



# THE B.E.S.T. STANDARDS

*Benchmarks for Excellent Student Thinking*



## Implementation of the B.E.S.T. Standards for Mathematics

FOIL Conference May 2021



# WELCOME

Dr. Kathy Nobles, Chief

PJ Duncan, Director

Bureau of Standards and Instructional Support

## Learning Outcomes

- Understand the role of Implementation Science in our current work
- Determine the next steps for your district on this journey
- Understand the four major differences between instruction of the current standards and the B.E.S.T.
- Engage with new math resources and professional development experiences



# THE B.E.S.T. STANDARDS

*Benchmarks for Excellent Student Thinking*

## The Journey



## Executive Order 19-32

Directed FDOE Commissioner Richard Corcoran to comprehensively review the academic standards for Florida's kindergarten through grade twelve students and provide recommended revisions to the Governor by January 1, 2020.

Executive Order 19-32: <https://www.flgov.com/wp-content/uploads/2019/01/EO-19-32.pdf>

The B.E.S.T. Standards  
were created by  
Florida educators for  
Florida students.







# Implementation Science

**CCNETWORK**  
Comprehensive Center Network



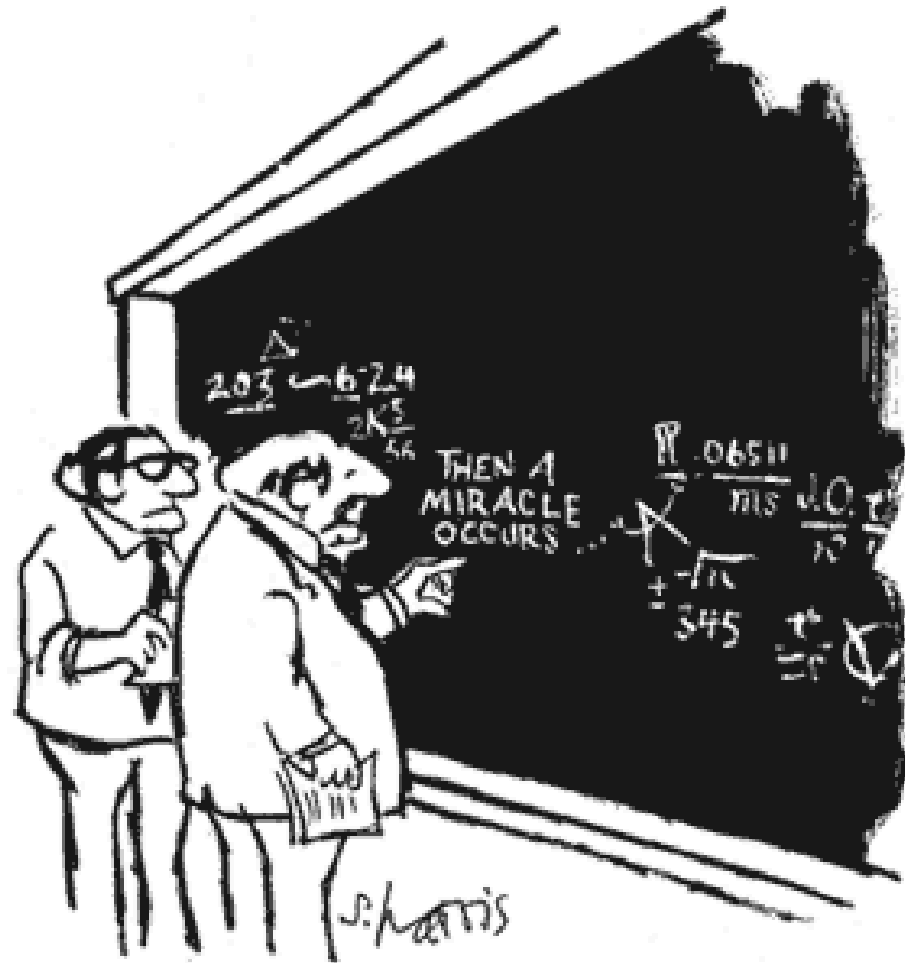
REGION 7  
Alabama  
Florida  
Mississippi





Implementation science refers to the “methods or techniques used to enhance the adoption, implementation, and sustainability” of an intervention (Powell et al., 2015)

**Implement = Use**



"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."



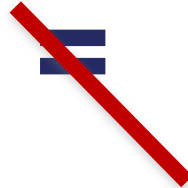
# Commitment v. Compliance





# Science to Service Gap: Implementation

Research and Evidence of  
Best Practices



Teaching and Learning

- 1. What is adopted is not used with fidelity**
- 2. What is used with fidelity is not sustained**
- 3. What is used with fidelity is not used to scale**



## When used alone...

- Diffusion/dissemination of information
- Training
- Passing laws/mandates/regulations
- Providing funding/incentives
- Organization change/reorganization



**Use of  
Practices/  
Innovations As  
Intended**

**! Return on  
Investment: 5-15%**



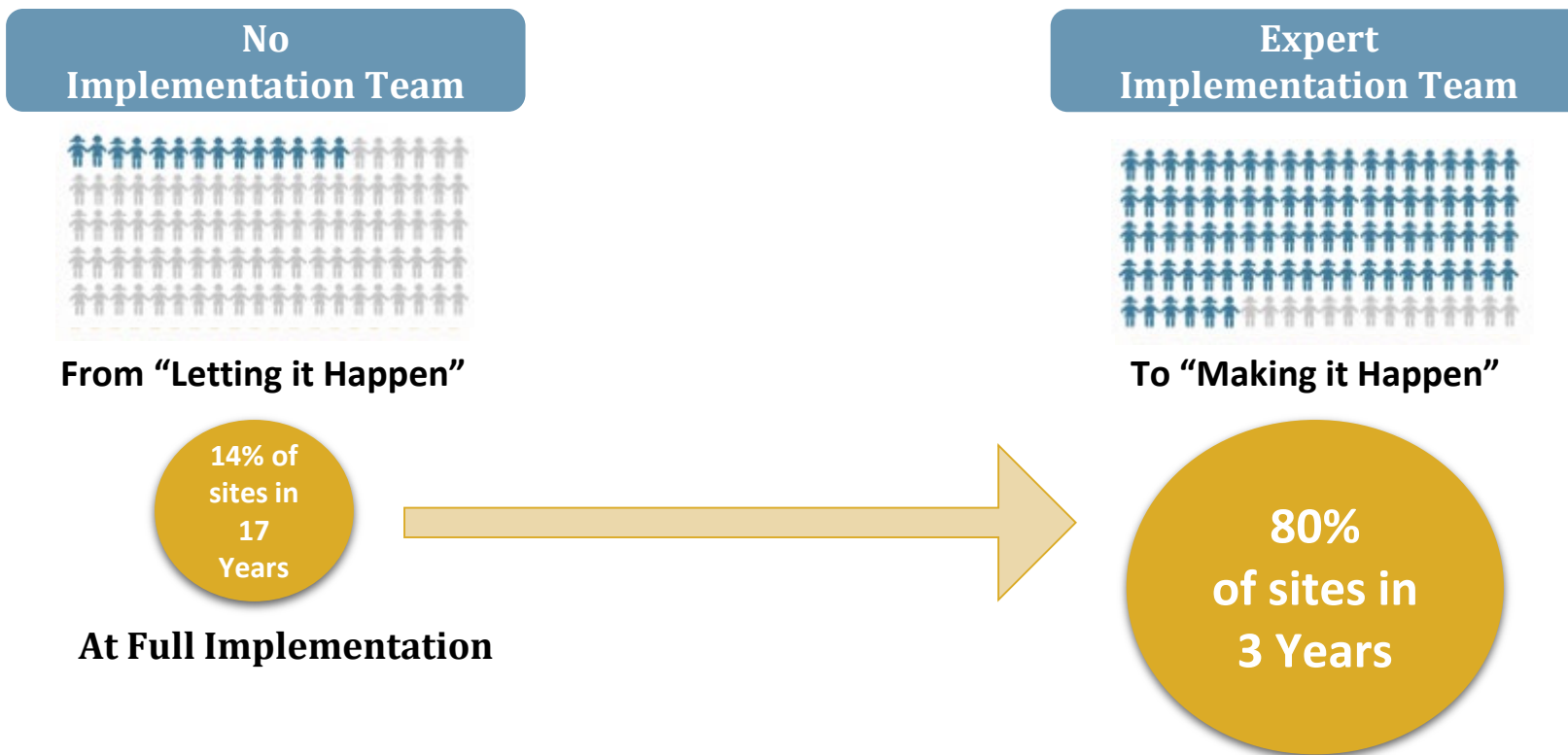
# Active Implementation



Fixsen, Blase, Metz, & Van Dyke (2015)



# Implementation Teams: Making it Happen

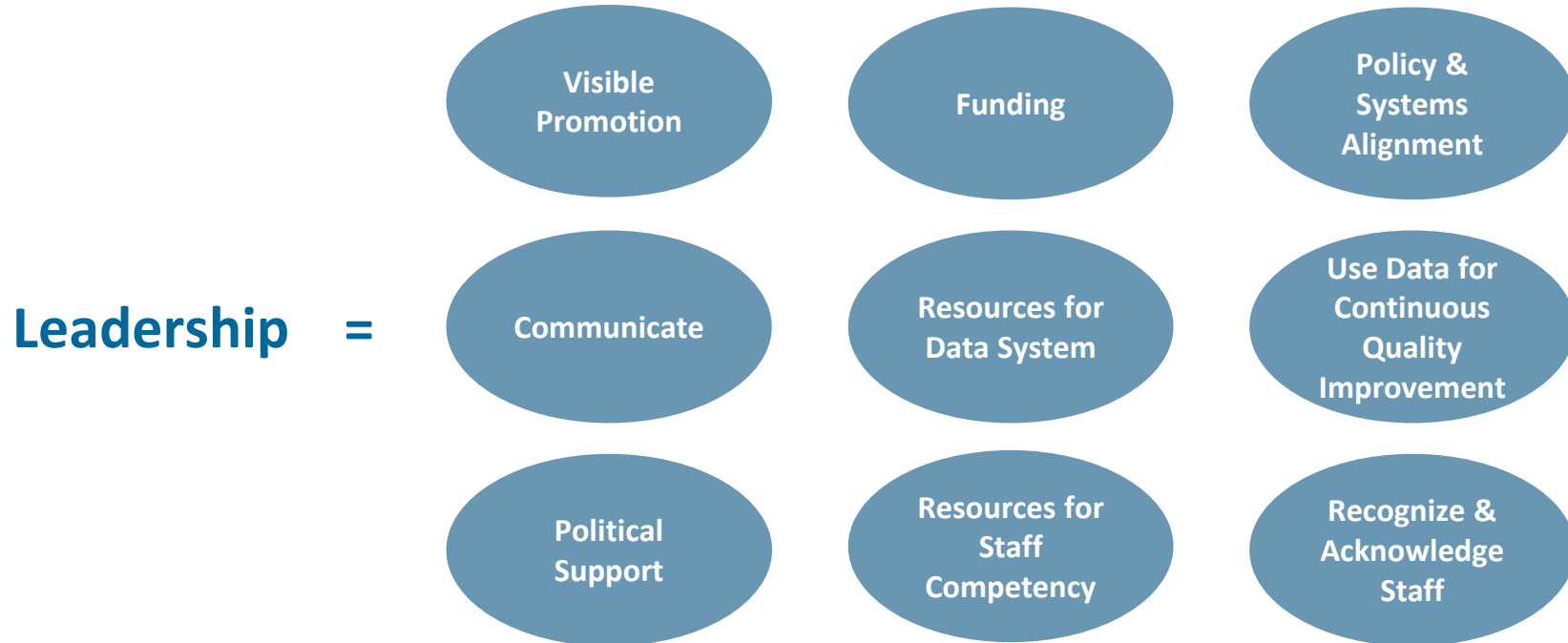


Sources: Fixsen, Blase, Timbers, & Wolf, 2001;  
Balas & Boren, 2000; Green & Seifert, 2005;  
Saldana & Chamberlain, 2012





# Role of Leadership to Support Teams





## Planning and Differentiating Supports

### Let it Happen:

- Minimal supports
- Disseminate information
- Accountable for outcomes

### Help it Happen:

- Some provision of materials, training resources, and websites are provided
- “Targeted” support for using information (i.e., limited training, webinars)
- Accountable for outcomes

### Make it Happen:

- Full provision of materials, training resources, and websites are provided
- “Intensive” support for system change and using information: training, coaching, and data systems
- Accountable for outcomes



## Implementation Science through Florida's Lens

- In collaboration with:
  - Region 7 Comprehensive Center (R7CC) and
  - National Implementation Research Network (NIRN)
- Implementation Science refers to the “methods or techniques used to enhance the adoption, implementation, and sustainability” of an intervention. (Powell et al. 2015)



# Standards Implementation Timeline

## Florida's TRANSITION TIMELINE

	2020-2021	2021-2022	2022-2023
PROFESSIONAL DEVELOPMENT	<b>Begins for ELA and Math</b>	Continues for ELA and Math	Continues for ELA and Math
STANDARDS	Current ELA and Math	<b>New K-2 ELA</b> Current 3-12 ELA Current K-12 Math	<b>New ELA and Math</b>
INSTRUCTIONAL MATERIALS ADOPTION PROCESS	<b>K-12 ELA</b>	<b>K-12 Math</b>	<b>K-12 Social Studies</b>
CURRICULUM IMPLEMENTATION	Current ELA and Math*	<b>New K-2 ELA</b> Current 3-12 ELA* Current K-12 Math*	<b>New ELA and Math</b>
STATEWIDE ASSESSMENTS	Current ELA and Math	Current ELA and Math	<b>New ELA and Math</b>

\* Recommended since current statewide assessments still in place, but this is a district decision.



# B.E.S.T. Standards for Mathematics Overview



## District's Role

- **Learn the differences between the B.E.S.T. and the MAFS (CCSS)**
- **Understand the reasons for those differences**
- **Make them work for the students of Florida**

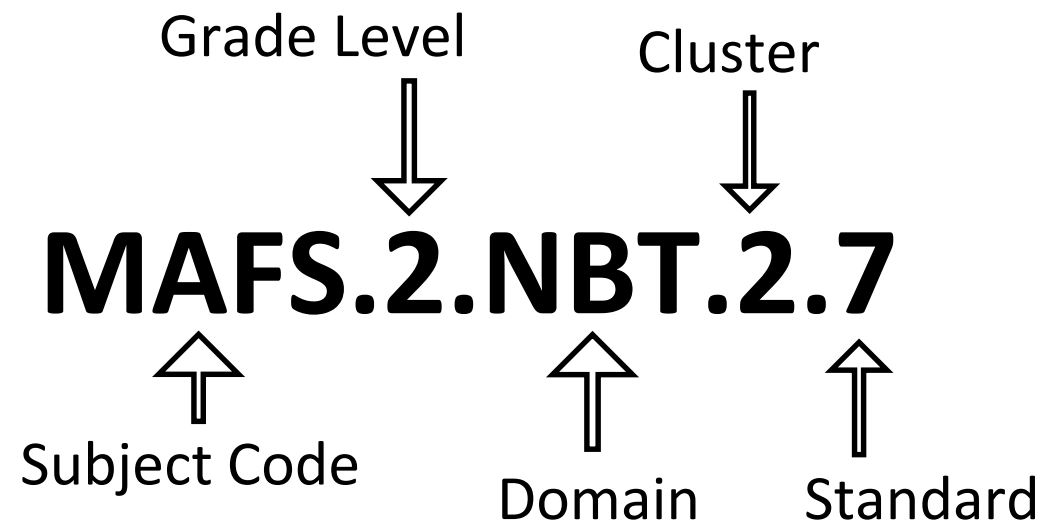
## FDOE's Role

- Support teachers in these tasks through extensive instructional support documents
- Ensure that statewide tests are consistent with both the general principles and the specific details of the B.E.S.T. Standards
- Require the same for new instructional materials

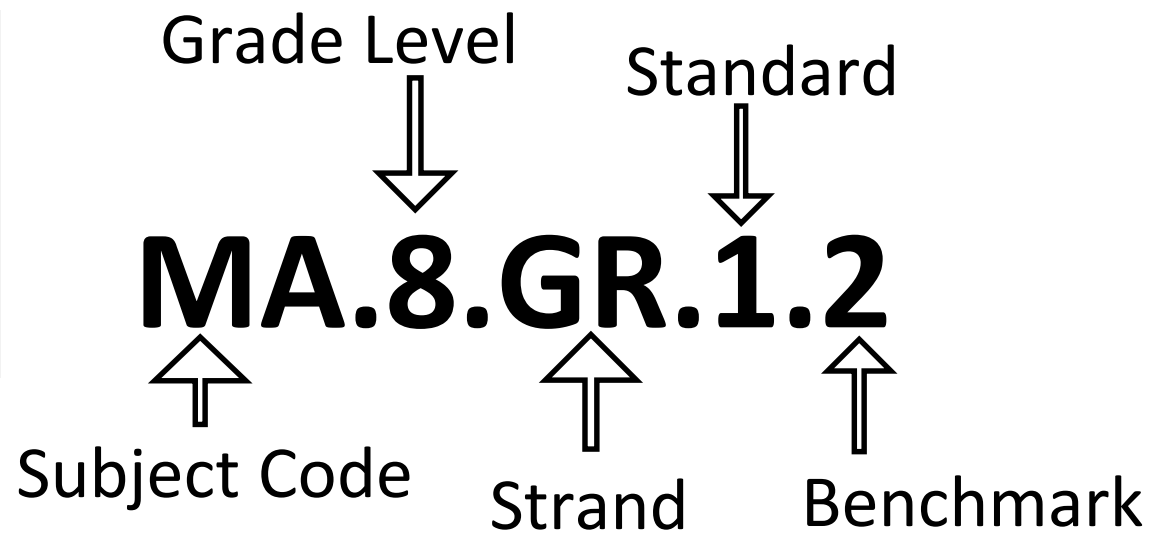




**Current  
Coding  
Scheme**



**B.E.S.T.  
Coding  
Scheme**





## Consistent Messaging of the B.E.S.T. Standards

- These benchmarks do not require any “unpacking”; do not associate with any specific shifts (focus, coherence or rigor); nor have any specified DOK level
- Meant to be connected, focusing on all concepts throughout the school year, and intended to have aligned tasks dictate various DOK levels and appropriate aspects of conceptual understanding, procedural fluency and real-world applications
- Benchmarks built to be mastery-based with clear and concise language and with the inclusion of clarifications, examples and appendices, educators will be able to align instruction to the needs of ALL of their students
- No crosswalk will be created between the MAFS and B.E.S.T.



**No crosswalk will be created between the MAFS and B.E.S.T.**

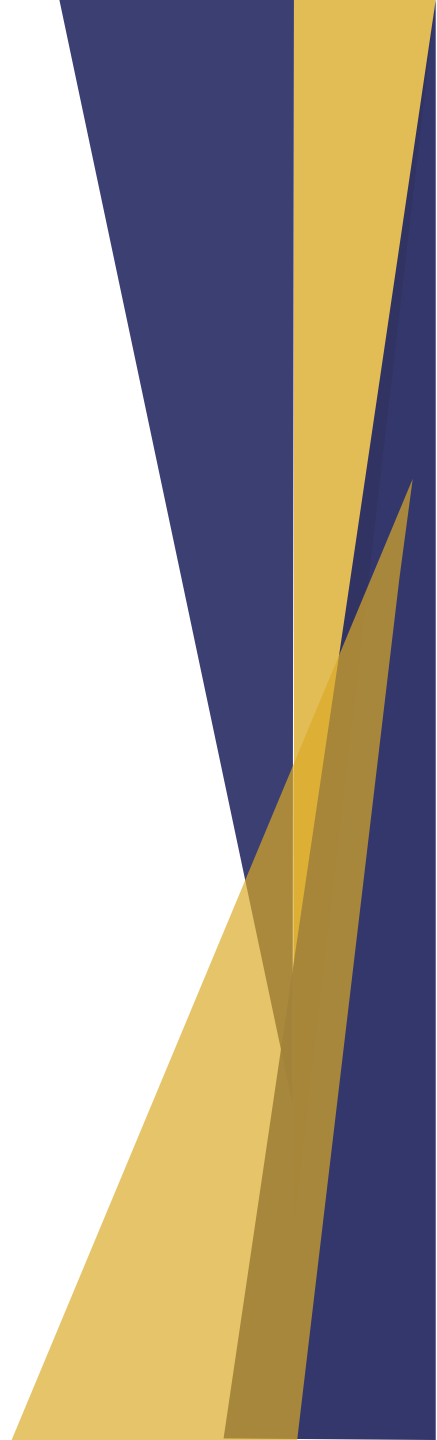
WHY?



# THE B.E.S.T. STANDARDS

*Benchmarks for Excellent Student Thinking*

MA.6.AR.3.3	Extend previous understanding of fractions and numerical patterns to generate or complete a two- or three-column table to display equivalent part-to-part ratios and part-to-part-to-whole ratios.	MAFS.6.RP.1.3	<p>Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p> <p>a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.</p> <p>b. Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?</p> <p>c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.</p> <p>d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p> <p>e. Understand the concept of Pi as the ratio of the circumference of a circle to its diameter.</p>
MA.6.AR.3.4	Apply ratio relationships to solve mathematical and real-world problems involving percentages using the relationship between two quantities.		
MA.6.AR.3.5	Solve mathematical and real-world problems involving ratios, rates and unit rates, including comparisons, mixtures, ratios of lengths and conversions within the same measurement system.		
MA.7.GR.1.3	Explore the proportional relationship between circumferences and diameters of circles. Apply a formula for the circumference of a circle to solve mathematical and real-world problems.		



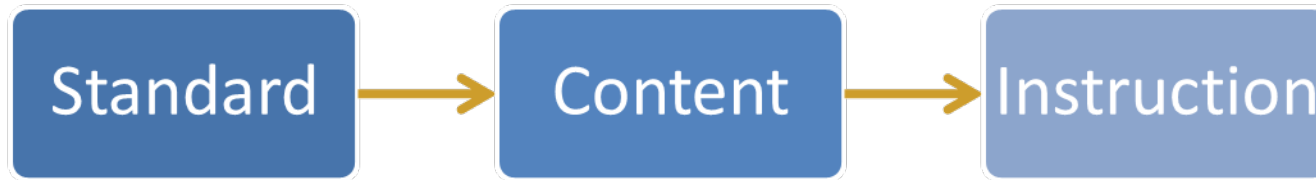


# Progression of Strands

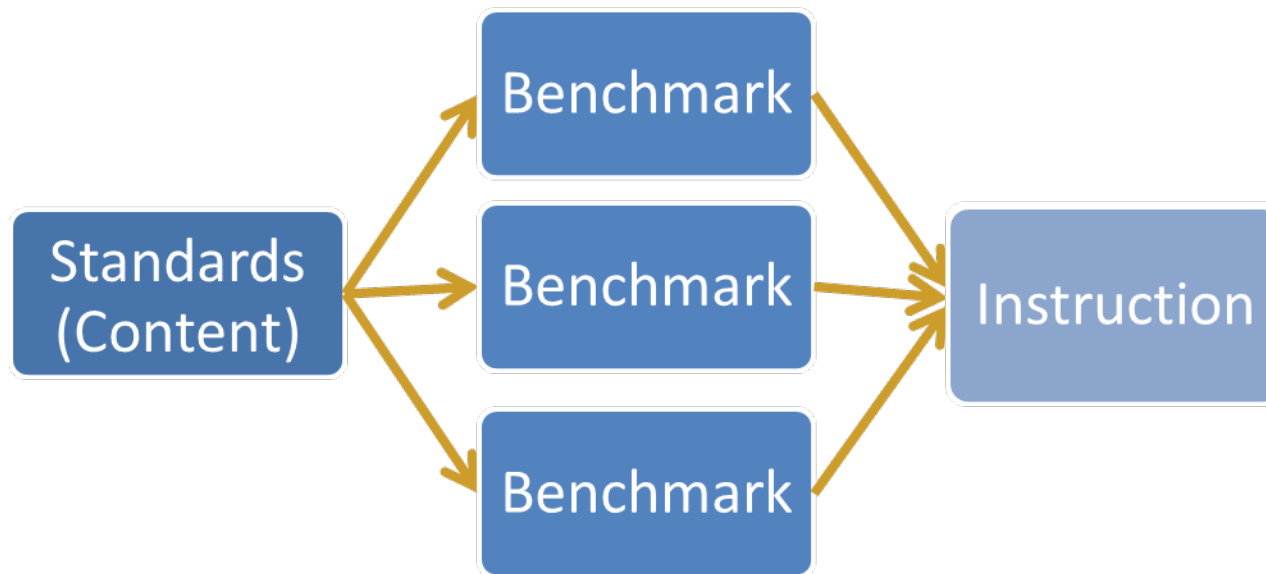
K	1	2	3	4	5	6	7	8	9-12
Number Sense and Operations (NSO)									
	Fractions (FR)								
Algebraic Reasoning (AR)									
								Functions (F)	
								Financial Literacy (FL)	
Measurement (M)									
Geometric Reasoning (GR)									
								Trigonometry (T)	
Data Analysis and Probability (DP)									
								Logic and Discrete Theory (LT)	
								Calculus (C)	
Mathematical Thinking and Reasoning Standards (MTR)									



**Current  
Instructional  
Design**



**B.E.S.T.  
Instructional  
Design**







## Student-Centered Instruction

- Methods and strategies are embedded as appropriate to the problem
- Inclusion of a mix of practice sets will provide students with the opportunity to experience different types of problem-solving within the scope of one lesson
- All equivalent solutions should be acceptable
  - Elementary example: Simplified fractions are not necessary in order to determine mastery of a benchmark.
  - Secondary example: Rationalizing the denominator is not necessary in order to determine mastery of a benchmark.



## Emphasis of the B.E.S.T. Standards for Mathematics

- Clear and concise language.
- Written to allow teachers to meet students' individual skills, knowledge and ability.
- Written to allow students flexibility to solve problems using method/strategy that is accurate, generalizable and efficient depending on content (i.e., numbers, expressions or equations).
- The benchmarks were written to allow for student discovery (i.e., explore) of strategies rather than the teaching, naming and assessing of each strategy individually.
- The benchmarks were written to support multiple pathways for success in career and college for students.
- Intentional balance of conceptual understanding and procedural fluency with the application of accurate real-world context intertwined within mathematical concepts for relevance.



## Emphasis of the Mathematical Thinking & Reasoning Standards (MTRs)

- The B.E.S.T. Standards for Mathematics should be taught through the lens of the MTRs.
- Bulleted language of the MTRs were written for students to use as self-monitoring tools.
- Clarifications of the MTRs were written for teachers to use as a guide to inform their instructional practices.
- Ensure that students stay engaged, persevere in tasks, share their thinking, balance conceptual understanding and procedures, assess their solutions, and make connections to previous learning and extended knowledge
- Addressed at multiple points throughout the year, with the intention of gaining mastery of mathematical skills by the end of the year and build upon these skills as they continue in their K-12 education.



## Mathematical Thinking and Reasoning Standards

\*MA.K12.MTR.1.1 *Actively participate in effortful learning both individually and collectively.*

MA.K12.MTR.2.1 *Demonstrate understanding by representing problems in multiple ways.*

MA.K12.MTR.3.1 *Complete tasks with mathematical fluency.*

\*MA.K12.MTR.4.1 *Engage in discussions that reflect on the mathematical thinking of self and others.*

MA.K12.MTR.5.1 *Use patterns and structure to help understand and connect mathematical concepts.*

\*MA.K12.MTR.6.1 *Assess the reasonableness of solutions.*

MA.K12.MTR.7.1 *Apply mathematics to real-world contexts.*



# Roadmap to Implementation

**2019 – 2020**

**Standards review process**

Removal of instruction from language of standards

Benchmarks written as expectations for students by end of year

**2020 and beyond**

**Development of Instructional Support and PD**

Create Instructional Support Document and PD to assist teachers in the understanding of how to teach the B.E.S.T. Standards of Mathematics

Align instructional materials to the B.E.S.T. Standards

**2021 and beyond**

**Professional Development and Implementation**

Implementation of Instructional Support Document and PD to all stakeholders across the state of FL



## Discussion

- How will understanding the structural framework help with successful implementation of the B.E.S.T. Standards for Mathematics?



# Resources and Professional Development





## District's Role

- Learn the differences between the B.E.S.T. and the MAFS (CCSS)
- Understand the reasons for those differences
- Make them work for the students of Florida

## FDOE's Role

- **Support teachers in these tasks through extensive instructional support documents**
- **Ensure that statewide tests are consistent with both the general principles and the specific details of the B.E.S.T. Standards**
- **Require the same for new instructional materials**



## B.E.S.T. Standards for Mathematics

- Instructional Guidance for Transition to the New B.E.S.T. Standards for Mathematics
- Released late spring 2021



# B.E.S.T. Instructional Guide for Mathematics

- Coming Spring 2021
- Information about the Mathematical Thinking and Reasoning Standards
- Benchmark information
  - Related benchmarks, vertical alignment, terms for K-12 Glossary, purpose and instructional strategies, common misconceptions, potential learning gaps/mistakes, example instructional tasks and example instructional item

<https://www.fldoe.org/academics/standards/subject-areas/math-science/mathematics/bestmath.shtml>



## **B.E.S.T. Math District Lead Professional Development**

1. Increase participant knowledge of the B.E.S.T. Standards for Mathematics
2. Gain resources for their district to implement the B.E.S.T. Standards for Mathematics with fidelity
3. Actively engage in student-centered instruction
4. Take part in a community of learners and leaders with their peer districts.

<https://www.fldoe.org/academics/standards/subject-areas/math-science/mathematics/bestmath.stml>



# B.E.S.T. Math District Lead Professional Development

Region	Location	Dates
North	Milton High School 5445 Stewart Street Milton, Fl. 32570	July 13-15, 2021
Central	George Jenkins High School 6000 Lakeland Highlands Road Lakeland, FL 33813	July 20-22, 2021
South	Gulf Coast High School 7878 Shark Way Naples, Fl. 34119	July 27-29, 2021

[www.math.floridasteamposium.org](http://www.math.floridasteamposium.org)



## Questions for your consideration

- In July, each district team will develop a plan for their next steps towards implementation. Is your team prepared to participate?
- Are you on this team?
- Do you know who will attend for your district?
- Will this be the same team that is attending the summer literacy institute?



# B.E.S.T. Math District Lead Professional Development

- How can you engage with your district implementation team after they participate in the Math District Lead PD?





## B.E.S.T. Math Professional Development 2021-22

- Next steps in the journey for the FDOE Math Team
- Monthly check-in meetings with district math implementation teams post July participation
- FDOE and teacher expert teams prepare for summer PD for teachers in 2022
- B.E.S.T. Instructional Guide for Mathematics continues to grow

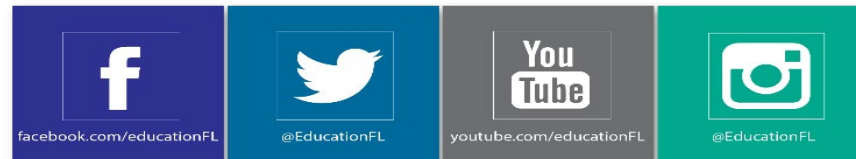


# Questions?

- Ashley Harvey, Elementary Mathematics Specialist  
[Ashley.Harvey@fldoe.org](mailto:Ashley.Harvey@fldoe.org)
- Courtney Starling, Secondary Mathematics Specialist  
[Courtney.Starling@fldoe.org](mailto:Courtney.Starling@fldoe.org)
- Jennifer Infinger, STEAM Specialist  
[Jennifer.Infinger@fldoe.org](mailto:Jennifer.Infinger@fldoe.org)
- Nancy Narvaez-Garcia, K-12 Science Specialist  
[Nancy.Narvaez-Garcia@fldoe.org](mailto:Nancy.Narvaez-Garcia@fldoe.org)
- PJ Duncan, Director  
[Patricia.Duncan@fldoe.org](mailto:Patricia.Duncan@fldoe.org)



[www.FLDOE.org](http://www.FLDOE.org)



[facebook.com/educationFL](https://facebook.com/educationFL)

[@EducationFL](https://twitter.com/EducationFL)

[youtube.com/educationFL](https://youtube.com/educationFL)

[@EducationFL](https://instagram.com/EducationFL)

[www.FLDOE.org](http://www.FLDOE.org)