transfer</p> <p>4.P.3 Recognize that energy takes various forms that may be grouped based on their interaction with matter.</p>	<ul style="list-style-type: none"> ● Critical Thinking and Problem Solving ● Collaboration and Leading by Influence ● Agility and Adaptability ● Initiative and Entrepreneurship ● Effective Oral and Written Communication ● Accessing and Analyzing Information ● Curiosity and Imagination

Trimester #2 - Adolescence: A Parent's Guide (November 28 - March 2)

The Challenge

Hey kids, your parents are at an age where everything is confusing. Their children's voices are changing, bodies are changing, and interests are changing. It's like they've been adults their entire lives and they have no ideas how to relate to a soon-to-be teenager! To top it all off, they want to have awkward conversations with you about things like relationships, puberty, and keeping safe online. Let's help them out. Your mission is to create a tool or two that helps you lead the conversation with your parents. With your help, they can do this!

The Quest

Students will gather several components from their knowledge, skill, and interest rotations in order to develop an effective communication tool. This tool will involve the integration of effective oral and written communication, science, research, and lots of creativity. At the end, each student will have their own communication tool to discuss adolescent development. A more detailed curriculum outline will be provided to families at the end of T1.

Course Objectives

<u>Big Ideas</u>	<u>Content and Concepts</u>	<u>Survival Skills</u>
Science: What does it mean to be alive?, Biology, Human Body Systems The Human Brain, The Adolescent Brain and Emotions	5.L.1 - Understand how structures and systems of organisms (to include the human body) perform functions necessary for life. 5.L.3 -Understand why organisms differ from or are similar to their parents based on the characteristics of the organism.	<ul style="list-style-type: none"> ● Critical Thinking and Problem-Solving ● Effective Oral and Written Communication

Trimester #3 River District Design Consultants (March 6 - June 6)

The Challenge

As communities, states, and countries grow the people around the world become more connected. Our growth alone presents several global demands upon our natural resources. Sustainability is defined as, "meeting the needs of the future without compromising the ability of future generations to meet their own needs." As Charlotte itself grows, we must consider sustainability in our urban planning and development policy. Last year students explored the concepts of sustainability and the US food system, during this trimester we will continue our exploration of sustainability with a focus on urban planning and sustainable design.

The Quest

In this 5th Grade Quest, students will explore the concept behind the development of the upcoming “River District” here in Charlotte. Students will learn from local professionals who are designing elements of this future community. Students will incorporate much of their knowledge from previous quests into their project work. Additionally, students will develop an understanding of how art and engineering elements are at work in an urban plans. Students will further have the opportunity to engage in tactical urbanism, brainstorming low-cost, temporary changes to our environment, intended to improve safety around and gatherings at Lab.

Course Objectives

<u>Big Ideas</u>	<u>Content and Concepts</u>	<u>Survival Skills</u>
<ul style="list-style-type: none"> • What elements are part of a community? • How does that community have an impact on local habitats and the environment? • How can communities support and improve the environment around them? • How does community and building design adapt to environmental and community demands? 	<p>EE.n.2.8 Evaluate human behaviors in terms of how likely they are to ensure the ability to live sustainably on Earth</p>	<ul style="list-style-type: none"> • Critical Thinking and Problem Solving • Collaboration Across Networks and Leading by Influence • Agility and Adaptability • Initiative and Entrepreneurship • Effective Oral and Written Communication • Accessing and Analyzing Information • Curiosity and Imagination

Quest Personalized Learning Approach

Personalized learning is instruction that offers specific curriculum and learning environments that meet each individual student’s needs. In 5th grade, students will be placed in different groups throughout the Quest block based on individual needs, strengths, and levels. Groups will change as needed throughout the year according to informal and formal assessments.

Student Work

Charlotte Lab School uses an online portfolio system called SeeSaw which enables students to independently showcase what they are learning in each one of their content areas. Both students and teachers are able to view and assess progress and growth over time. In Quest, students will include examples of their work in the form of videos, pictures, drawings, & messages. Teachers provide feedback and families are invited to leave comments on their child’s work as well.

Homework and Home-School Connection

Homework will only consist of work that your student did not finish during the school day. There will be no formally assigned homework this year. Since the purpose of Quest is to foster curiosity in your child, we encourage activities that include experiments, building, outdoor exploration, and making, using items easily accessible in your home! We also hope that you will ask your child many questions about what they’re learning and doing in Quest each day.

Parent-Teacher Communication

The best way to communicate general questions is through your student’s advisor. If a specific Quest question arises, please directly email the Quest team and an answer will be provided within 48 hours.

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