

**8th Grade
Curriculum Night
September 18, 2019**

8th Grade Team

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Rebecca Jones- Science

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Erin Preston- Case Manager

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The 8th Grade Experience: Educational Themes

In conjunction with the following themes:

- Community
- Citizenship
- Curriculum Connection

The 8th grade team is excited to offer a series of unique experiences aligned to these themes. We plan on rolling out these experiences once we have had time to coordinate as a team and with the different providers outside of the school who will help us add to the 8th grade year. We plan to roll out communicate our action plan on November 1st.

Communication

Weekly Overview

Weekly Update/Email

Google Classroom Pages

Parent Portal/Power School

Conferences and Reporting

First term conferences will take place during the weeks Oct 14- Nov. 1

There will be comments on the report cards each term:

First term ends November

Second Term ends March

Third Term ends June 11

Ways to support your 8th Grader:

1. Homework Space
2. Encourage student to email teachers with questions or to set up a time to meet - self advocate
3. Binders/Lockers/Backpacks- encourage organization
look at work that is sent home

Materials necessary: binders, pencils, pens, calculators
Display Weekly Overview at home

Mathematics

8th Grade “Pre-Algebra” Concepts: Exponential Notation and its applications, Geometric Congruence and Transformations, Similarity and the Pythagorean Theorem, Linear Equations, Linear Functions (Application of what we learn through a study of linear equations), Introduction to Irrational Numbers using Geometry

This year, we will use Eureka Math as a conceptual framework and adapt lessons and activities to fit that framework. It is a challenging model, but it helps create thoughtful mathematicians.

Mathematical Philosophy-

- What is mathematics?
- Kids need to be able to communicate effectively.
- Students need to develop and practice skills that foster independence.
- Learning is 50/50!
- Accept and appreciate disequilibrium and use feedback and experience to learn (Piaget).
- We learn through doing (Building, playing, being mentally active...)
- I am here to help make each student the best version of themselves.

How we learn?

- Guided Math: Research shows that attention the attention span of any child ranges from about 5 to 15 minutes. Guided Math emphasizes small group lessons and provides opportunities in class to work with small groups on math tasks, work independently and identify personal areas of need, and have fun with mathematics.

What a class looks like:

- Students travel in small groups of 4 to 5 working at four different centers each class period.
- Each day, they will visit the centers and have a chance to meet with Mr. Szeliga, work on a group task, work independently (Exit Slips), and explore with mathematics.
- Once we learn the routine, all students will be getting time each week to work on their individual “pathways” (AKA. Goals).
- The goals may be areas in need of improvement or mathematical areas of interest.
- Pathways is meant to individualize the learning process so every student can make progress.

Algebra????

- Students at NHS have the opportunity to “test out” of Algebra 1 at Winnacunnet and transition directly into Geometry Honors.
- We only have 60 minutes of class time each day to address the 8th grade curriculum (Which is largely Algebraic in nature), so I have to find times each week during class to introduce Algebraic concepts.
- Students do not have to participate in these activities but I will make them available to all.
- The major difference between 8th grade math and Algebra 1 is a more intensive study in the area of functions, particularly quadratic and exponential functions. Most of 8th grade is already “Algebra.”

Other...

Communication: I send out a monthly newsletter to highlight what we've accomplished and what to look forward to in the coming month.

Resources: I have purchased six "study books" that correspond to our curriculum. They will be made available to the students and I will make notes available on google classroom once the books arrive. On our google classroom page, I have listed a series of online sources that can be referenced at home in times of need. Students may also take home an Algebra textbook for at home reference.

Language Arts

The goal of this year is to prepare students for the high school experience. This will be completed through detailed study in:

- Reading- a variety of texts will be used, including cross curricular material.
- Writing- Students will write in response to their readings
 - Informative/ Expository writing
 - Persuasive writing
 - Narrative writing
- Effective Oral Communication
- Grammar
- Vocabulary

Reading Skills

Read with purpose, slow down (close reading) and appreciate the techniques and craft of writing.

Reading and writing are connected.



Writing Skills

Write and revise, both collaboratively and independently. Use concise- powerful language, utilize technique, sentence variety, punctuation for impact, use of evidence, elaboration, cohesive structure- claim, evidence, solution/theory.

Writing is multifaceted- it is used to understand ideas and communicate ideas-
“writing to understand and writing to be understood”

close reading)

“We do”- Small groups/whole class- practice and learn

“You do”- Students have an opportunity to apply what they learned- homework and projects- lots of choice!

Science



Goals of the Science Curriculum:

- To understand the basic science concepts within each unit
- To develop the essential skills to do well in science
- To have a deeper understanding of the framework needed to make connections within topics of science
- To develop the skills of a scientifically literate citizen

Development of basic scientific skills:

- Detailed observation
- Research/comprehension of specific topics
- Analysis
- Ability to synthesize results

My goal is to develop *scientifically literate* individuals.

Science literacy is the artery through which the solutions of tomorrow's problems flow.

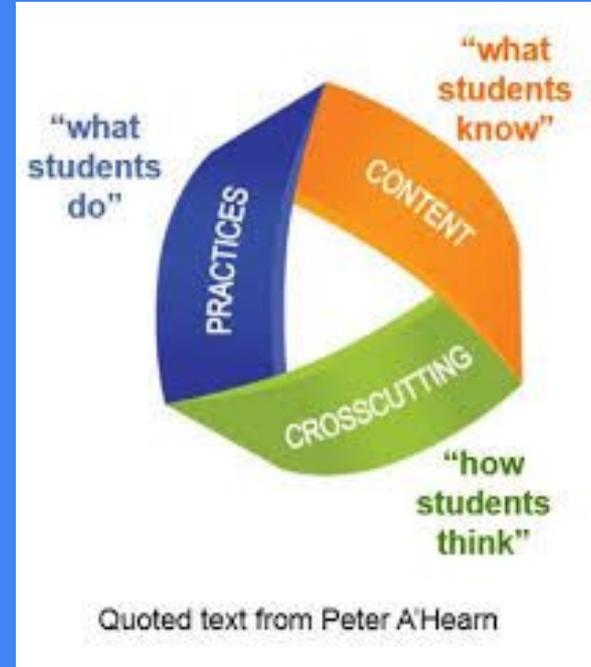
Neil deGrasse Tyson

NGSS standards are three dimensional with an emphasis on growth through a continuum

Scientific and Engineering Practices

Disciplinary Core Ideas

Crosscutting Concepts



Scientific and Engineering Practices

1. Making observations and asking questions
2. Designing specific investigations
3. Conducting scientific investigations
4. Representing and understanding the results of investigations
5. Evaluating scientific explanations

How to “do” science

Crosscutting Concepts

1. Nature and Science of Engineering
2. Patterns
3. Cause and Effect
4. Scale, Proportion, and Quantity
5. Energy and Matter in Systems
6. Structure and Function

Structure for how to think about the natural world across the units

Development of the practice of “Asking Questions and Defining Problems”

Grades K-2	Grades 3-5	Grades 6-8	Grades 9-12
<p>Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions that can be tested.</p> <ul style="list-style-type: none"> • Ask questions based on observations to find more information about the natural and/or designed world(s). • Ask and/or identify questions that can be answered by an investigation. • Define a simple problem that can be solved through the development of a new or improved object or tool. 	<p>Asking questions and defining problems in 3–5 builds on K–2 experiences and progresses to specifying qualitative relationships.</p> <ul style="list-style-type: none"> • Ask questions about what would happen if a variable is changed. • Identify scientific (testable) and non-scientific (non-testable) questions. • Ask questions that can be investigated and predict reasonable outcomes based on patterns such as cause and effect relationships. • Use prior knowledge to describe problems that can be solved. • Define a simple design problem that can be solved through the development of an object, tool, process, or system and include several 	<p>Asking questions and defining problems in 6–8 builds on K–5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models.</p> <ul style="list-style-type: none"> • Ask questions <ul style="list-style-type: none"> ◦ that arise from careful observation of phenomena, models, or unexpected results, to clarify and/or seek additional information. ◦ to identify and/or clarify evidence and/or the premise(s) of an argument. ◦ to determine relationships between independent and dependent variables and relationships in models. ◦ to clarify and/or refine a model, an explanation, or an engineering problem. ◦ that require sufficient and appropriate empirical evidence to answer. 	<p>Asking questions and defining problems in 9–12 builds on K–8 experiences and progresses to formulating, refining, and evaluating empirically testable questions and design problems using models and simulations.</p> <ul style="list-style-type: none"> • Ask questions <ul style="list-style-type: none"> ◦ that arise from careful observation of phenomena, or unexpected results, to clarify and/or seek additional information. ◦ that arise from examining models or a theory, to clarify and/or seek additional information and relationships. ◦ to determine relationships, including quantitative relationships, between independent and dependent variables.

Curriculum Development Process:

Year 1	Year 2
Earth's History: Plate tectonics, weathering & erosion (MS-ESS2)	Waves and Electromagnetic Radiation: Sound and electromagnetic waves and data transfer technologies (PS4)
Matter and Its Interactions: Atoms, elements, compounds, reactions (MS-PS1)	Motion and Stability: Forces and Interactions (PS2)
Heredity: Inheritance and Variation of Traits (MS-LS3)	Earth's Place in the Universe (MS-ESS1)
Biological Evolution: Unity and Diversity: Evolution and adaptations (MS-LS4)	From Molecules to Organisms: Structures and Processes (LS1)
Genius Hour/ W.E. Talks	Genius Hour/ W.E. Talks

Essential Questions for this years content:

Waves and Electromagnetic Radiation: Sound and electromagnetic waves and data transfer technologies (PS4)

How can one explain the structure, properties and interactions of matter?

Motion and Stability: Forces and Interactions (PS2)

How can one explain and predict interactions between objects and within systems of objects?

Earth's Place in the Universe (MS-ESS1)

What is the universe, and what is Earth's place in it?

From Molecules to Organisms: Structures and Processes (LS1)

How do organisms live, grow, respond to their environment and reproduce?

W.E. Talks:

What do YOU want to learn about?

Grading is based on two categories of work:

Formative- work done along the way of learning new material in the cycle	Summative- work done to assess the level of understanding at the end of the learning cycle
Counts as 10% of the final grade Graded on a 1-4 scale	Counts as 90% of the final grade Graded on a percent scale
Homework Lab worksheets Classwork Notebook Checks	Quizzes (weighted less than final) Projects Final unit assessment Lab reports

Goals of the Social Studies Program

- To develop background social studies knowledge .
- For students to become critical consumers of information.
- For students to evolve their writing, research, and communication skills.
- To instill students with knowledge and abilities to be productive members of a democratic society.

Social Studies

What we learn?

Immigration- Sense of Place

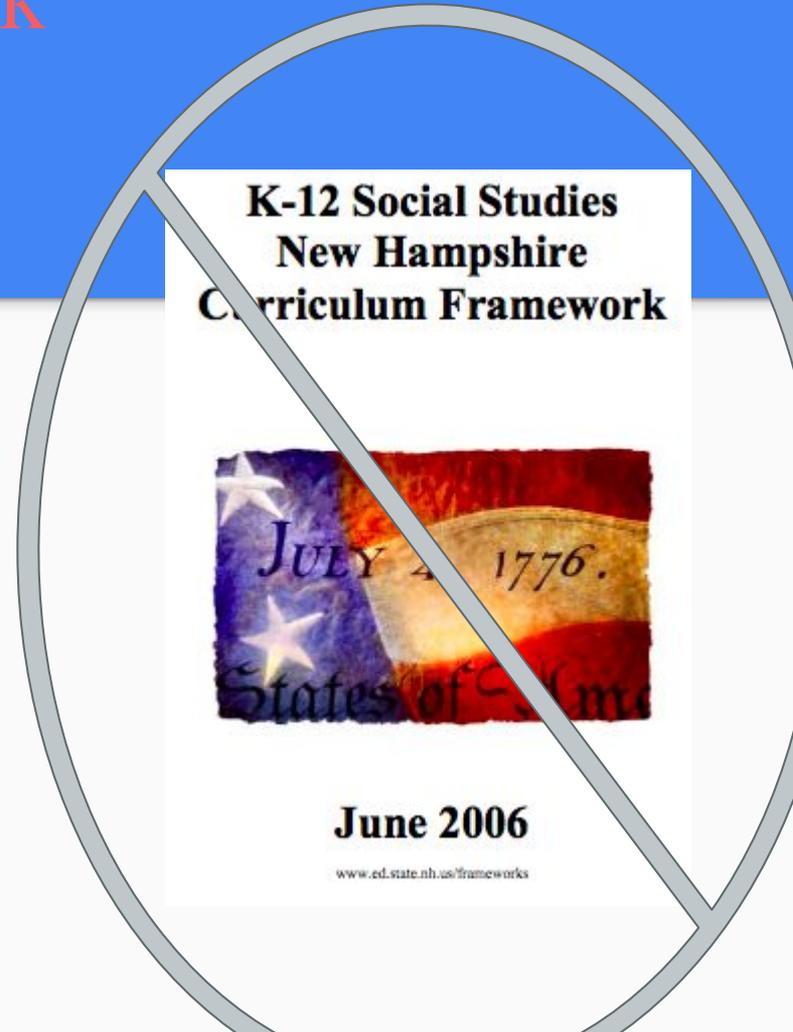
Industrialization-Progress

WWI-WWII/Holocaust- Courage and Conflict

Civil Rights- Rights and Responsibilities

NH Social Studies Framework

- The department of education is currently re-drafting the the curriculum frameworks for social studies.
- Moving towards adopting the C3 (college, career & civic life) framework.

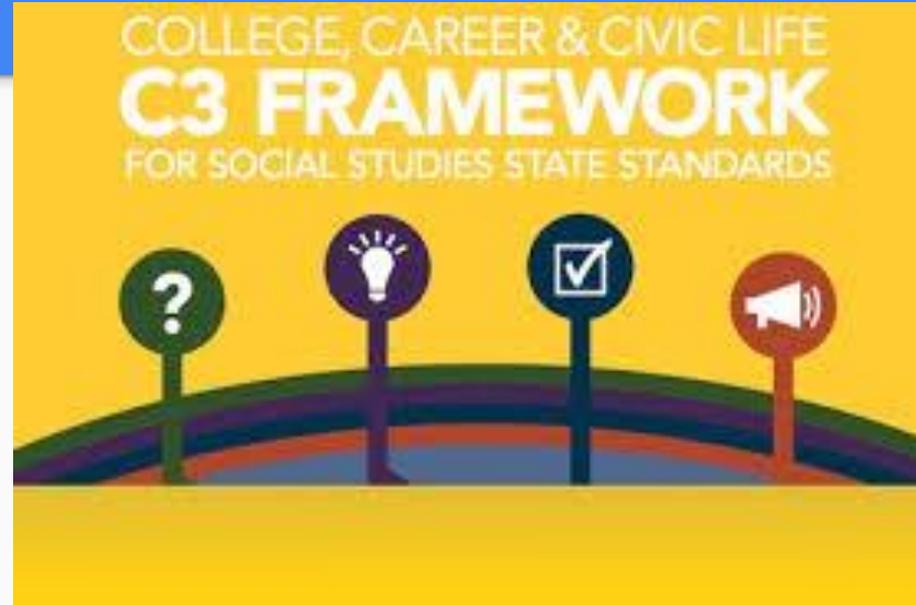


What does the C3 Framework do?

- Stresses student inquiry
- Interdisciplinary instruction (social studies and language arts).
- Prepare students for higher education, their careers, and to participate in civic life.

C3's Four Core Social Studies Content Areas:

1. Civics
2. Economics
3. Geography
4. History



SAU 21 Competencies for Social Studies

Grades 6-8					
Application of Social Studies Competencies, Knowledge, and Skill	Civic Engagement	Civics and Government	Economics	Geography	History
<p>Critical Thinking: Students will apply critical thinking skills in social studies.</p> <p>SS Literacy: Students will apply critical reading, writing, research, and speaking skills in all aspects of their social studies assignments.</p>	Identify the needs of the local and national community and create a plan, and take action to solve the problem.	Students will understand that conflict and cooperation among individual citizens and governments helped shape the development of civilization.	Students will demonstrate an understanding of basic economic terms, concepts, and the importance of the allocation of resources.	Students will demonstrate and apply knowledge of geography and geographic tools in the study of the ancient civilizations and the world around them.	Explore how past events have shaped culture, civilizations, development of government, and economic systems.

Grading: Two categories for final grade

Formative (10%)- Informal assessments throughout the learning process.

- Homework (4 point scale)
- Small writing assignments
- Classwork
- Quizzes

Summative (90%)- These are the end of unit assessments to determine proficiency of the competency. All assignments graded on a **point system** with larger assignments weighted with more points.

- Tests
- Projects
- Large writing assignments

Retakes

- All Summative assessments can be re-taken.
- The new grade will replace the old one.
- Want to encourage students to prepare first time around.
 - See me before or after school.
 - Fill-out a form and make a study plan.
 - Have it signed by a parent/guardian.
 - Prove they have prepared adequately.