Manchester Public Schools

Math - Grade 1: Unit 1 - Building a Community of Mathematicians

UNIT OVERVIEW

GENERAL INFORMATION

Terms:		**Duration:**	20.0 Day(s)	**Start Date:**	08-26-2015	**Finish Date:**	09-23-2015
Subjects:	Mathematics	**Interdisciplinary Approaches:**		**Courses:**	ELEM-MA-Mathematics - Grade 1		
Year Level(s):	1			**Unit No.**	MPSDC-023333		
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UNIT FOCUS

This launch unit is designed to introduce students to the routines of math workshop and to the rigor of the Connecticut Core Standards. The four week unit allows for reteaching to mastery and time to establish routines necessary for building a classroom community. Students will learn to follow agreed upon rules for speaking and listening as they begin to build the stamina needed to endure the practice time of math workshop.
This unit is not designed to go in-depth with content standards. The purpose is to familiarize students with the routines and procedures that will be necessary in order for students to successfully meet the Connecticut Core Standards and actively participate in math workshop. Within this unit, you will need to assess all students using the District Benchmark Assessment. Subsequent units will include more thorough instruction on the standards.

PRIOR LEARNINGS / CONNECTIONS

The creation of a numeracy environment is the foundation of math workshop. It is important to invest time and attention in creating supportive classroom communities. Students should connect prior experiences with math workshop, including but not limited to:
Classroom Community: Teachers and students work collaboratively in an atmosphere of mutual respect; students are motivated to do their best work and feel safe to take risks. The class functions as a learning community where each student's learning is important, i.e., students take responsibility for learning and support others.
Physical environment: Purposeful arrangement of the environment facilitates development of a numeracy environment. Students have independent access to resources and the arrangement of the room facilitates collaboration.
Predictable structure: The math block should be at least 60 minutes. Maintenance of a predictable structure is essential if students are to become self-managing.

ADDITIONAL INFORMATION

RESOURCES

No.	Description	Files / Links
RES1	Guided Math in Action, Nicki Newton - Teacher Resource (First 20 Days)	https://drive.google.com/a/mpspride.org/file/d/0B1u-SudncFHQRDBlZW1xemRXVHM/view?usp=sharing (link)
RES2	Kid-friendly 8 Mathematical Practices (found in envision 2.0 teacher resources) - Teacher Resource	
RES3	Number Talk: Helping Children Build Mental Math and Computation Strategies, Sherry Parrish - Teacher Resource	
RES4	Math Work Stations: Independent Learning You Can Count On, K-2 by Debbie Diller - Teacher Resource	
RES5	Teaching Student Centered Math K-3 (Van de Walle) - Blackline Masters	http://www.ablongman.com/vandewalleseries/Vol_1_BLM_PDFs/V1%20All%20BLMs.pdf (link)
RES6	Renerek Activities - K-5 Math Resource Page	http://www.k-5mathteachingresources.com/Rekenre

		k.html (link)
RES7	Mental Math Activities - K-5 Math Resource Page	http://www.k-5mathteachingresources.com/mental-math.html (link)
RES8	Common Core FlipBook -	http://www.azed.gov/azcommoncore/files/2012/11/1stflippdf2.pdf (link)
RES9	K-8 Publishers' Criteria for CCSS for Math -	http://www.corestandards.org/assets/Math_Publishers_Criteria_K-8_Summer%202012_FINAL.pdf (link)
RES10	CCSS Standards for Mathematical Practice -	http://www.corestandards.org/Math/Practice/ (link)
RES11	CCSS Progressions -	http://ime.math.arizona.edu/progressions/ (link)
RES12	Math Look Fors -	https://drive.google.com/a/mpspride.org/file/d/0B6yqp2quUBXKYlc1NEZOS1dvZ3c/view?usp=sharing (link)
RES13	CCSS Math Focus K-8 -	https://drive.google.com/a/mpspride.org/file/d/0B6yqp2quUBXKRlM1a2MteHFxaTQ/view?usp=sharing (link)
RES14	Envision 2.0 8 Math Practices videos -	
RES15	UCONN - Bridging Practices Among CT Math Educators -	http://bridges.education.uconn.edu/repository (link)
RES16	Year Long Curriculum Map -	https://docs.google.com/document/d/1FLmI9PnloD8KhV-Ae6kGI0EaojMdZLB2K2No5ISAyVM/edit?usp=sharing (link)

COMMENTS / NOTES

STAGE 1: DESIRED RESULTS – KEY UNDERSTANDINGS

ESTABLISHED GOALS

Curriculum

Common Core Standards

Mathematics : K

920160 Counting & Cardinality

- 920165 Count to tell the number of objects.
- 920171 Compare numbers.
- 920161 Know number names and the count sequence.

2000076 Mathematical Practices

- CCSS.MATH.MP.1 Make sense of problems and persevere in solving them.
- CCSS.MATH.MP.6 Attend to precision.
- CCSS.MATH.MP.3 Construct viable arguments and critique the reasoning of others.
- CCSS.MATH.MP.5 Use appropriate tools strategically.

Other Goals

Learning Personalized

- Element 3: Mindsets

TRANSFER

Students will be able to independently use their learning to ...

T1
Students will be able to independently use their learning to interpret and persevere in solving mathematical problems using strategic thinking and expressing answers with a degree of precision appropriate for the problem context.

T2
Students will be able to independently use their learning to express appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others, and attending to precision when making mathematical statements.

MEANING

UNDERSTANDINGS

Students will understand that ...

U1
Mathematicians have strategies, routines and responsibilities in math workshop that contribute to a successful math community.

U2
A strong math community is built through sharing and respecting other's ideas and abilities.

U3
Mathematicians use the 8 Mathematical Practices.

ESSENTIAL QUESTIONS

Students will keep considering ...

Q1
How do mathematicians work together during Math Workshop?

Q2
How do good mathematicians communicate their ideas?

ACQUISITION OF KNOWLEDGE AND SKILL

KNOWLEDGE

Students will know ...

K1
What a math community is.

K2
The expectations for Math workshop, including rules, rewards and consequences.

K3
What good mathematicians do, i.e., use tools, strategies, communicate thinking, etc.

K4

SKILLS

Students will be skilled at ...

S1
Following rules and routines during Math Workshop.

S2
Using a variety of math tools and strategies.

S3
Communicating their mathematical thinking.

S4
Actively listen to teacher and classmates.

S5

	The count sequence to 100. K5 Addition and subtraction. K6 One-one correspondence.	Demonstrating behaviors/habits of mind consistent with the 8 Mathematical Practices. S6 Counting to 100 by tens and ones. S7 Solving addition and subtraction problems. S8 Counting to tell the number of objects.

STAGE 2: ASSESSMENT EVIDENCE

PERFORMANCE TASK(S)

Coding	Code	Evaluative Criteria	Description

OTHER EVIDENCE

Coding	Code	Evaluative Criteria	Description

STAGE 3: LEARNING PLAN

PRE-ASSESSMENTS

District Benchmark Assessment (September 8 - October 6)
Counting and Cardinality Standards: KCC1**:** Count to 100 by ones and by tens.KCC2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).KCC3: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20.KCC4: Understand the relationship between numbers and quantities; connect counting to cardinality.KCC5: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.KCC6: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.
O & A and NBT Standards: K.OA.1**:** Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.K.OA.3: Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation.K.OA.4: For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.K.NBT.1: Compose and decompose numbers from 11 to 19 into ten ones and some further ones.

Coding	Code	Description of Learning Activity	Extension / Modification
	LE1	**Duration:** 20.0 Day(s) **Activity:** Follow Nicki Newton's "The First 20 Days of Guided Math" from Guided Math in Action; Use enVision 2.0 animated videos to review Kindergarten major clusters (as needed); Review 8 Mathematical Practices (as needed); and Supplement instruction with additional resources.	Step 1: Think of the most advanced student in your classroom and design an activity Step 2: Scaffold that activity such that students at or near grade-level can successfully the complete the activity. Step 3: Scaffold the activity (from step 2) so that a below grade-level student can successfully complete the activity.