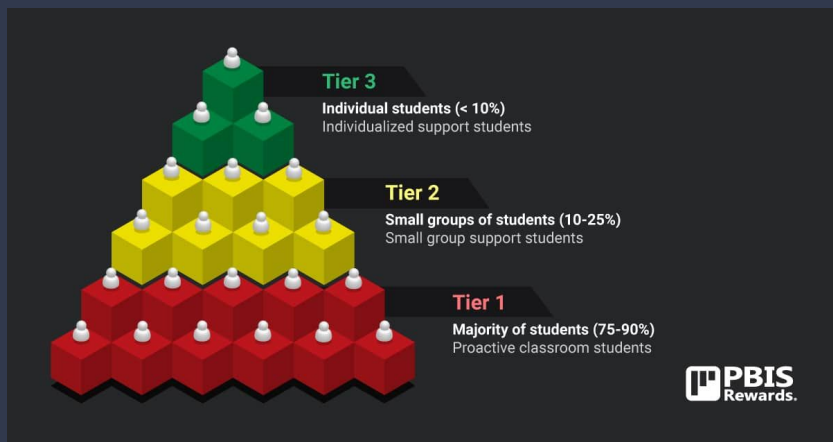


Elementary Literacy & Math FY 23 Budget Requests

January 4, 2022

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Academic Approach to Interventions



Proactive approach to identifying students with academic or behavioral needs.

Early assessment and intervention for these students can help prevent learning loss.

The key components of the intervention model include:

- Universal screening of all students early in the school year
- Tiers of interventions that can be amplified in response to levels of need
- Ongoing data collection and continual assessment
- Schoolwide approach to expectations and supports
- Parent involvement

The integrated instruction model uses data to assess student needs and to provide interventions along a continuum of three tiers of progressive intensity.

FY23 Budget Drivers

- Strengthening Tier I core instruction to meet the needs of all learners in the general education classroom
- Instructional practices that are evidenced-based and coherent across the district
- Regular use of formative and summative data to:
 - Inform instruction
 - Determine tiered supports of increasing intensity for students
- A well articulated core curriculum that is supported by high quality resources
- Strengthening the capacity of teachers to meet the needs of all learners in the general education classroom through:
 - A well-articulated coaching model to support adult and student learning
 - Use of coaching as a job-embedded learning model
- Ensure that curriculum, instruction, and assessment are aligned with culturally proficient and anti-racist teaching practices and the Portrait of a Needham Graduate

Literacy

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Foundational Work 2013–2020

Curriculum and Instruction

- A well-articulated **core curriculum** ready for review and refinement:
 - Teachers College Units of Study
 - Full-Day K
- Strides toward greater **coherence in instructional practices**
- Initial review for alignment with **culturally proficient and anti-racist teaching**

Assessment

- F&P Benchmark Assessment Updated

Professional Learning

- Great strides toward a well-articulated coaching model to support adults and students
- Greater utilization of coaching as job-embedded learning
- Stronger coaching culture

Goal: Ensure that ALL students reach high levels of literacy and become proficient readers, writers, and communicators.

Equity and Access for All Learners

Align assessment, curriculum, & instruction with current Neuroscience to better meet the needs of all students, particularly those who continue to struggle in literacy.

Align Assessment, Curriculum & Instruction with culturally proficient, anti-racist practices; equitable outcomes for all students regardless of race, ethnicity, language, or special education status.

Comprehensive Literacy Framework

Phonological / Phonemic Awareness Training

- **Heggerty Program (K & 1)**
- Assessment and intervention as students move up the grades

Phonics, Spelling, & Word Study

- **K-3: Foundations**
- 4-5: Word Study & Spelling (*Developing*)
- Goal: Coherent K-5 program of study

“Balanced Literacy” in NPS

Reading Workshop

- Shared Reading & Interactive Read Aloud
 - Small Group & Individual Instruction
 - Independent Reading / Conferring
 - Talk, Collaboration, Reflection
- Choice, authentic texts
“Developing a Reading life.”

Writing Workshop

- Shared Writing & Mentor Texts
 - Small Group & Individual Instruction
 - Independent Writing / Conferring
 - Talk, Collaboration, Reflection
- “Teaching the writer, not the writing.”

Align Curriculum & Instruction with Neuroscience

WHY?

- ❖ At least 80% of all poor readers are estimated to have weakness in phonological proficiency (Cassar et al, 2005).
- ❖ We are unlikely to see the desired reading gains until we address their phonological proficiency (Kilpatrick, 2016; 2019).
- ❖ Our FY22 Kindergarten data shows this as an area of concern:
 - 45% of Kindergarten students require explicit teaching in PA
 - 16% of Kindergarten students may need *more intensive support*
- ❖ This is also an area we have identified as needing strengthening in our curriculum, instruction, and assessment.

Align Curriculum & Instruction with Neuroscience

How?

- ❖ **Adopt Heggerty Phonemic Awareness Program (K, 1)**
- ❖ **Strengthen Foundations Implementation (K-3)**
- ❖ **Implement a consistent Word Study & Spelling framework in Gr. 4-5**
- ❖ **Strengthen our screening and assessment tools**
- ❖ **Increase targeted instruction (small group & individual) in all Tiers of Instruction**
- ❖ **Align our Reading and Writing Units of Study with current Research**

Universal Screening

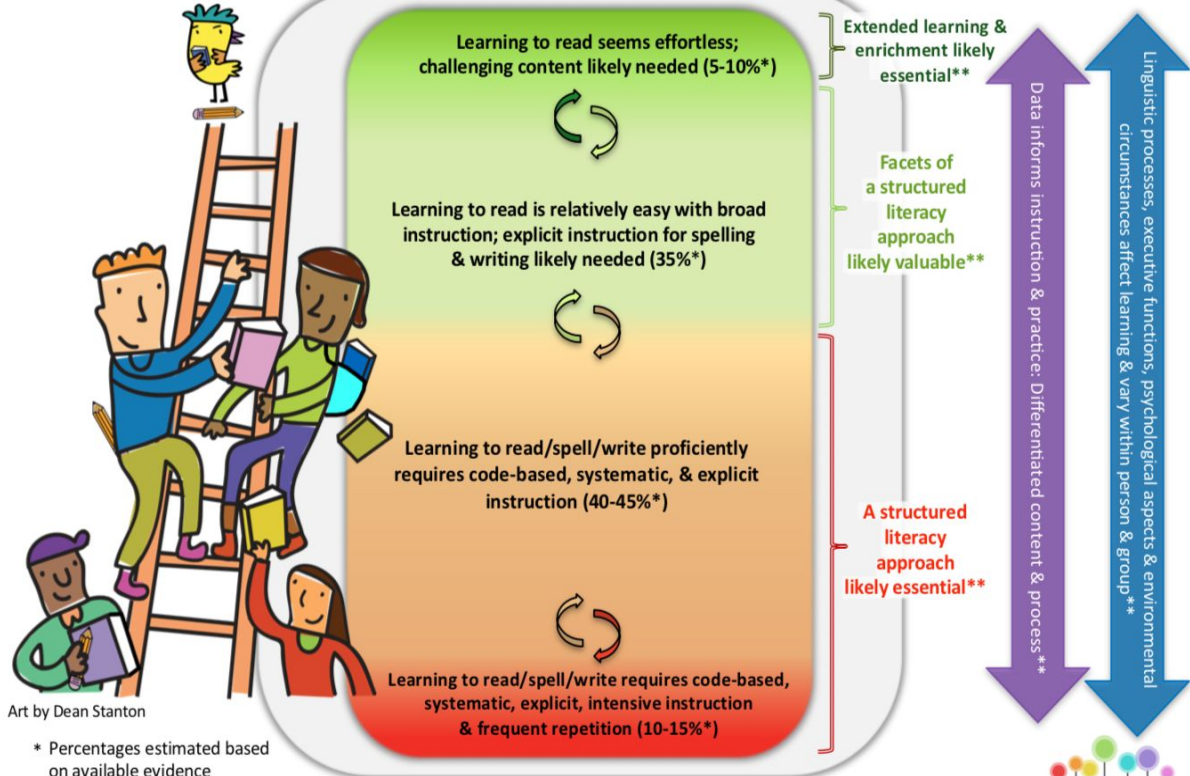
Earlier identification of children at risk for dyslexia and other reading struggles in order to maximize instruction (Tier I, II, III).

- ❖ **2017-2020: Screener search**
- ❖ **Fall 2019 & Spring 2021: Pilot Early Bird Screener in Kindergarten**
- ❖ **Fall 2021: Early Bird Screener in Kindergarten**
- ❖ **Anticipated Fall 2023: Early Bird Screener in Grade 1**
- ❖ **Anticipated Fall 2024: Early Bird Screener in Grade 2**

****MA Law: An Act Relative to Students with Dyslexia, Chapter 272 of the Acts of 2018 will require all districts to implement screening measures in K, 1, & 2 with progress monitoring.***

The Ladder of Reading & Writing

Who are the readers/writers/spellers who need structured literacy?



Art by Dean Stanton

* Percentages estimated based on available evidence

** Terms defined and references at www.nancyyoung.ca

MEETING THE NEEDS OF VARIOUS READER PROFILES WITHIN THE WORKSHOP MODEL

Minilesson
(10 - 15 mins)

Small Group Instruction

Guided Reading

- Similar Reading “Level”
- Focus on systems of strategic actions to understand and critique texts

Strategy Groups

- Focus on common strategies to support readers/writers

Book Clubs, Conferring, Assessment

Structured Literacy

- Explicit, systematic instruction across Phonology, Orthography, Syntax, Semantics, & Morphology. ([POSSUM](#))
→ Focus on building the reading circuit

Share

Department Focus

- **More TARGETED instruction Across Tiers I, II, III to meet needs**
 - New assessments to drive instruction and intervention
 - Structured Literacy approach in Tier I and II (Push-in and Pull-out)
 - Expansion of Specialized instruction in GenEd services
 - Coaching support for Tier I / Small Group Instruction

- **Collaboration between GenEd, Special Education, & ELL to ensure coherence and maximum support for striving readers**

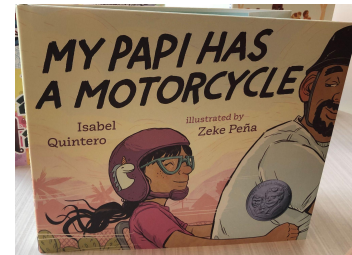
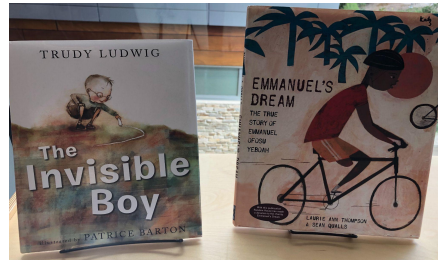
Professional Learning Highlight:

70+ educators across GenEd, SPED, ELL are participating in professional learning with Melissa Orkin, a Developmental Psychologist with expertise in assessment and targeted instruction for students who struggle with reading and language.

Goal: Align Curriculum & Instruction with Culturally Proficient, Anti-Racist Practices

Highlights:

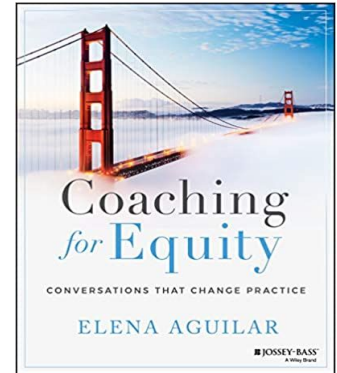
- **Units of Study through the lens of equity:**
 - Whose story is being told? How? And by whom?
 - Whose story is missing?
 - Lessons to develop critical literacy
- **Literacy Leadership Team and Social Studies Leadership Team** partnering to develop inclusive interdisciplinary content and practices
- **Classroom libraries** that reflect our goals of inclusiveness and representation.



Instruction as a Lever for Equity

Zaretta Hammond: Culturally Responsive Teaching is about building the learning capacity of the individual student and ensuring students are doing the heavy lifting of the cognitive work.

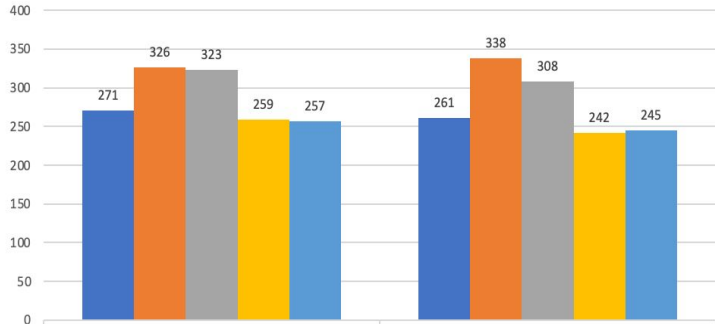
- Critical shifts in literacy assessment and instruction = equity issue
- Equity *as integral to* instruction, not an add-on
- Literacy Department read: *Coaching for Equity: Conversations That Change Practice* by Elena Aguila



FY23 Budget Requests

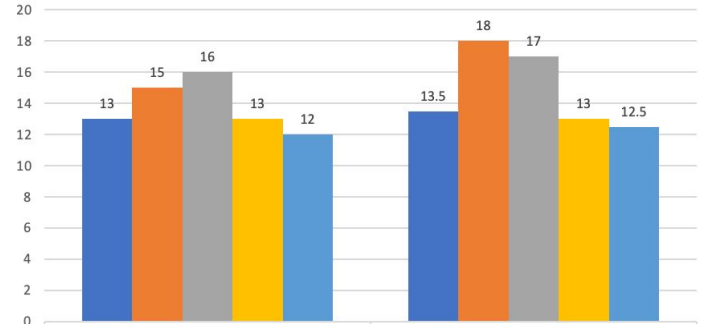
- **FTE - Intervention/Coaching**
 - **Pollard**
 - **Mitchell**
 - **Eliot**
- **Early Bird Grade 1**
- **Summer Bridge - Literacy & Math**

Literacy Coach-Student Ratios



■ Broadmeadow (2.0 FTE)	271	261
■ Eliot (1.25 FTE)	326	338
■ Mitchell (1.5 FTE)	323	308
■ Newman (2.4 FTE)	259	242
■ Sunita Williams (2.0 FTE)	257	245

Literacy Coach-Teacher Ratios



■ Broadmeadow (2.0 FTE)	13	13.5
■ Eliot (1.25 FTE)	15	18
■ Mitchell (1.5 FTE)	16	17
■ Newman (2.4 FTE)	13	13
■ Sunita Williams (2.0 FTE)	12	12.5

Literacy Coaching Ratios FY21-FY22

Literacy Coaches/Specialists

FY21	FY22 Temporary Funding	FY23 Requests	Goal	Rationale
2.0 FTE Broadmeadow 1.25 FTE Eliot (.55 Title I) 1.5 FTE Mitchell 2.4 FTE Newman 2.0 FTE Sunita Williams	2.5 Literacy Coach /Specialist increase: 0.45 FTE Eliot 0.2 FTE Mitchell 1.4 FTE Pollard	1.5 Literacy Coach/ Specialist increase: 0.45 FTE Eliot 0.2 FTE Mitchell 0.4 FTE Pollard	Provide teacher-facing and student-facing supports based on building needs, equitable access to services, & early, preventative intervention. Eliot FTE: Assure compliance with Title I rule - supplement not supplant.	Supporting teachers with implementation of new curricula and targeted research-based student supports based on data to reach more equitable outcomes for all students.

Summer Bridge Program in Literacy & Math

Prior to Summer 2020: *Skills and Thrills Program*

- *Tuition-based program (\$675 / 4 weeks)*
- *Literacy*
- *Invitations sent to select students*
- *Approximately 50-60 students*
- *Scholarships for some students*

Summer Bridge Program in Literacy & Math

Summer Bridge 2021

Grades Served: Current 1-5

Students Served: 132 (6% of total population)

- Economically Disadvantaged: 35 (27%)
- English Language Learners: 12 (9%)
- Students with Disabilities: 37 (28%)

Students Recommended: 240+ (11%)

Selection Criteria Based on:

- Teacher Feedback
- Literacy and Math Data (District & School)
- Input from Lit Specialist, ELL, SPED
- Available Slots / Rolling Invitations

***Tracking progress over time**

K-5 Math

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AGENDA

- Department Context:
 - Accomplishments
 - Goals
 - Highlights
- FY23 Requests

NPS K-5 Math Vision

The Needham Public Schools K-5 math program develops critical thinkers who work independently as well as collaboratively to understand math both conceptually and procedurally in order to experience, appreciate, and make sense of mathematics in the real world.

Ongoing Foundational Work

Curriculum and Instruction

- Review Process and Pilot of core curriculum
- Working toward greater coherence in instructional practices
- Building capacity to meet the needs of all learners through targeted tiered supports
- ST Math in place in K-5 across all schools

Assessment and Use of Data

- Formative and Summative Assessment
 - Star Math
 - Follow Up Interviews
 - Embedded daily assessment
- Coaches working with teams to analyze data and plan tiered supports

Professional Learning

- Coaching as job-embedded learning
- Professional learning to support new curriculum and instructional practices

Goals

1. Provide High Quality Curricular Materials
2. Align Curriculum & Instruction with with culturally proficient, anti-racist practices
3. Increase use of data and evidence-based targeted instruction

Goal 1: Provide High Quality Curricular Materials

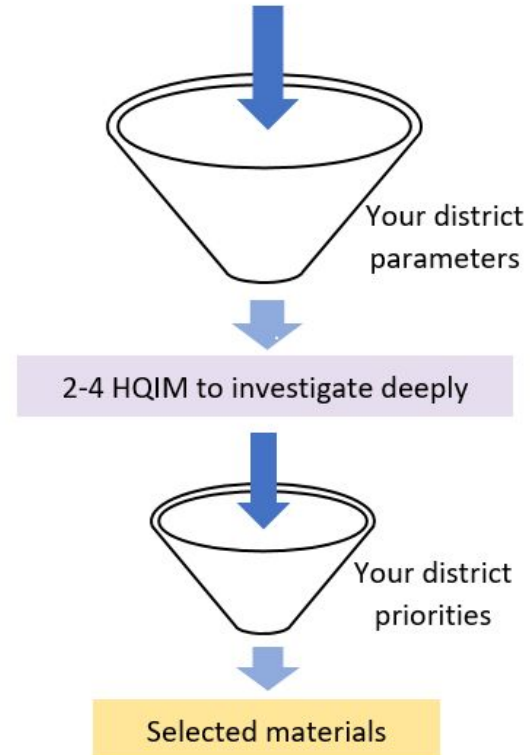
Curricular materials can make a real difference.

Providing teachers with access to higher-quality, better-aligned curricular materials can prompt improvement in student outcomes:

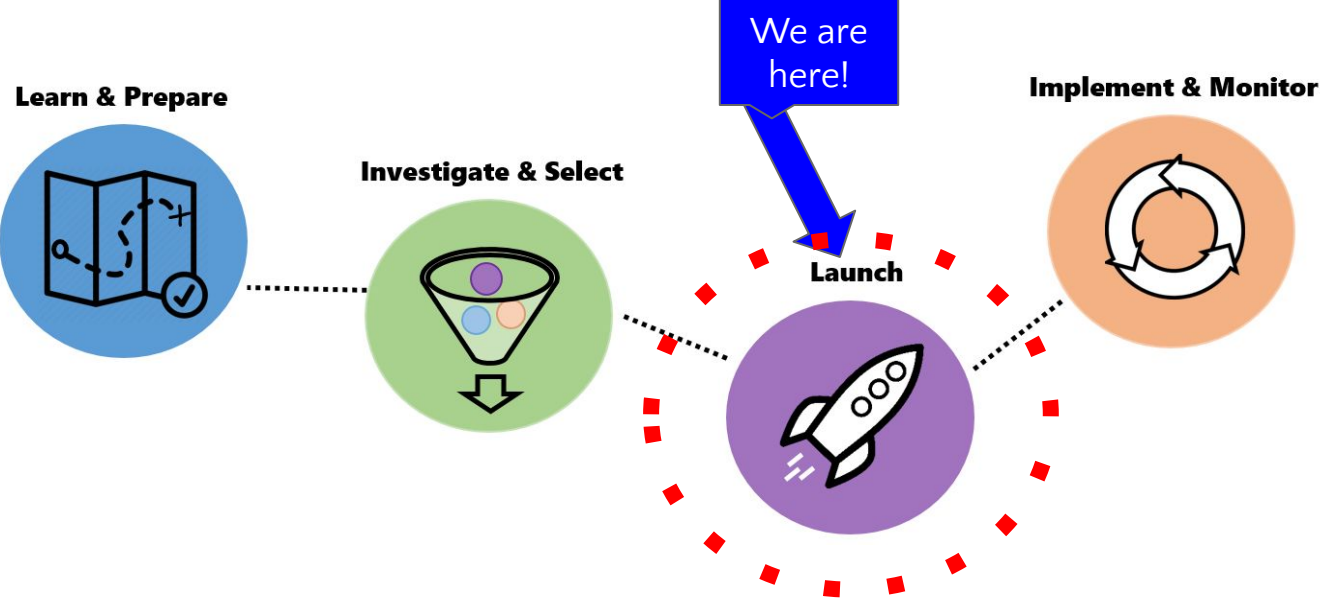
- Comparable to [over half a year](#) of additional learning
- About [1.5 times the difference](#) between an average teacher and one at the 75th percentile
- [Greater than the difference](#) between a new teacher and one with three years of experience

[\(from DESE\)](#)

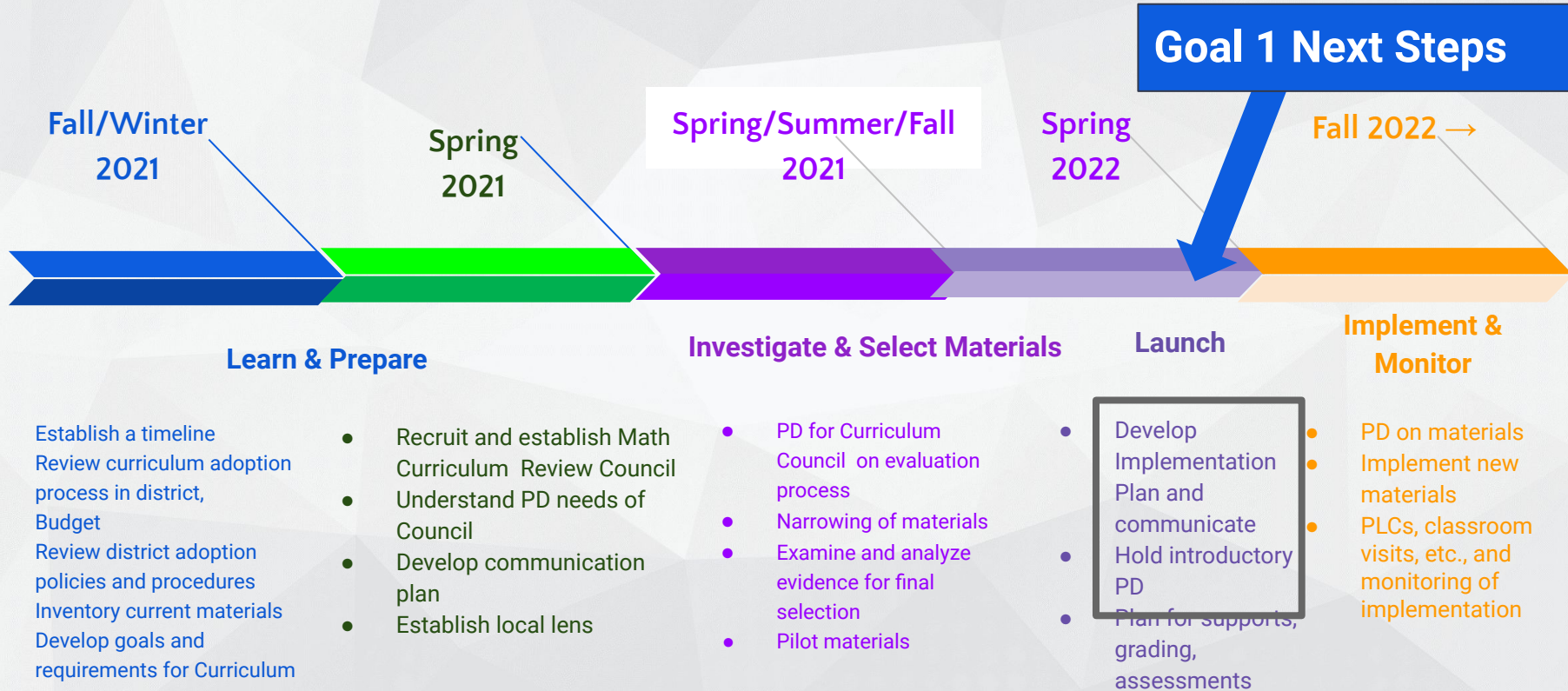
The whole marketplace of high quality instructional materials (HQIM)



GOAL 1: Provide High Quality Curricular Materials



Timeline of major milestones and outcomes for the process



Goal 2: Align Curriculum & Instruction with with culturally proficient, anti-racist practice

Criteria used in selection process:

Culturally Responsive Teaching Practices - Teachers Materials

The authors of the teachers' materials are people of diverse identities. (race/ethnicity, gender)

Guidance is provided on being aware of one's biases and the gaps between one's own culture and the students' culture

The teachers' materials ask teachers to reflect on their own practices and experiences learning Math and critique them through the lens of cultural responsiveness.

Guidance is provided on using students' everyday lives as the starting point for learning, and making real-life connections between academic content and the local neighborhoods, culture, environment, community

NPS Curriculum Review Criteria for Addressing Bias and Stereotypes - Student Materials

Materials provide information and opportunities for students to think critically about complex issues.

Materials provide students with opportunities to demonstrate respect for themselves, other individuals, and groups while helping them develop the skills that foster cooperation and teamwork.

There are opportunities for all students to develop a positive self-image, and materials ensure that the identities of all people are valued.

The materials portray all age groups and races with a full range of human traits, attributes, and capabilities.

The materials present people with a variety of body images.

The materials avoid language that evaluates or subjectively compares the diversity of belief systems.

The materials depict individuals in roles unrelated to their disabilities and as people who lead active, productive lives in a wide range of occupations.

Show all genders confronting and solving problems with equal skill and resourcefulness.

ir prior knowledge and experience

eriential learning activities

enhance learning

nses that could all be valid given the

m to reflect the cultures, traditions,

ation that go beyond group work by
s ways of knowing, doing and being)



Learning by Doing

IM Problem-based Lesson Structure



Culturally Responsive Lesson Structure

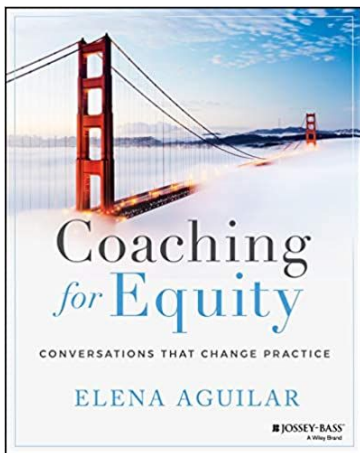
- **Ignite:** get the brain's attention
- **Chunk:** make information digestible
- **Chew:** time to reflect & actively process new information
- **Review:** apply new learning, practice authentically

Hammond, 2015

IM K-5
MATH 

Culturally Responsive Lesson Structure – Zaretta Hammond

Goal 2 Next Steps



Coach and Specialist
Read

IM Design Principles

All Students are Capable Learners of Mathematics



All students, each with unique knowledge and needs, enter the mathematics learning community as capable learners of meaningful mathematics. Mathematics instruction that supports students in viewing themselves as capable and competent must leverage and build upon the funds of knowledge they bring to the classroom. In order to do this, instruction must be grounded in equitable structures and

practices that provide all students with access to grade-level content and provide teachers with necessary guidance to listen to, learn from, and support each student. The curriculum materials include classroom structures that support students in taking risks, engaging in mathematical discourse, productively struggling through problems, and participating in ways that make their ideas visible. It is through these classroom structures that teachers will have daily opportunities to learn about and leverage their students' understandings and experiences and how to position each student as a capable learner of mathematics.

Goal 3: Enhance use of assessment & progress monitoring, and increase targeted instruction using evidence based-practices

Star Math

- Administered online
- Adaptive assessment
- Nationally normed
- Grades 1-5
- Typically Fall , Winter, & Spring



STAR[™]
Math

Kindergarten Assessment

- District Developed
- Paper/pencil/visuals
- Assesses early number concepts
- Typically Fall , Winter, & Spring

Math MCAS grades 3-5

Ongoing Classroom assessment

- Lesson Warm Ups
- Exit Tickets
- Application Problems
- End of Unit
- Observations
- Math Interviews

Data Meetings with Coaches and and Specialists

How do we use the data?

District Level

- Look at trends over time
- Identify areas of strength and areas for further investigation

School Level

- Analyze breakdown by grade level
- Identify areas of strength and need
- Plan for student-centered coaching and intervention, and monitor student progress

Classroom Level - Teachers and Coaches

- Analyze and monitor student-specific performance across mathematical domains in relation to state benchmarks and standards
- Determine need for additional assessment (such as 1:1 interviews) to better understand student thinking

Next Steps

- Continue to create consistency across the district using data, benchmarks and evidence-based practices
- Provide targeted tiered supports with increasing intensity to address areas of unfinished math learning

FY23 Budget Requests

Increase Math Specialists

0.5 FTE Eliot

0.5 FTE Newman

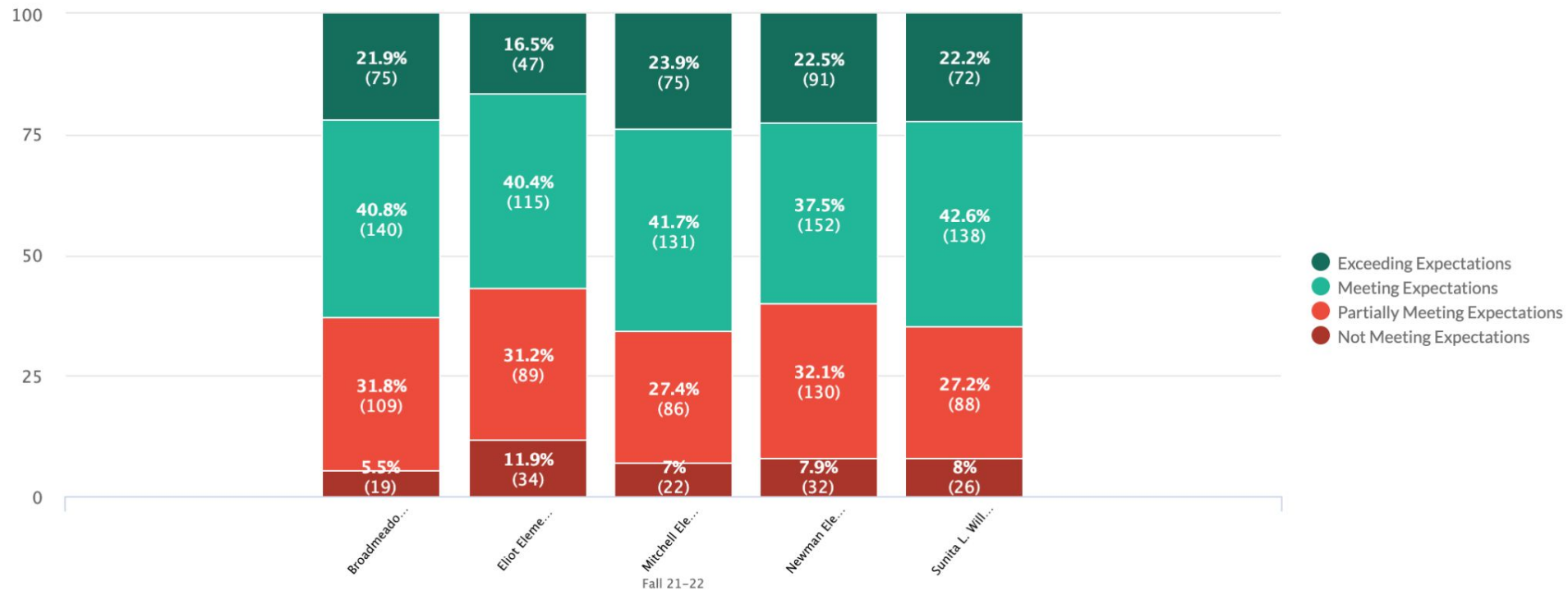
0.5 FTE High Rock

K-5 Math Coordinator

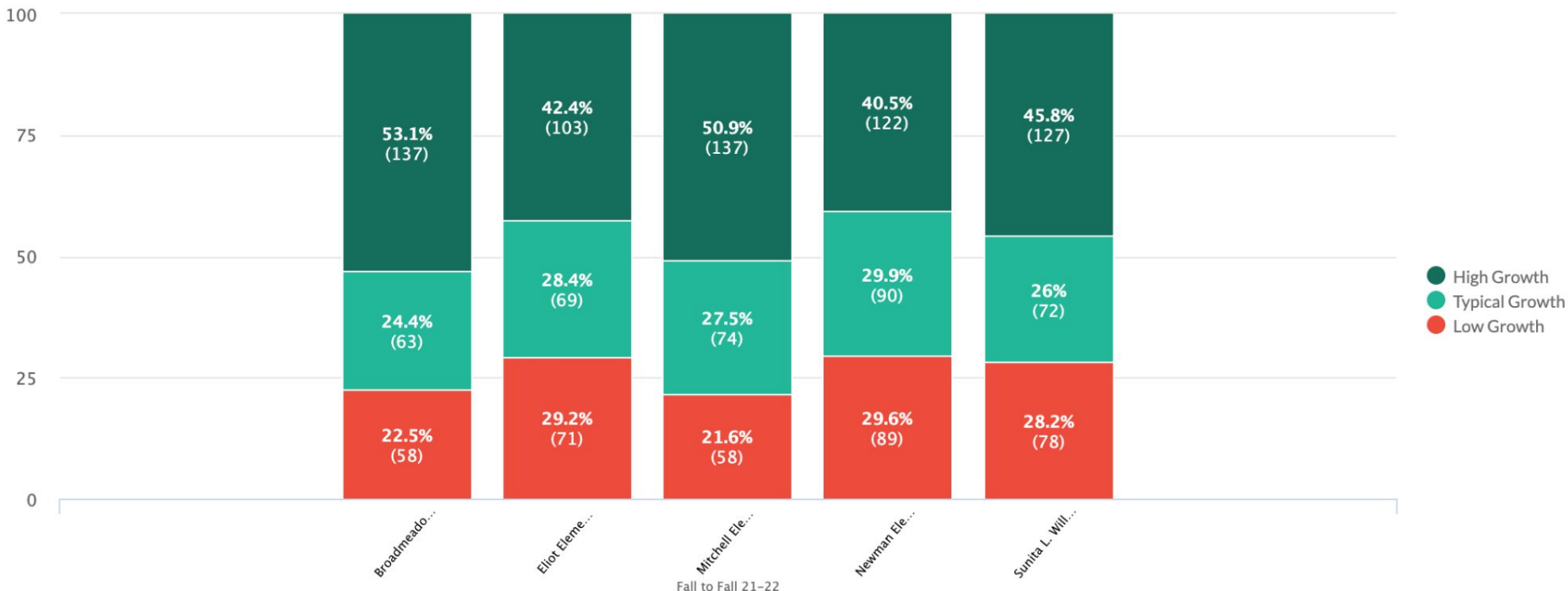
Increase from 0.5 FTE to 1.0 FTE

Math Coaches/Specialists

FY21	FY22 Temporary Funding	FY23 Requests	Goal	Rationale
<p>5.5 FTE Coaches 1.0 FTE Broadmeadow 1.0 FTE Eliot 1.0 FTE Mitchell 1.5 FTE Newman 1.0 FTE Sunita Williams</p>	<p>3.0 Math Coach/Specialist increase: 0.5 FTE Broadmeadow 0.5 FTE Eliot 0.5 FTE Mitchell 0.5 FTE Newman 0.5 FTW Sunita Williams 0.5 FTE High Rock</p>	<p>1.5 Math Coach/Specialist increase: 0.5 FTE Eliot 0.5 FTE Newman 0.5 FTE High Rock</p>	<p>Provide teacher-facing and student-facing math supports based on identified needs of each school</p>	<p>Supporting teachers with implementation of new curriculum; culturally responsive teaching practices</p>
<p>0.5 FTE Coordinator</p>	<p>0.5 K-5 Math Coordinator increase</p>	<p>0.5 K-5 Math Coordinator increase</p>		<p>Increasing targeted research-based student supports based on data to reach more equitable outcomes for all students</p>

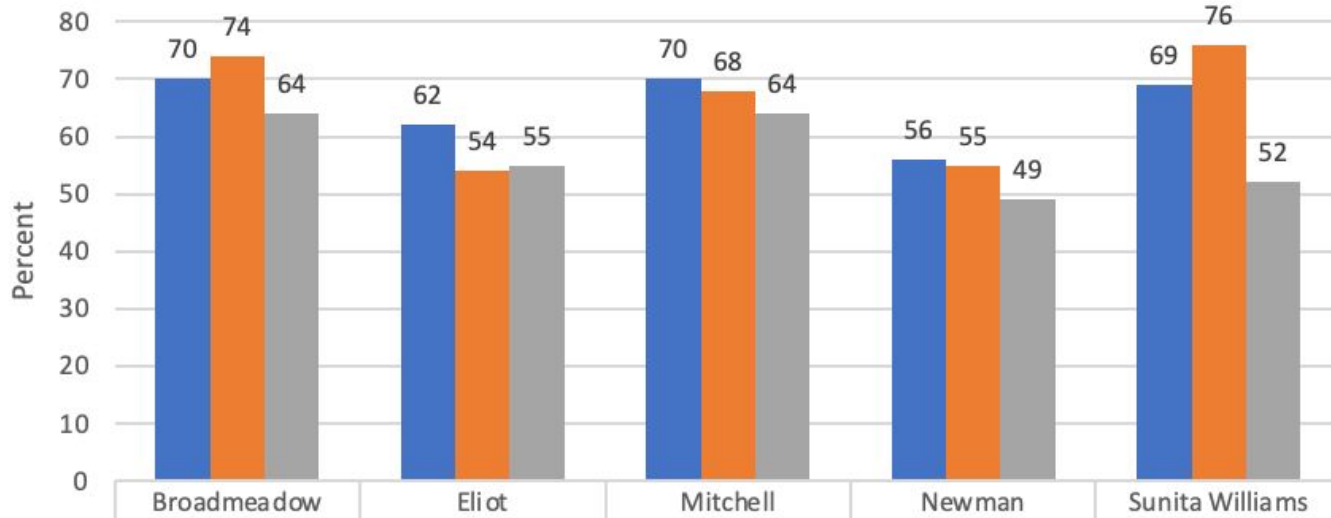


Fall 2021 Star Math State Proficiency Rate by School (Grades 2-5)



Fall 2021 Star Math Student Growth Percentile by School (Grades 2-5)

Grade 3-5 Math MCAS % Meeting or Exceeding Expectations



■ 2018	70	62	70	56	69
■ 2019	74	54	68	55	76
■ 2021	64	55	64	49	52

Questions ?