

March 23, 2016

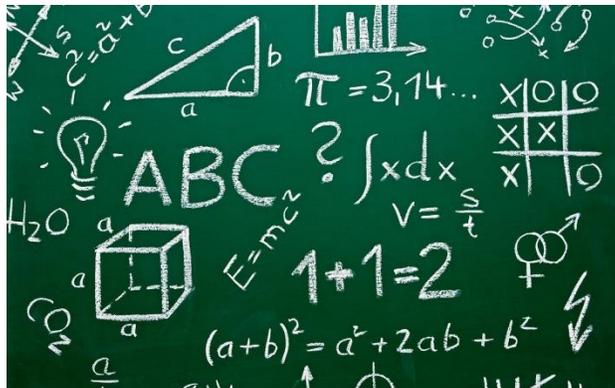
# K-12 Mathematics Bulletin

ROCHESTER CITY SCHOOL DISTRICT

*Mathematics: A Tool to Solve Rigorous, Non-routine, Real Life Problems*

## NYS Math 3-8 Resources

Click [here](#) to access new test guides. Guides have format of tests, necessary tools, allocation of items by domain and standard, reference sheets.



### Required Tools for NYS Math 3-8 Tests, May 2-4

Grade	Tools
3	Each student must have their own ruler
4	Each student must have their own ruler and protractor
5	Each student must have their own ruler and protractor, NYSED will provide a reference sheet for students in all three books
6	Each student must have their own ruler, protractor, and calculator (for Books 2 and 3), NYSED will provide a reference sheet for students in all three books
7	Each student must have their own ruler, protractor, and calculator (for Books 2 and 3), NYSED will provide a reference sheet for students in all three books
8	Each student must have their own ruler, protractor, and calculator (for Books 2 and 3), NYSED will provide a reference sheet for students in all three books

Please contact Jeff Mikols (Jeffrey.Mikols@rcsdk12.org) if you do not have the required tools for all of your students. I can provide you with purchasing information.

## Resources:

### **Countdowns for Math 3-8** CLICK [HERE](#)

The countdowns are resources you can use as you are preparing students for the NYS Math Tests on May 2-4. They include standards and problems for students to practice. You can use as much of these resources as you deem appropriate for your students.

### **NYSED Released 3-8 Questions Sorted By Module** CLICK [HERE](#)

These items have been made available for teachers since their release several years ago. It allows students to gain an understanding of the format, rigor, and amount of text they will experience when taking the exams in May. Great resource to use the entire year!

### **Teacher Toolbox** CLICK [HERE](#)

An incredible resource that has many helpful activities. There are teacher led lessons, student worksheets, hands on activities, mini assessments that can be used for monitoring student progress by standard, and tutorials. You must register. For all 3-8 teachers. Principals have login codes you will need to set up your account.

### **Standards Mapping and Resource Guides** CLICK [HERE](#)

The Rochester City School District Department of Mathematics has created Standards Mapping and Resource Guides to support teachers providing students with math interventions in grades 3-6. These guides contain important information regarding major content emphases for math standards. Major content emphases for each grade level were identified by Partnership of Assessment for Readiness for College and Careers (PARCC) so that educators could focus on the most important content for students to learn. Major content emphases are key learning standards that students must have the opportunity to master at each grade level as they are critical foundations to mathematical concepts at subsequent grade levels.

# Effective Test Taking Practices for Multiple Choice and Open Ended Questions on NYS 3-8 Math Tests

**The Goal:** To reduce frustration and increase achievement on NYS 3-8 Math Tests

**The Problem:** Students typically answer questions in the order they appear on the exam. If they get stuck on a particular question, it is not uncommon for students to spend an exorbitant amount of time trying to answer one question or they may get frustrated to the point that they are not effectively answering subsequent questions.

**The Simple Solution:** “Three Passes” Through Multiple Choice and Open Ended Strategy. Students can systematically cover an assessment and produce their best work efficiently.

**Pass 1:** Students will know how to do a significant number of items on the assessment. The **first** pass through the assessment should be to start at the beginning of the exam and find all of the questions they know well and can complete quickly and accurately. **Students must reread the question and make sure they are answering what is being asked.** This pass should comprise approximately 60-70% of the testing time.

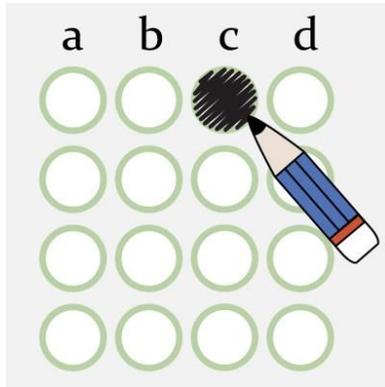
**Pass 2:** The **second** pass through the assessment should be find questions they do not know as well, but through careful reading and limited knowledge of the concept, can eliminate one to two distractors (Multiple Choice) that they know are incorrect. Students can then use reasoning skills, working backwards, or estimation to locate the correct answer. **For open ended questions, students should show any relevant work that may earn them partial credit.** This pass should comprise approximately 20-30% of the testing time.

**Pass 3:** Students should use the remainder of the time to make sure that no multiple choice questions are left blank. Through different strategies a student may be able to eliminate one distractor as incorrect and then make an educated guess. A blank is ALWAYS wrong!

- PROFICIENCY WITH CALCULATOR IS VITAL(Grades 6-8)
- STUDENTS MUST KNOW HOW TO USE THE REFERENCE SHEET

## Multiple Choice Test Taking Tips

- Read the question before you look at the answer.
- Come up with the answer by working out the problem before looking at the possible answers, this way the choices given on the test won't throw you off or trick you.
- Eliminate answers you know aren't right.
- Read all the choices before choosing your answer.
- Don't keep on changing your answer, usually your first choice is the right one, unless you misread the question.
- If you have absolutely no clue, it is always better to take an educated guess and select an answer then leave it blank.



## Short/Extended Response Test Taking Tips

- Stress the importance of showing their work and writing legibly. Even if a math answer is wrong, students may receive partial credit if their work can be read and evaluated.
- Remind them that questions may have more than one part and to answer all of them.
- If you don't know the answer, come back to it after you finish the rest of the test, re-read the question underlining key information and make an educated guess. Other parts of the test may give you clues to what the answer may be.
- Even if you think the final answer is wrong, don't erase your entire work because you may get partial credit for using the correct procedure.
- Check over your test after you are done with it. If you have time, redo the problems to see if you come up with the same answers the second time around. Look for careless mistakes such as making sure the decimal is in the right place, that you read the directions correctly, that you copied the numbers correctly, that you put a negative sign if it is needed, that your arithmetic is correct, etc

## Test Taking Strategies FOR Learning -Use all year!

There are many strategies that help students do better the day of the test, but if done wisely we can combine great learning strategies with test prep to help kids be successful at learning content at another level and in preparing them for the test all year long. **Teachers are always looking at ways to improve teaching and learning, but what's most important is purpose and intentionality -not quantity.** So when thinking about how we should prepare and review with students, just having students do problems won't necessarily make them better at it, but **how** we use the materials to review can definitely impact their learning and understanding.

### What Research Says

John Hattie, educational researcher, who wrote *Visible Learning for Teachers: Maximizing Impact on Learning*. Hattie has spent more than 15 years researching the influences on achievement of K-12 children. His findings linked student outcomes to several highly effective classroom practices. Here are three of those practices, along with some instructional strategies that can be used in the review process to help better prepare your students for the test and life.

#### 1. Classroom Discussion

- For Multiple Choice questions, have students use white boards, Plickers, response cards or Four Corners to quickly gather data about their answer choice. Then students should have conversation about their choice. As the teacher you may need to have question prompts to make sure that you address the misconceptions that are used to “draw” kids to a specific choice.
- Chunk questions and give a specific time allotment, then have discussion around those questions before moving on so it is fresh in the student's minds.
- Have students discuss and analyze multiple answers to questions by putting up more than one answer to a short/extended Response question using an ELMO, poster paper or any other way.
- Discuss how a student's written explanation could be improved to answer the question and earn points. Show more than one explanation and repeat the process to allow students to see multiple ways of thinking.
- Use a reading strategy like BUCK to help kids break down information in a problem and discern what is important to the problem.

**B**ox the question

**U**nderline info needed

**C**ircle vocabulary

~~**K**nock out unneeded info~~

#### 2. Feedback

- Give students data to analyze choices on a MC question.

##### Example

On last year's NYS 6<sup>th</sup> grade Math Test, 31% of the students picked choice C, and 28% picked Choice B. One of those is choices is correct. Look at the question below, decide whether B or C is the correct answer and then explain what the mistake was that the other student's made.

Zelma buys  $p$  pounds of bananas for 40 cents per pound. She pays the clerk with a twenty-dollar bill. The clerk subtracts the total cost of the bananas from the twenty-dollar bill to determine the amount of change to give Zelma.

Which expression represents the amount of change Zelma should receive?

- A  $p - 20$
- B  $20 - 40p$
- C  $20 - 0.40p$
- D  $0.40p - 20$

- Use state released S/E Response questions along with the reasoning behind the score point value, to give students actionable feedback that can help move a student from a 0 to a 1, 1 to a 2, etc.
- Use post it notes or colored pens to give one positive comment (+) and 1 actionable piece of feedback (▲)

<p><b>Use Purple Pen</b> →</p>	<p><b>Acknowledging Student Success</b></p>	<ul style="list-style-type: none"> <li>✓ Identify what is done correctly.</li> <li>✓ Describe an aspect of quality present in the work.</li> <li>✓ Point out effective use of strategy or process.</li> </ul>
<p><b>Use Green Pen</b> →</p>	<p><b>Guiding Future Thinking</b></p>	<ul style="list-style-type: none"> <li>✓ Identify a correction.</li> <li>✓ Describe an aspect of quality needing work.</li> <li>✓ Point out a problem with strategy or process.</li> <li>✓ Offer a reminder.</li> <li>✓ Make a specific suggestion.</li> <li>✓ Ask a question.</li> </ul>

Adapted from, Chappuis. Seven Strategies of Assessment for Learning. p. 59.

### 3. *Formative Assessments*

- Using the standards that are “major emphasis”, give S/E response questions along with descriptive feedback for students re-do the question. Break students into small groups (stations) so that from now until the NYS test you can continue to teach new concepts as well as review previously taught concepts based on the information gathered from the formative assessment.

## Pacing Recommendations

Grade Level	Recommendation	Resources
Kindergarten	Middle of Module 4	
1 <sup>st</sup> Grade	End Module 4	
2 <sup>nd</sup> Grade	Into Module 6	
3 <sup>rd</sup> Grade	Well into Module 5	<a href="#">Performance Level Description</a>
4 <sup>th</sup> Grade	Into Module 4	<a href="#">Performance Level Description</a>
5 <sup>th</sup> Grade	Into Module 5	<a href="#">Performance Level Description</a>
6 <sup>th</sup> Grade	Into Module 5	<a href="#">Performance Level Description</a>
7 <sup>th</sup> Grade	Ending Module 4/Beginning Module 5	<a href="#">Performance Level Description</a>
8 <sup>th</sup> Grade	Into Module 2	<a href="#">Performance Level Description</a>
Algebra 1-R	Well into Module 4	<a href="#">Test Guide</a> <a href="#">Performance Level Description</a>
Geometry-R	Into Module 4	<a href="#">Test Guide</a> <a href="#">Performance Level Description</a>
Algebra II-R	Well into Module 4	<a href="#">Test Guide</a>

# Elementary Math Resources

## Parent and Teacher Resources

[Learnzillion](#)

[NCTM Illuminations](#)

[Eureka Math Tips for Parents](#)

FIRST IN MATH

WAY TO GO! WE HAVE ALREADY SOLVED OVER 13.1 MILLION PROBLEMS.

\*[How to Implement a Story of Units](#)

\*Curriculum Map and Overview  
[\(K-5\)](#) [\(Grade 6\)](#)

\*[2016-17 RCSD Pacing Guidance](#)

## PRINT READY WORKBOOKS OF STUDENT RESOURCES K-6 FROM MODULES

K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
			Released NYS Test Questions <a href="#">2015</a> <a href="#">2013-14</a>  <a href="#">PLD's</a>	Released NYS Test Questions <a href="#">2015</a> <a href="#">2013-14</a>  <a href="#">PLD's</a>	Released NYS Test Questions <a href="#">2015</a> <a href="#">2013-14</a>  <a href="#">PLD's</a>	<a href="#">PLD's</a> Released NYS Test Questions <a href="#">2015</a> <a href="#">2013-14</a>
<a href="#">Module 1</a>	<a href="#">Module 1</a>	<a href="#">Module 1</a>	<a href="#">Module 1</a>	<a href="#">Module 1</a>	<a href="#">Module 1</a>	<a href="#">Module 1</a>
<a href="#">Module 2</a>	<a href="#">Module 2</a>	<a href="#">Module 2</a>	<a href="#">Module 2</a>	<a href="#">Module 2</a>	<a href="#">Module 2</a>	<a href="#">Module 2</a>
<a href="#">Module 3</a>	<a href="#">Module 3</a>	<a href="#">Module 3</a>	<a href="#">Module 3</a>	<a href="#">Module 3</a>	<a href="#">Module 3</a>	<a href="#">Module 3</a>
<a href="#">Module 4</a>	<a href="#">Module 4</a>	<a href="#">Module 4</a>	<a href="#">Module 4</a>	<a href="#">Module 4</a>	<a href="#">Module 4</a>	<a href="#">Module 4</a>
<a href="#">Module 5</a>	<a href="#">Module 5</a>	<a href="#">Module 5</a>	<a href="#">Module 5</a>	<a href="#">Module 5</a>	<a href="#">Module 5</a>	<a href="#">Module 5</a>
<a href="#">Module 6</a>	<a href="#">Module 6</a>	<a href="#">Module 6</a>	<a href="#">Module 6</a>	<a href="#">Module 6</a>	<a href="#">Module 6</a>	<a href="#">Module 6</a>
		<a href="#">Module 7</a> <a href="#">Module 8</a>	<a href="#">Module 7</a>	<a href="#">Module 7</a>		

Translated Student Resources Are Available on elearning

# Middle School Math Resources

## Parent and Teacher Resources

[Learnzillion](#)  
[NCTM Illuminations](#)  
[Eureka Math Tips for Parents](#)

Grade 7 <a href="#">PACING</a>	Grade 8 <a href="#">PACING</a>	<a href="#">Math 7-H Accelerated Pacing</a>	OnRamp	Performance Level Descriptions	Released Sample Items	NYS Math Testing Guides
<a href="#">Module 1 Guidance Document</a>	<a href="#">Module 1 Guidance Document</a>		<a href="#">Math 7 OnRamp Pacing</a>	<a href="#">Math 7 PLD</a>	<a href="#">Math 7 Released Items 2013-14 2015</a>	<a href="#">Math 7 Testing Guide</a>
<a href="#">Module 2 Guidance Document</a>	<a href="#">Module 4 Guidance Document</a>		<a href="#">Math 8 OnRamp Pacing</a>	<a href="#">Math 8 PLD</a>	<a href="#">Math 8 Released Items 2013-14 2015</a>	<a href="#">Math 8 Testing Guide</a>
<a href="#">Module 3 Guidance Document</a>	<a href="#">Module 5 Guidance Document</a>					
<a href="#">Module 4 Guidance Document</a>	<a href="#">Module 6 Guidance Document</a>					
<a href="#">Module 5</a>	<a href="#">Module 2</a>					
<a href="#">Module 6</a>	<a href="#">Module 3</a>					
	<a href="#">Module 7</a>					

Translated Student Resources Are Available on elearning

[PARCC Items](#)

# Math Curriculum Updates for Algebra 1

Algebra 1	Algebra 1 Math Lab	Performance Level Description	Released Regents Exams	<a href="#">Algebra 1 Test Guide</a>
<a href="#">PACING</a>	<a href="#">PACING</a>	<a href="#">Performance Level Description</a>	<a href="#">June 2014</a> <a href="#">Annotated Items</a>	
<a href="#">Module 1</a>			<a href="#">August 2014</a>	
<a href="#">Module 3</a>			<a href="#">January 2015</a>	
<a href="#">Module 4</a>			<a href="#">June 2015</a>	
<a href="#">Module 2</a>			<a href="#">August 2015</a>	
<a href="#">Module 5</a>				
Translated Student Resources Are Available on elearning				

\*\*\*\*IMPORTANT\*\*\*\*\*

[Special Administrations of the Regents Examination in Integrated Algebra \(2005 Learning Standard\), February 25, 2016 and June 1, 2016](#)

## PARCC Items

PARCC items are a great source of Common Core aligned problems to supplement the modules for your problem sets. I highly recommend them.

Castle Learning is NOW Available. This is a great resource for preparing students for NYS Regents Exams. We have had multiple trainings and are doing more. Contact me if you have questions.



## Other Helpful Links to Resources for Algebra 1

[Breakdown of Algebra 1 Regents Exam Questions](#)

<http://mathbitsnotebook.com/>

## Math Curriculum Updates for Geometry R

Geometry-R	Geometry	<a href="#">Geometry Test Guide</a>	<a href="#">Geometry Performance Level Descriptions</a>
<a href="#">PACING</a>	<a href="#">Pacing</a>	<a href="#">Released Geometry Common Core Regents Exams</a>	
<a href="#">Module 1</a>		<a href="#">June 2015</a>	
<a href="#">Guidance</a>			
<a href="#">Module 2</a>		<a href="#">August 2015</a>	
<a href="#">Guidance</a>			
<a href="#">Module 3</a>			
<a href="#">Guidance</a>			
<a href="#">Module 4</a>			
<a href="#">Module 5</a>			

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### [PARCC Items](#)

PARCC items are a great source of Common Core aligned problems to supplement the modules for your problem sets. I highly recommend them.

### Other Helpful Links to Resources for Geometry R

<http://mathbitsnotebook.com/>

## Math Curriculum Updates for Algebra II-R

Algebra 2	Algebra II R	
<a href="#">PACING</a>	<a href="#">PACING</a>	<a href="#">Test Guide</a>
	<a href="#">Guidance</a>	<a href="#">Sample Items</a>
	<a href="#">Module 1</a>	<a href="#">Standards Clarification</a>
	<a href="#">Guidance</a>	
	<a href="#">Module 2</a>	
	<a href="#">Guidance</a>	
	<a href="#">Module 3</a>	
	<a href="#">Guidance</a>	
	<a href="#">Module 4</a>	
	<a href="#">Guidance</a>	

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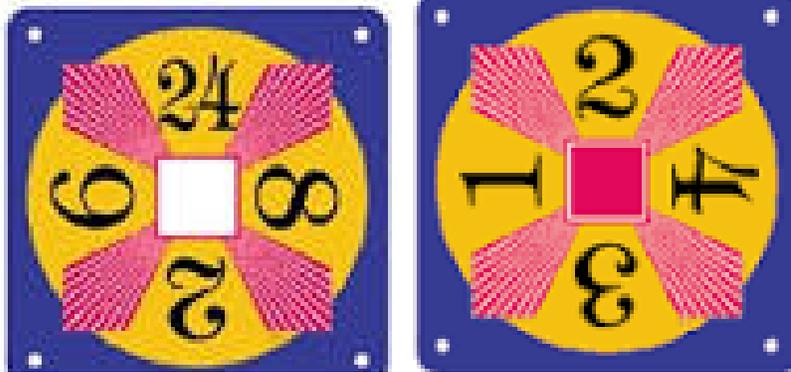
Helpful Websites

<http://mathbitsnotebook.com/>

[PARCC Items](#)

# 24 Challenge Tournament

The 24 Challenge Tournament is coming soon! This is a great day of fun for our students in grades 3-6 to compete with their computational skills. The tournament will be held on May 19 at School 7 and RIA (Thanks Dave and Mary!!!!). If you want to have your school participate, you must register no later than April 13. Due to safety and organizational concerns, you must send two chaperones with your team. This is a great day. Have your school be a part of it!



Principals will be sent a link to register their school in March 31 Leadership Link.

COMMON ASSESSMENTS CAN BE  
ACCESSED [HERE!](#)



## **Professional Learning Opportunity**

Training for Common Assessments:

Registration is through googleform [CLICK HERE](#). We will then add participants to True North Logic Manually. There is a quick survey in the googleform to see what level of support you would like for Math Common Assessments. We will have multiple facilitators. Everything from accessing common assessments to scanning them into edoctrina to analyzing reports for impacting instruction. Thursday, March 30 from 4:30-6:30 at 30 Hart St. Please attend!