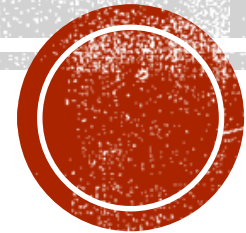


# **ORANGE PUBLIC SCHOOLS INTERIM ASSESSMENT DATA FOR MATHEMATICS**

Department of Mathematics & Science  
Grades K - 12



[https://www.dropbox.com/s/fz85a8c9i9vbqm7/Common%20Core%20Standards\\_Complete%20List.xlsx?dl=0](https://www.dropbox.com/s/fz85a8c9i9vbqm7/Common%20Core%20Standards_Complete%20List.xlsx?dl=0)

# GRADES K - 2

- In Marking Periods 1 and 2, K and 1 Interim assessments were observational assessments where students work with the teacher and paraprofessional in individual and/or small group assessment settings, using either physical or virtual resources to support the student's demonstration of understanding. During the observational assessment, the teacher is jotting notes to gain information about the students as they interact with the task, their materials, and possibly other students. Grade 2 use the observation format in MP1 only.

**K – 2 Focus: Addition and subtraction – concepts, skills, and problem solving; place value**



# GRADES 3 - 5

- In Marking Periods 1 and 2, Grades 3 – 5 Interim assessments were issued using the iReady Standards Mastery platform which is an online assessment platform allowing for immediate scoring and reporting. The assessments consist of questions which assess a balance of conceptual understanding, procedural fluency, and application.
- Format of Questions include
  - Multiple Selection
  - Drag & Drop
  - True/ False
  - Fill in the Blank



Gr 3 – 5 Focus: Multiplication and division of whole numbers and fractions – concepts, skills, and problem solving



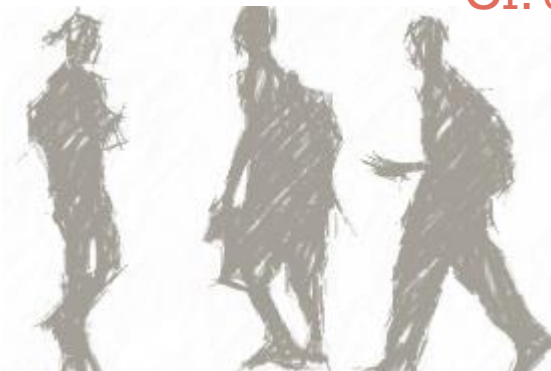
# GRADES 6 - 8

- In Marking Periods 1 and 2, Grades 6 - 8 Interim assessments were issued using the iReady Standards Mastery platform which is an online assessment platform allowing for immediate scoring and reporting. The assessments consist of questions which assess a balance of conceptual understanding, procedural fluency, and application.
- Format of Questions include
  - Multiple Selection
  - Drag & Drop
  - True/ False
  - Fill in the Blank

**Gr. 6 Focus:** Ratios and proportional relationships; early expressions and equations

**Gr. 7 Focus:** Ratios and proportional relationships; arithmetic of rational numbers

**Gr 8 Focus:** Linear algebra and linear functions



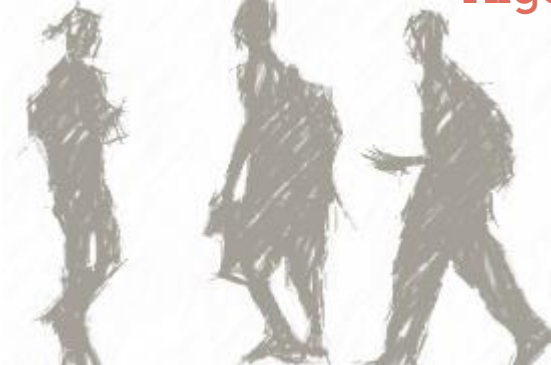
# GRADES 9 - 12

- In Marking Periods 1 and 2, Grades 9 – 12 Interim assessments were issued using the Edulastic platform which is an online assessment platform allowing for immediate scoring and reporting. The assessments consist of questions which assess a balance of conceptual understanding, procedural fluency, and application; and focused on Type I, II, and III questions.
- Format of Questions include
- Multiple Selection
- Drag & Drop
- Graphing
- Fill in the Blank

Algebra I: Creating Equations that Describe, Building/Interpreting Functions

Algebra II Focus: Creating Equations, Building/Interpreting Functions; Arithmetic on Polynomials and Rational Expressions, Reasoning w/Equations & Inequalities

Geometry: Congruence, Similarity with Right Triangles, Expressing Geometric Properties w/Equations

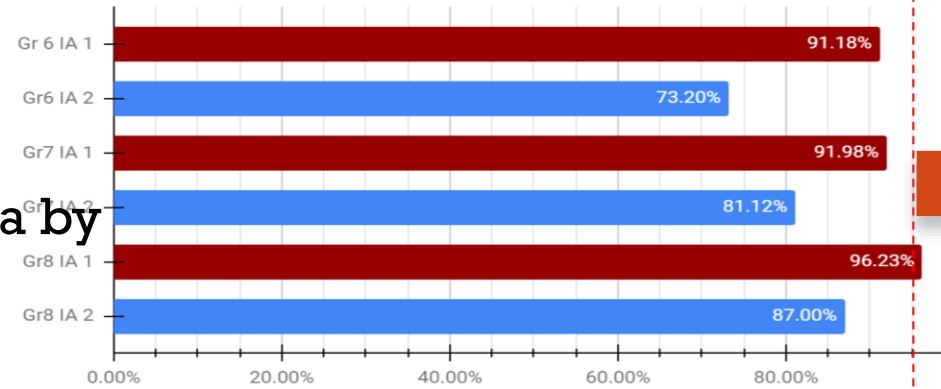


# THE PROCESS

We disaggregate, compare, and analyze all data by

- Student Participation
- School
- Grade or Course
- Subgroup/Tier
- Standard
- Unit
- Year

Interim Assessment 1 & 2 (Grades 6-8) Participation



## GRADE 8 SAMPLE

Grade 8 Interim Assessment 1									
Subgroup	8.G.A.1 8.G.A.2 8.G.A.3-1			8.G.A.5-1			8.G.A.5-2		
	19-20	20-21	Gain	19-20	20-21	Gain	19-20	20-21	Gain
Gen Ed	38%	37%	-1%	19%	7%	-12%	16%	4%	-12%
SWD	6%	20%	+14%	0%	0%	0%	0%	0%	0%
ELL	15%	6%	-9%	9%	0%	-9%	0%	0%	0%
District	32%	32%	0%	16%	6%	-10%	13%	4%	-9%

## GRADE 7 SAMPLE

School	Year to Year Comparison			7.R.P.A. c-d			7.G.A.1		
	19-20	20-21	Diff/Gain	19-20	20-21	Diff/Gain	19-20	20-21	Diff/Gain
CSS	15%	26%	+11%	65%	30%	-35%	15%	41%	+26%
FSS	48%	31%	-17%	54%	31%	-23%	15%	10%	-5%
HAS	25%	16%	-9%	25%	11%	-14%	2%	8%	+6%
LAS	n/a	28%	n/a	n/a	21%	n/a	11%	13%	+2%
OAS	n/a	7%	n/a	n/a	0%	n/a	11%	0%	-11%
PAS	62%	24%	-38%	53%	11%	-42%	32%	8%	-24%
District	40%	23%	-17%	48%	18%	-30%	14%	13%	-1%

# THE PROCESS...

Then, we synthesize the data, noting

- Implications for Teaching: Prioritizing Content; adjusting pacing
- Implications for Learning: Weaker standards; Challenging Items
- Implications for Coaching & Support: CPTs, new teachers, strategies, emphasis on content

# 2

## GRADE 6 SYNTHESIS

- Over 17% decline in student participation (percent completion) between Interim 1 and Interim 2
  - Consistent with student participation struggles evident in middle school math classes
  - For next assessment:
    - Office hours / intervention / small group instruction time can be structured to allow for students to finalize assessment during the assessment window
    - Should we transition to Phase IV, more students will be in district which will allow for more oversight in regards to students completing and submitting assessments
- Classes are 1 - 1.5 units behind compared to where they were at this point last year
  - Curriculum has been prioritized to accelerate learning while eliminating/deemphasizing content where the threat to coherence over time is minimal
- Top two district averages for Interim Assessment 2
  - Forest Street Community School (55% avg score)
  - Park Avenue School (51% avg score)





# THE PROCESS...

Then, we present, share, discuss the data, alongside

- The Department
- The Superintendent
- Administrators
- Teachers

# 3

Interim 3 Assessment Plan - Mathematics and Science

**TP** Tina Powell  
Mon 3/22/2021 9:40 AM  
To: principals orange; Principals Asst  
Cc: Dr. Gerald Fitzhugh II; Math & Science Department

Assessment Plan for Marking ...  
67 KB

Dear Principals,

The Office of Mathematics and Science is launching Interim 3 beginning **Wednesday, April 21, 2021 and running through Friday, April 23, 2021** for 30 minutes or more class periods; thereby replacing the instructional assignment for assessment windows to adjust for (a) pacing challenges, (b) revisiting content, (c) and the potential for additional testing time needed to complete the assessment window for Science (Grades 5, 8, and 11) will open on or about **Friday, April 16**. Please be aware of the 2020-2021 Marking Period & continue to adhere to IEP and 504 accommodations; making allowances for

Thank you...

Reply | Reply all | Forward

CPT (LAS,OAS,HAS - **Data**, Interim Assessment 3 & Curriculum priorities)

**DR** Daniel Ramirez  
Mon 3/22/2021 8:27 AM  
To: Jennifer Grant; Max Jean-Baptiste; Konstantinos Ntoufas; Elizabeth Taguer; Julian Molano; Deborah Muller  
Cc: Dana Gaines; Frank Iannucci Jr; Tina Powell; Gerald Murphy; Faith Alcantara

CPT (LAS,OAS,HAS - **Data**, Interim Assessment 3 & Curriculum priorities)

You are an optional attendee

Wed 3/24/2021 9:30 AM - 10:15 AM

Google Meet: 68mpd20

No conflicts

No response required

Hello Lincoln, Oakwood and Heywood Middle School Math Team,

I hope this email finds you well. I am writing to inform you that Wednesday, March 24, 2021 we will have a meeting from 9:30 am – 10:15 am. We will use our time together to focus on **data**, assessment and curriculum priorities. I have included a copy of the agenda for the meeting. Should this time conflict with a previously scheduled meeting with your building, please let me know at your earliest convenience so that I may reschedule. Please accept my receipt and/or provide a response directly to the calendar invite. I look forward to meeting with you.

CPTs for Math 3-5 Teachers

From: Belinda Koloska <KoloskBe@orange.k12.nj.us>  
Sent: Friday, March 19, 2021 2:20 PM  
To: Debra Joseph-Charles <JosephDe@orange.k12.nj.us>; Terence Wesley <WesleyTe@orange.k12.nj.us>  
Cc: Tina Powell <PowellTI@orange.k12.nj.us>  
Subject: CPTs for Math 3-5 Teachers

Good afternoon,

Thank you again for your contribution to the constructive and open exchanges throughout the **data** presentation. I hope it was helpful. If you have any further questions, please don't hesitate to reach out to me. I would like to continue the **data** review process and meet with the Math3-5 teachers on Wednesday, 3/24/21 from 9:00am-10:00am. Please let me know if this works for you at your earliest convenience so that I can schedule it with the teachers. As always, thank you and have a wonderful weekend!

**Belinda Komarica**  
Instructional Mathematics Coach (3-5)  
Orange Board of Education

Reply | Reply all | Forward





# FINDINGS AND ACTION STEPS

- Generally, there was a 10 - 15% decrease in student participation rates from Interim Assessment 1 to 2
- Overall, there was a decrease in student proficiency from when compared to last year's performance with special needs students experiencing less severe decreases across the board.
- Teachers on average are roughly 1 – 1.5 units of study behind in pacing
- While office hours were used for make up testing, student attendance continues to be challenging during office hours
- Students need more experiences with physical manipulatives across grade levels
- Students need more experiences with problem solving that involves reasoning & modeling
- Challenges still exist with securely held knowledge
- Challenges still exist with students making sense of problem and justifying their answers
- Challenges still exist solving non-routine problems
- Less instructional time hinders pacing
- Low participation rates persist in some classrooms



## **Daily Class Instruction:**

- Use questioning techniques to help students dive math concept in depth
- Use online technology as formative assessment tools to monitor student learning progress and check for understanding
- Provide non-routine math problems to let students explore and develop problem solving strategies
- Create a justifying answer routine to help students develop justification ability
- Emphasize creating quantities with tangible items, drawings or virtual manipulatives.
- Engage students in examining their own data and goal setting.
- Structure office hours to boost student attendance.

## **CPT/Coaching Support:**

- Work on mathematics content together in CPTs to ramp up teachers' conceptual understanding
- Provide research-based problem-solving protocols for teachers to help students develop Sense-Making skills
- Differentiate coaching focus
- Co-teach in support on vacancies and in general support
- Continue to engage in student work protocols



## **Curriculum:**

- Modify curriculum to focus on content, topics, standards which are as essential prerequisites for next year courses

## **Office hours:**

- Organize and schedule structured small group instructional supports (Not limited to intervention programs; it should also provide enrichment for advanced groups)

## **Summer Programs:**

- Enrichment group program: Provide summer programs to help students complete the curriculum topics which are unable to be completed during the current school year
- Intervention program: Revisit the topics and content which students have learned but have not yet mastered
- Design summer programming around major work / prerequisite standards that will best prepare students to be successful with next level content

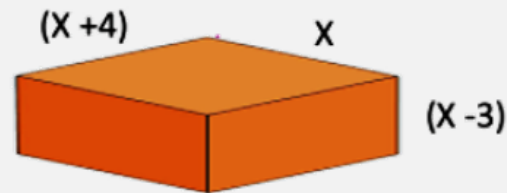
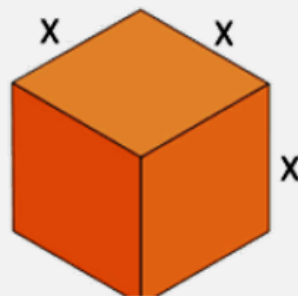


# Algebra II Assessment (Honors)

## **Error Analysis Item Q7: (17% Proficiency) 47 out of 143 students left the answer blank**

Standards: APR.1; CED.2; with SHK for Geometry (volume)

Emily purchases birthday gifts for her twin brothers. She wants to put their gifts in the boxes shown below and find out the volume of each of the box. She only knows that these two boxes have the same volume and the length of each side of the cubic box is  $x$  inches. Please help her to find the volume of the boxes. Show your work.



# Algebra II Assessment (Honors)

## Error Analysis Item Q7:

- **Creating an equation from what is described:** Can create expression for the volume of each box but doesn't create the equation that shows the relationship between the two boxes (Sample 2)
- **Performing arithmetic operations on polynomials:** Can create an expression or equation but not perform arithmetic operations correctly to solve (Sample 1 and 3)
- **SHK for Geometry:** Doesn't know the formula for volume of a rectangular solid (Sample 4)

### Sample Student Responses:

#### Sample 1:

$$(x + 4)(x + 3)(x)$$
$$(x^2 + 4x)(x + 3)$$
$$x^3 + 3x^2 + 4x^2 + 12x$$
$$v = x^3 + 7x + 12x$$

#### Sample 2:

$$x \cdot x \cdot x = x^3$$
$$(x)(x + 4)(x - 3)$$
$$(x^2 + 4x)(x - 3)$$
$$x^3 + x^2 - 12x$$

#### Sample 3

$$(x)(x + 4)(x - 3) = (x)(x)(x)$$

The volume of both boxes are equal to  $(x+4)(x)(x-3)$ , with different height.

#### Sample 4

$$\text{Box 1: } V = L \cdot W$$

$$V = x \cdot x$$

$$V = x^2$$

$$\text{Box 2: } V = L \cdot W$$

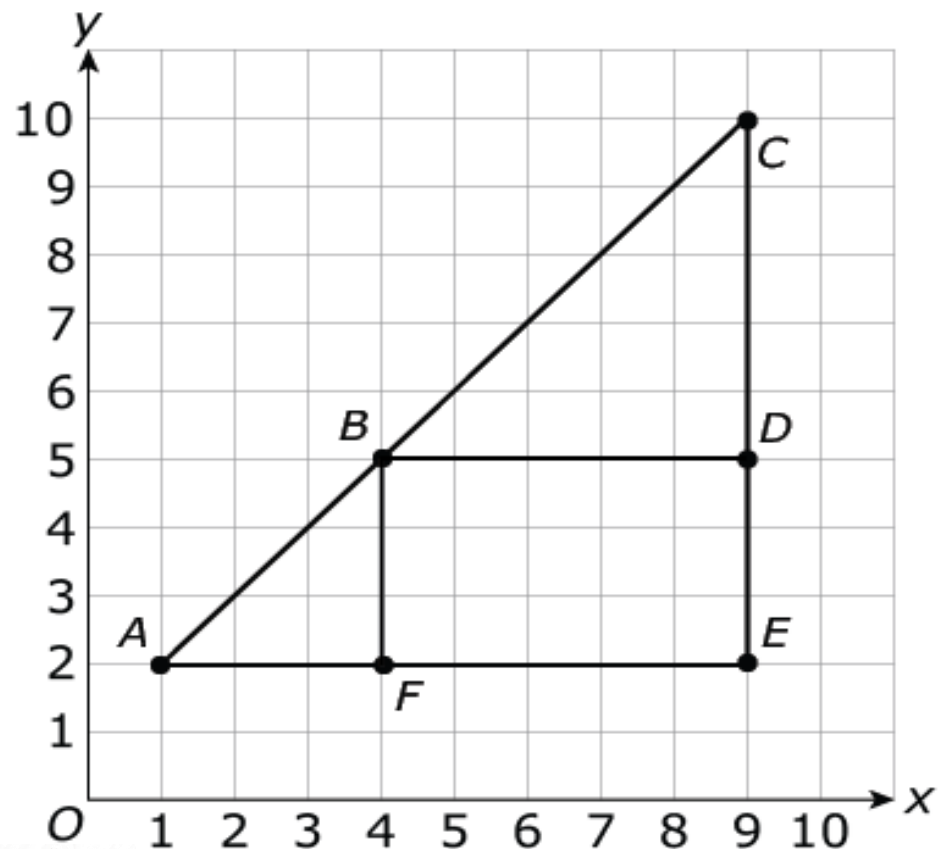
$$V = x(x - 3)$$

$$V = x^2 - 3x$$



# ITEM 7B - IA 2

In the diagram below, triangle  $ACE$  is similar to triangle  $ABF$ .



## Part B

The slope of line segment  $AB$  is the same as the slope of line segment  $AC$ . Complete the proportion to show this.

Drag a response to each box.

$$\frac{BF}{\boxed{\phantom{0000}}} = \frac{\boxed{\phantom{0000}}}{AE}$$

Findings:

- May not understand similarity between triangles with sides that are along the same line
- Difficulty showing that the segments have the same slope because the sides of the similar triangles shown are proportional





# INTERIM 3

Platform(s)	Standards Assessed	Duration
<b>Observational Assessment</b>	New Standards Grade K: K.OA.1, K.OA.2, K.OA.4, K.OA.5 Grade 1: 1.OA.4	N/A
	Review Standards Grade K: K.CC.5, K.OA.3 Grade 1: 1.OA.1, 1.OA.6, 1.OA.7, 1.OA.8, 1.NBT.2	
Platform(s)	Standards Assessed	Duration
<b>iReady Standards Mastery Assessment</b>	New Standards Grade 2: No New Standards Grade 3: 3.OA.7 Grade 4: 4.NBT.6 Grade 5: 5.NBT.6  Review Standards Grade 2: 2.OA.1, 2.OA.2, 2.NBT.A.1, 2, 3, 4, 5 Grade 3: 3.OA.1, 3.OA.2, 3.OA.3 Grade 4: 4.OA.3, 4.NBT.1, 4.NBT.4, 4.NBT.5 Grade 5: 5.NBT.1, 5.NBT.5, 5.NBT.7-1	2 sessions running 45 – 60 min each; may use an additional instructional time as needed



# INTERIM 3

Platform(s)	Standards Assessed	Duration
<b>iReady Standards Mastery Assessment</b>	<p><b>New Standards</b>            Grade 6: 6.NS.A.1            Grade 6 MIF: 6.RP.A.3c            Grade 7: No New Standards            Grade 7 MIF: 7.EE.B.3, 7.EE.B.4a            Grade 7 Acc: 7.NS.A.1, 7.NS.A.2, 7.NS.A.3            Grade 8: 8.EE.B.7a, 8.EE.B.7b</p> <p><b>Review Standards</b>            Grade 6: 6.RP.A.1, 6.RP.A.3a, 6.RP.A.3b, 6.RP.A.3d            Grade 6 MIF: 6.RP.A.3a, 6.RP.A.3b, 6.RP.A.3d            Grade 7: 7.RP.A.1, 7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2c, 7.RP.A.2d            Grade 7 MIF: 7.NS.A.2a, 7.NS.A.2b, 7.NS.A.3            Grade 7 Acc: 7.RP.A.1, 7.RP.A.2, 7.RP.A.3            Grade 8: 8.EE.B.5, 8.EE.B.6</p>	2 sessions running 45 – 60 min each; may use an additional instructional time as needed



# INTERIM 3

Platform(s)	Standards Assessed	Duration
Edulastic	<p>New Standards</p> <p>Integrated Math 1 STEM: F.IF.4, F.IF.6, F.IF.7, A.SSE.3a, A.APR.1, A.REI.4            Algebra 1 8<sup>th</sup> Grade: F.IF.4, F.IF.6, F.IF.7, A.SSE.3a, A.APR.1, A.REI.4            Algebra 1 9<sup>th</sup> Grade: A.CED.3, A.REI.6, A.REI.11            Algebra 1 10<sup>th</sup> Grade (OHS, ELL): A.CED.3, A.REI.6, A.REI.11            Intensified Algebra 1: 6.EE.9, 7.RP.2, A.SSE.1, A.REI.10            Algebra 2 Tier 1/Integrated Math 3 STEM: F.BF.3, F.BF.4, A.REI.2            Algebra 2 Tier 2: A.APR.3, A.APR.3, A.APR.6, F.BF.3            Algebra 2 LLD: A.CED.1, A.CED.3, A.REI.3, A.REI.12            Integrated Math 2 STEM: G.SRT.6, G.SRT.7, G.SRT.8, G.C.5            Geometry OHS: S.SRT.2, S.SRT.4, S.SRT.5            Advanced Topics in Algebra 1: A.REI.3, A.REI.10, A.REI.12, A.CED.3, A.CED.12            Applying Functions &amp; Modeling (10<sup>th</sup>): 7.EE.1, 7.EE.2, 7.EE.3, 7.EE.4            Applying Functions &amp; Modeling (12<sup>th</sup>): A.REI.5, A.REI.6, A.REI.11, N.RN.3            Pre-Calculus: F.BF.4, F.BF.5, F.LE.1, F.LE.2, F.LE.3, F.LE.5            Statistics: S.ID.1, S.ID.2, S.ID.3            Foundations of High School Math: 8.EE.6, 8.EE.7</p> <p>Review Standards</p> <p>Integrated Math 1 STEM: A.REI.11            Algebra 1 8<sup>th</sup> Grade: A.REI.11            Algebra 1 9<sup>th</sup> Grade: A.CED.2, A.CED.4, F.IF.4, F.IF.7            Algebra 1 10<sup>th</sup> Grade (OHS, ELL): A.CED.2, A.CED.4, F.IF.4, F.IF.7            Intensified Algebra 1: None (spiral curriculum)            Algebra 2 Tier 1/Integrated Math 3: A.APR.2, A.CED.1            Algebra 2 Tier 2: A.SSE.3, N.CN.1, A.REI.4b            Integrated Math 2: None            Geometry OHS: CO.3, CO.6, SRT.1</p>	Three 45-minute windows; may use an additional instructional time as needed



**THANK YOU!**

