

Middle School Mathematics



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Chappaqua's Comprehensive Approach to Mathematics

Five Core Beliefs for High Quality Mathematics Instruction

- ▶ Equity
- ▶ Curriculum
- ▶ Teaching
- ▶ Learning
- ▶ Assessment

6-8 Math Curriculum Resources

Big Ideas Math

- ▶ Rigorous, Focused, and Coherent
- ▶ Curriculum Resources for Middle School

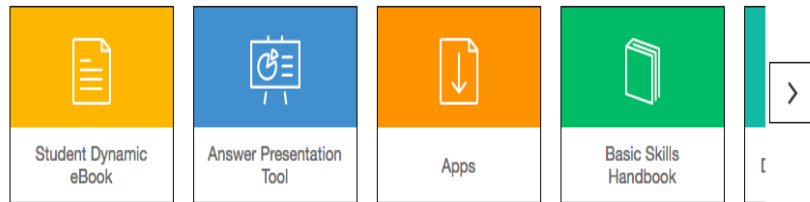


Core Components of Big Ideas

- ▶ Fully editable worksheets
- ▶ Smart Notebook lessons
- ▶ Differentiated materials
- ▶ Online materials for students and teachers

Online Materials

Featured Resources



Course Resources

Browse by Chapter & Section [Browse by Resource](#)

Choose a chapter and section:

Middle School Commo \downarrow Green: Common Core \downarrow 4. Areas of Polygons \downarrow 4.1. Areas of Parallelog \downarrow

Choose Categories

SELECT ALL Dynamic Classroom Lesson Plans

Lesson Tutorials Pupil Edition Record and Practice Journal

Resources by Chapter Spanish Record and Practice... Teaching Edition

Whiteboard Lessons Worked-Out Solutions Key

Search Resources

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- Chapter 1: Integers
- Chapter 2: Rational Numbers
- Chapter 3: Expressions and Equations
- Chapter 4: Inequalities
- Chapter 5: Ratios and Proportions
- Chapter 6: Percents
- Chapter 7: Constructions and Scale Drawings
- Chapter 8: Circles and Area
- Chapter 9: Surface Area and Volume
- Chapter 10: Probability and Statistics
- Appendix A: My Big Ideas Projects
- Selected Answers

How can you simplify an algebraic expression?

Algebraic Expressions

When $x = 0$ and when $x = 1$. Use the information in the left table with its equivalent

Simplified

Expression	Value When	
	$x = 0$	$x = 1$
a. 4		
b. $-x + 1$		
c. $4x - 4$		
d. $2x + 6$		
e. $5x - 13$		
f. $-2x + 10$		
g. $x + 2$		
h. $2x - 1$		
i. $-2x + 2$		
j. $-x + 2$		

Use the left table with its equivalent information in general, how do you think you can simplify an algebraic expression?

Online Assignments and Progress Monitoring

Big Ideas Math Middle School Mathematics an x

Big Ideas Learning, LLC [US] <https://www.bigideasmath.com/BIM//teacher/assignment?assessmentl...>

Resources Assignments Reports

Chapter 4: Section 4.1 Exercises

ASSIGNMENT OVERVIEW

— Add an assignment Close

— Problem set: Basic problems

All Odd Even

Basic Average Advanced None

1	2	3*	4	5*	6	7*	8
9	10	11*	12	13*	14	15*	16
17	18	19	20	21	22	23	24
25	26						

[View class list](#) (0 versions applied) Versions in queue: 0 Assign

STEAM Performance Tasks

Chapter 7

Performance Task (continued)

Launching a CubeSat

CubeSats are low cost satellites. You have a choice of 3 different CubeSats to buy. How do you decide which is the best choice?

	G-Force	Pressure	Temperature	Cost
CubeSat 1	Can withstand up to 6 g	Operates at a pressure less than 1 atmosphere	Minimum of -30°C Maximum of 70°C	\$7500
CubeSat 2	Can withstand up to 7 g	Operates at a pressure less than 1.2 atmospheres	Minimum of -29°C Maximum of 75°C	\$8200
CubeSat 3	Can withstand up to 7 g	Operates at a pressure less than 1.3 atmospheres	Minimum of -33°C Maximum of 79°C	\$8400

Implementation and Professional Development

Summer 2016

- ▶ Introduction to Materials
- ▶ Bridging Singapore Math and Big Ideas

Fall 2016

- ▶ Initial use of materials, online assignments, and performance tasks
- ▶ Small group instruction and differentiation

Winter/Spring 2016-2017

- ▶ Further professional development on online materials, small group instruction, differentiation, and performance tasks

Workshops

- ▶ Mathematical Mindset
- ▶ Bar Modeling for Middle School

Teaching & Learning in the Digital Age



December 5, 2016

Darleen Nicolosi, Director of Instructional Technology
Carolyn Elwood, Middle School Art Teacher
Chris Stasi, Middle School Technology Teacher

Vision

- ▶ Technology is an essential element in the design of effective learning and teaching environments.
- ▶ Digital fluency and citizenship are instrumental in the academic success of students and their preparation for college and careers.
- ▶ Professional learning for educators must include strategies for seamlessly integrating technology into the learning process.

Connecting Technology to Classroom Practice

- ▶ Computational Thinking
Foundations of Coding – 3rd grade
- ▶ Canvas – Digital Learning Platform
- ▶ Tiny House Pilot Project – Middle School

Tiny House Pilot

Seven Bridges 8th grade

How the pilot came to be:

- ▶ Last year's work
- ▶ Values, beliefs and end goals for students
- ▶ Content area and skills overlaps- Architecture
- ▶ Design of a project that is a long-term, real-world, authentic problem
- ▶ Opportunity through scheduling aligned quarters (creative approach to time and space)



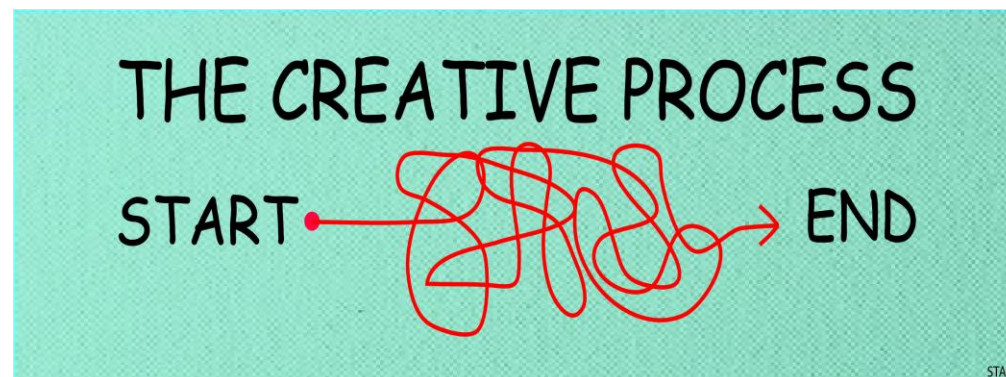
Tiny House Pilot Project Overview

- ▶ Skills-Architecture, 2D (AutoCad), 3D (Sketch-up), design, prototyping
- ▶ Self-assessment of strengths and weaknesses/groupings
- ▶ Job specialization/companies/deadlines/budgets
- ▶ Client interviews and design proposals (floor plans, exterior renderings, interior renderings, budget)
- ▶ Building scale models
- ▶ Final presentations



Real World and Authentic Learning

- ▶ Designing for a Client
- ▶ Looking at current trends in building and living tiny
 - ▶ Granny pod/telehealth
 - ▶ Rising cost of college expenses
 - ▶ Sustainable/green building
- ▶ Long-term problem that has a wide range of possible solutions



Future Learning

- ▶ Next semester
- ▶ Looking forward to next year and beyond
- ▶ Thinking differently about...
 - ▶ time
 - ▶ space
 - ▶ collaboration

“Too often we give children **answers** to **remember** rather than **problems to solve**”

~ Roger Lewin

Music technology training for teachers: www.midnightmusic.com.au