

Manchester Academic Standards (MAS) Grades Pre-K through 12

A framework to guide district curricula

Presented by:

Manchester Academic Standards Committee

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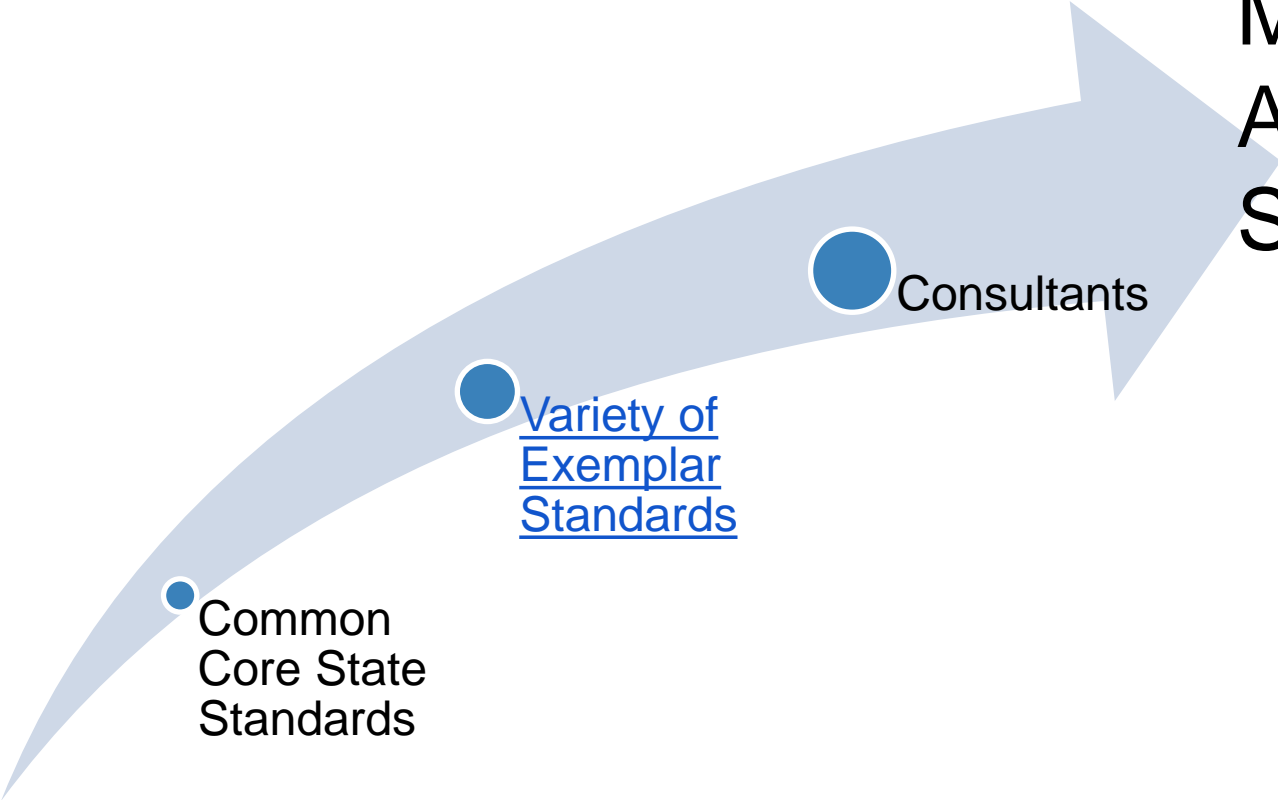
The Manchester School District will be a dynamic system focused on the realization of student aspirations.



The Focus of the Process: Our Students



Manchester Academic Standards



Consultants

Variety of
Exemplar
Standards

Common
Core State
Standards

What impact will the Manchester Academic Standards have in our classrooms?

- Vertical Alignment - Pre-K through 12
- Consistently High Expectations for All Students
- Increased Rigor
- Twenty-First Century Skills
- Post Secondary Readiness

High School Language Arts: Cinderella: Heroine or Victim?

MAS. ELA. R.12.21: *Trace and analyze the influence of mythic, traditional, or classical literature on varying media of later cultures and time periods.*



Middle School Language Arts:

How does our need for acceptance impact our decision making?

MAS.RL.8.3

Students will understand how to make connections across texts.

- Students will practice analyzing how modern works of fiction use characters, events, and/or themes from traditional stories and make them new.



Grade 5

Research-Based Argument

Do Zoos Help or Harm Animals?

Write a research-based argument, convincing readers that zoos either help or harm animals.



MAS.ELA.RI.5.1 : Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

A Preschool Research Project: Vehicles

Jonathan's Barbie Car →
Jonathan is 4 years old and has a speech and language disability (the letters at the bottom say "Barbie Car").

Bianca is a 4-year-old Dual Language Learner who speaks very little English. She watches her peers and imitates them by making a car and writing "words." ↓



↑ Mia is 4 years old. This is her story:
"The fire truck saved the puppy. It was stuck up in the tree. I'm a firefighter. That's me in the truck. I saved the puppy."
(FRJK=fire truck)

Pre-K ELA Standards

A research project exploring vehicles in our community:

W.PK4.2 Uses both drawing and writing to convey a message. The writing might include scribbles or letter-like symbols.

W.PK3.2 Draws or constructs to represent thoughts or ideas

W.PK4.3 Uses letter strings or early invented spelling to represent words (e.g. writes some letters to represent a word but letters may be missing or out of order, uses one letter to represent a whole word).

W.PK3.3 Pretends to write words using scribbles that have a pattern (e.g. zig-zag lines), mock letters or letter-like forms.

SL.PK4.3 Tells simple stories about other times, places, or events.

SL.PK3.3 Makes simple statements about recent events and familiar people and objects that are not present.

SL.PK4.5 Use increasingly complex and varied vocabulary in everyday conversation

SL.PK3.5 Expand vocabulary with many describing words, action words and objects.

High School Math: The 5 Second Rule

Investigation: Is it safe to eat food that has been dropped on the floor if it has had no more than 5 seconds of contact with the floor?

A piece of gum has fallen out of its wrapper onto the floor. It is growing bacteria according to the exponential growth model. After finding the exponential growth rate, determine the number of bacteria on the gum after 5 seconds. Is it safe to eat the gum?



High School Math: The 5 Second Rule

The Standards

MAS:M:HS:EQ:12 Model a real-world situation by writing and solving an equation or inequality in one variable

MAS:M:HS:FR:18 Construct and compare linear, quadratic, and exponential models and solve problems while interpreting the parameters in terms of the context

Standards for Mathematical Practice:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.

Middle School Math: Selecting the Best Telephone Service

A telephone plan costs \$41 per month plus \$0.08 per minute of calls made. Another plan costs \$50 per month plus \$0.05 per minute of calls made. Which system of equations could you use to compare the monthly cost of the plans?

- A. $c = 41 - 0.08m$ B. $c = 41m + 0.08$
 $c = 50 - 0.05m$ $c = 50m + 0.05$
- C. $c = 41 + 0.05m$ D. $c = 41 + 0.08m$
 $c = 50 + 0.08m$ $c = 50 + 0.05m$

Casey chose **B** as the correct answer.
How did he get that answer?



Middle School Math

The Standard

8.EE.C.8 : Analyze and solve pairs of simultaneous linear equations.

Students will analyze and solve systems of linear equations using algebra and graphs and apply to real-world examples.

Standards for Mathematical Practice:

1. Make sense of problems and persevere in solving them.
4. Model with mathematics
6. Attend to precision.

Elementary Math Grade 5:

Mia is planning her birthday party. She wants to make cupcakes using the recipe below. How much of each ingredient will she need to make a dozen cupcakes?

2 cups flour

$\frac{1}{2}$ teaspoon salt

$1 \frac{1}{2}$ teaspoons baking powder

$\frac{1}{2}$ cup butter, softened

$\frac{3}{4}$ cup sugar

2 eggs

1 cup milk

$\frac{1}{2}$ teaspoon vanilla

Yield: 24 cupcakes



Elementary Math: The Standards

5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

Standards for Mathematical Practice:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning

Preschool Block Building



PreK Math Standards - Solving math problems through exploration and play

PK3.CC.3 Touch and count objects to 5 with increasing accuracy.

PK4.CC.4 Touch and count objects to 10 with support for 1:1 correspondence.

PK3.MD.2 Show awareness of measurable qualities (size, distance, weight, volume) by exploring and experimenting. (i.e. sand/water play, block play).

PK4.MD.3 Use manipulatives or standard measuring tools to measure objects (e.g. unifix cubes, blocks).

PK3.G.3 Explore and experiment with two- and three-dimensional shapes. (e.g. block play).

PK4.G.3 Begin to describe and compare features of circle, square, and triangle.

PK4.G.4 Can create representations of simple shapes through building, drawing and moving.

Questions?

