

# K-12 Science Curriculum Update

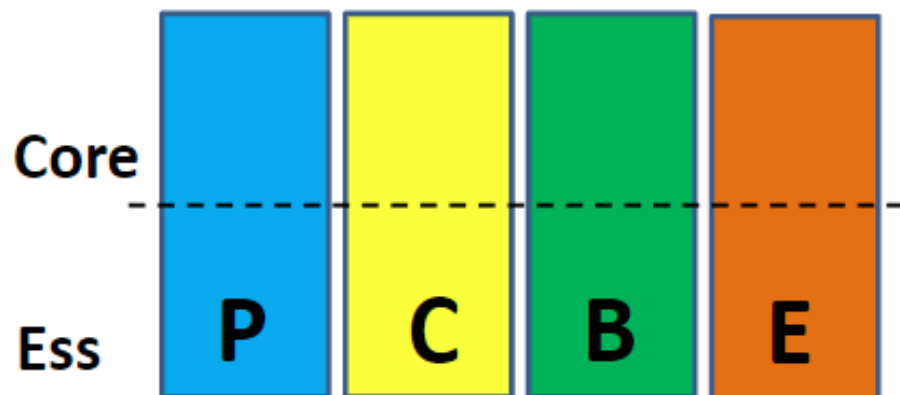
Presented by: Lisa Eldredge  
Carly Stone

# Why the Change?

## High School Content Footprint

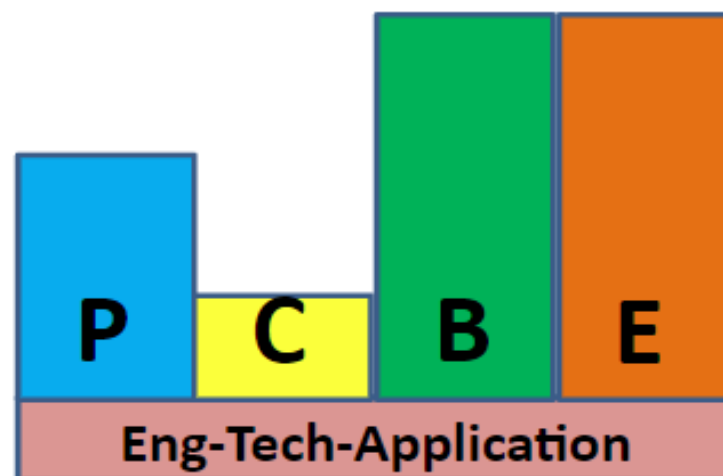
Old

### HSCE

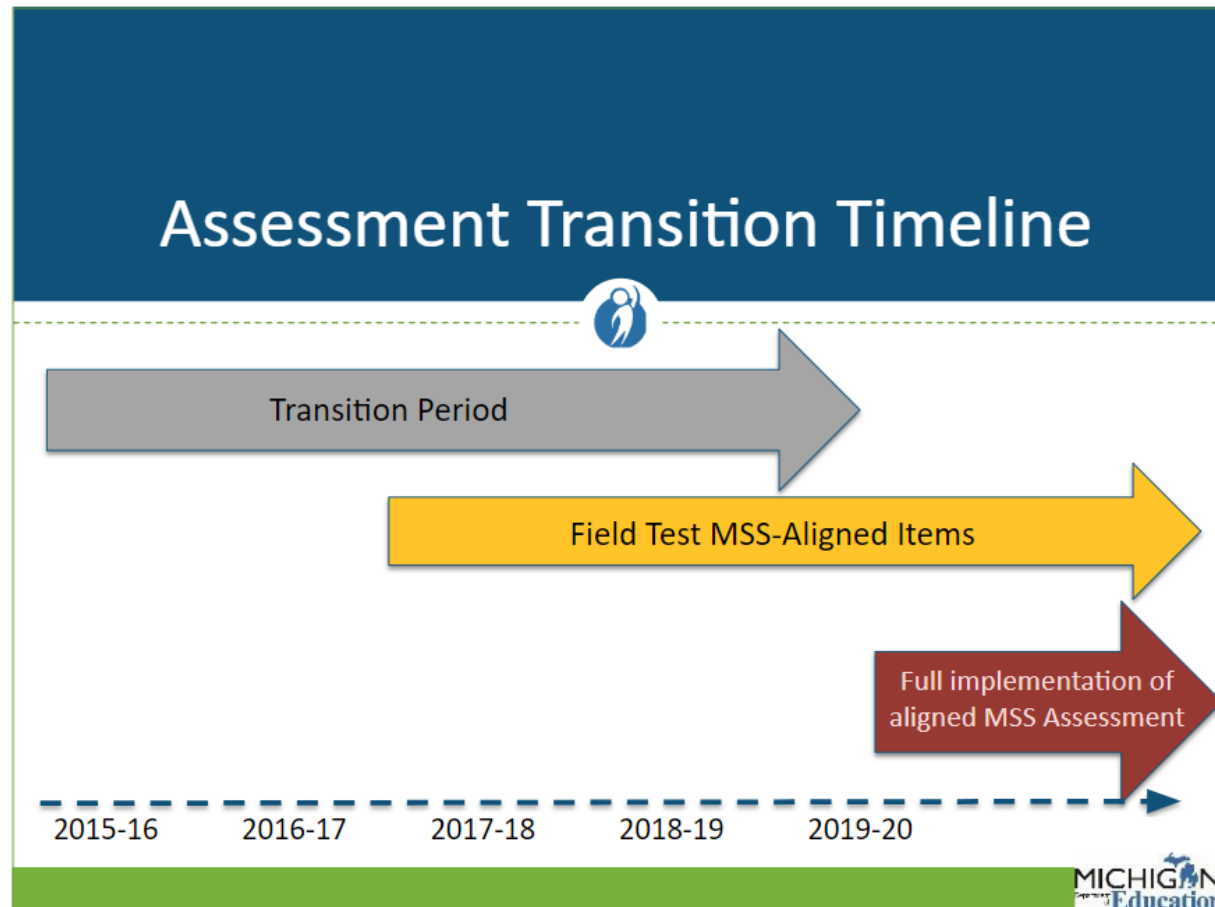


New (Assessment 2020)

### MSS (=NGSS)



# New State Assessment Transition



## Major shifts

- Move from Grade 4 & 7 → 5 & 8
- Practices embedded throughout
- Grade 11 and Grade 8 tests to assess the entire band of standards (6-8 ; 9-12)
- Grade 5 test to assess 3-5 grade standards

# Why the Change?

- MSTEP Data (Science)

Grade	2015 % Proficient State	2015 % Proficient Waterford	2016 % Proficient State	2016 % Proficient Waterford	2017 % Proficient State	2017 % Proficient Waterford
4	12.4	7.5	14.7	8	14.6	13.2
7	22.7	18.5	23.8	16.6	22.7	14.2
11	29.4	20.7	33.0	23.2	33.6	25.4

# The Plan

WSD Science Alignment Plan Timeline				
Level	2016-2017	2017-2018	2018-2019	2019-2020
Elementary	<ul style="list-style-type: none"> <li>Implement K-3 Oakland Schools Bridge Units</li> <li>Kit management by ECA K-3</li> <li>Limited Field Test of Phenomenal Science Units in 4th and 5th Grade</li> </ul>	<ul style="list-style-type: none"> <li>Continue K-3 Oakland Schools Bridge Units</li> <li>Implement 4-5 Phenomenal Science Units</li> <li>Kit Management by ECA K-5</li> <li>Encourage teachers to attend voluntarily attend NGSx program</li> </ul>	<ul style="list-style-type: none"> <li>Continue K-2 Oakland Schools Bridge Units</li> <li>Continue 4th/5th Phenomenal Science Units</li> <li>Implement revised Phenomenal Science 3rd grade units</li> <li>Kit Management by ECA K-5</li> <li>Encourage teachers to attend voluntarily</li> </ul>	<ul style="list-style-type: none"> <li>Continue K-2 Oakland Schools Bridge Units</li> <li>Continue 4th/5th Phenomenal Science Units</li> <li>Continue revised Phenomenal Science 3rd grade units</li> <li>Kit Management by ECA k-5</li> </ul>
Middle School	<ul style="list-style-type: none"> <li>All Middle School Teachers through NGSx program</li> <li>Limited Pilot of IQWST program in 8th grade</li> <li>Limited storyline development 6th grade</li> </ul>	<ul style="list-style-type: none"> <li>Implement IQWST program grade 8</li> <li>Limited storyline development 6th and 7th grade</li> <li>Begin common assessment revisions</li> </ul>	<ul style="list-style-type: none"> <li>Continue IQWST grade 8</li> <li>Implement IQWST program grade 7</li> <li>Limited storyline development grade 6</li> <li>Continue common assessment revision</li> </ul>	<ul style="list-style-type: none"> <li>Continue IQWST program grades 7-8</li> <li>Implement IQWST program grade 6</li> <li>Continue common assessment revision</li> </ul>
High School	<ul style="list-style-type: none"> <li>All High School Teacher through NGSx program.</li> <li>Earth Science Course added to course catalog</li> <li>Begin development of Earth Science Course</li> </ul>	<ul style="list-style-type: none"> <li>Continue development of Earth Science course.</li> <li>Begin re-design of Biology course.</li> <li>Limited storyline development Chemistry and Physics</li> <li>Begin common assessment revisions</li> </ul>	<ul style="list-style-type: none"> <li>Continue development of Earth Science and Biology courses.</li> <li>Begin re-design of Chemistry and Physics courses</li> <li>Continue common assessment revision</li> </ul>	<ul style="list-style-type: none"> <li>Continue re-design of Biology, Chemistry, and Physics courses.</li> <li>Continue common assessment revision</li> </ul>
State Assess-	<ul style="list-style-type: none"> <li>MSTEP Grades 4,7,11</li> <li>Limited Pilot New MSS item clusters Grades 5, 8, 11</li> </ul>	<ul style="list-style-type: none"> <li>Pilot MSS aligned item clusters Grades 5, 8, 11</li> </ul>	<ul style="list-style-type: none"> <li>Field Test MSS aligned item Grades 5, 8, 11</li> </ul>	<ul style="list-style-type: none"> <li>Fully operational MSS assessment Grades 5, 8, 11</li> </ul>

# Elementary Science Transition

- **2016-2017:**
  - Adoption/launch of K-3 Oakland Schools Bridge Units
  - Kit Management by ECA K-3
  - Field testing 4<sup>th</sup> and 5<sup>th</sup> grade Phenomenal Science units
- **2017-2018:**
  - Adoption of 4-5 Phenomenal Science Units
  - Kit Management by ECA K-5
  - Voluntary NGSx training
- **2018-2019:**
  - Maintained previous work
- **2019-2020:**
  - Adoption of 3<sup>rd</sup> Grade Phenomenal Science
  - Maintained all other previous commitments/work

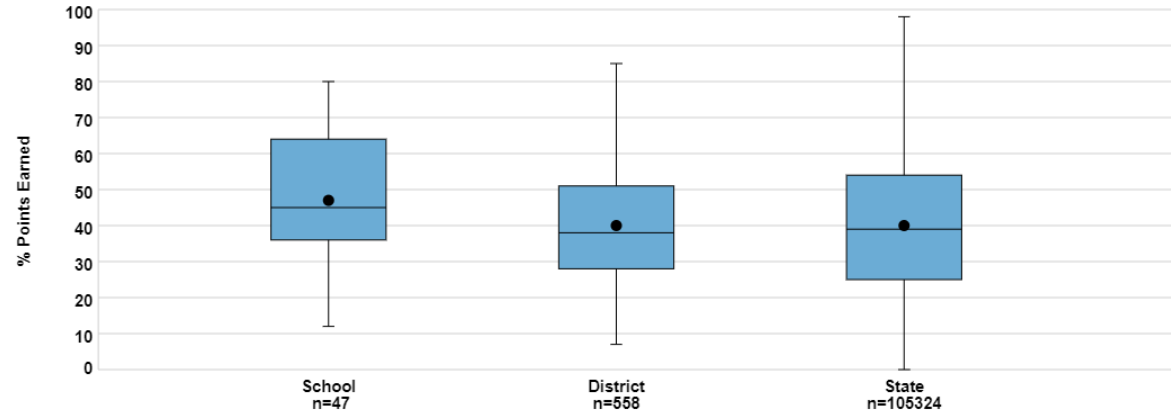
# Elementary Science Field Test Results

## School Science Field Test Summary

Year: 2019 | Assessment: M-STEP | ISD Code: 63000 | ISD Name: Oakland Schools | District Code: 63300 | District Name: Waterford School District | School Code: 04535 | School Name: Beaumont Elementary School

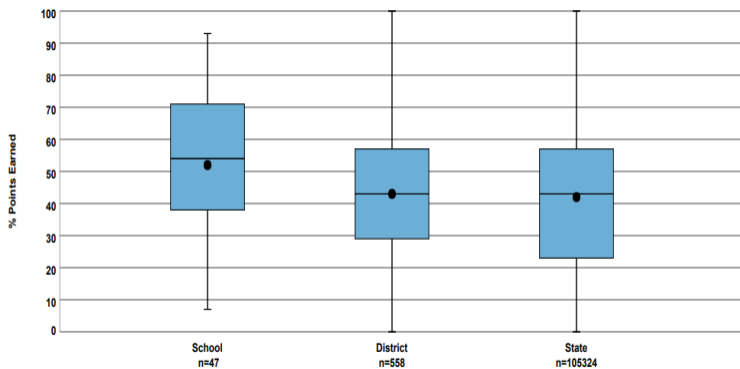
Grade 05 | Science Field Test

### Overall Science Field Test



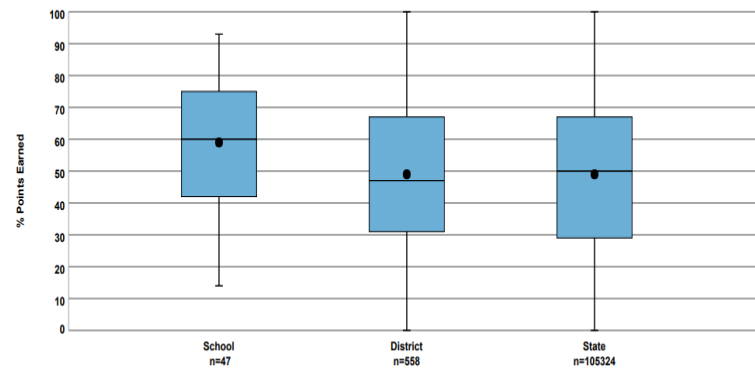
n = number of students  
 Dot (●) = mean percent of points earned  
 Line (—) = median percent of points earned

### Earth Science



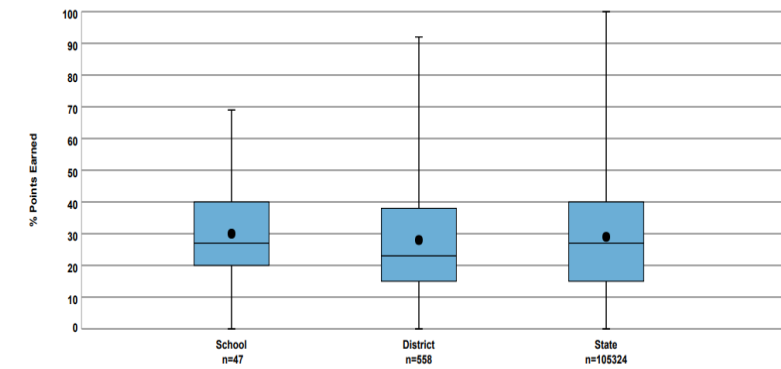
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### Life Science



n = number of students  
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 Line (—) = median percent of points earned

### Physical Science



n = number of students  
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 Line (—) = median percent of points earned

# Middle School Science Transition

- **2016-2017**

- All middle school science teachers NGSx Trained
- OS Curriculum Symposium
- Limited Pilot of IQWST program in 8<sup>th</sup> grade

- **2017-2018**

- NGSx training for all newly hired middle school science teachers
- Implementation of IQWST program – 8<sup>th</sup> Grade
  - Consumable and kit purchases
  - Assessment Design

- **2018-2019**

- NGSx training for all newly hired middle school science teachers
- MPLANS Partnership
- Implementation of IQWST program – 7<sup>th</sup> Grade
  - Consumable and kit purchases and refills
  - Assessment Design

- **2019-2020**

- NGSx training for all newly hired middle school science teachers
- MPLANS Partnership
- Implementation of IQWST program – 6<sup>th</sup> Grade
  - Consumable and kit purchases and refills
  - Assessment Design



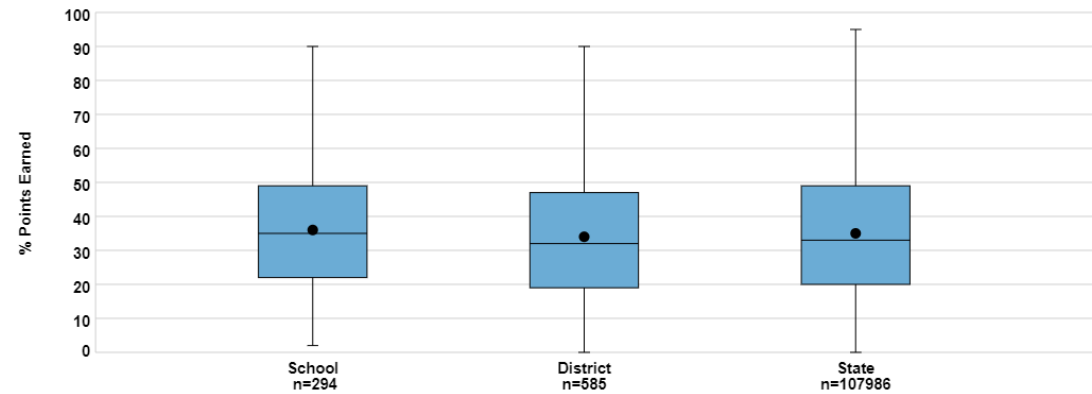
# Middle School Field Testing Results

## School Science Field Test Summary

Year: 2019 | Assessment: M-STEP | ISD Code: 63000 | ISD Name: Oakland Schools | District Code: 63300 | District Name: Waterford School District | School Code: 01940 | School Name: Pierce Middle School

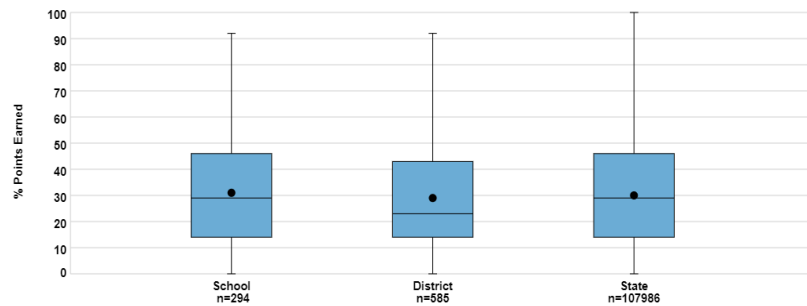
Grade 08 | Science Field Test

### Overall Science Field Test



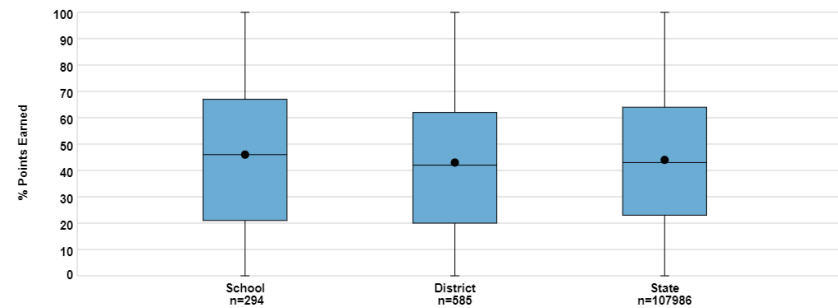
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### Earth Science



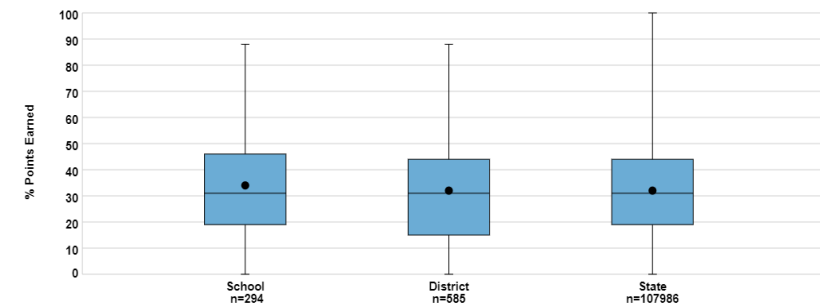
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### Life Science



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### Physical Science



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# High School Science Transition Plan

- **2016-2017:**
  - All high school science teachers trained in NGSx
  - Resequencing of science graduation requirements
  - Development of Earth Science curriculum
- **2017-2018:**
  - Trained all newly hired science teachers in NGSx
  - American Modeling Association training
  - Launched Earth Science course for freshman students
  - Continued development of Earth Science curriculum
- **2018-2019:**
  - Trained all newly hired science teachers in NGSx
  - American Modeling Association training
  - Continued development of Earth Science and Biology curriculum and assessments
  - Launched new Biology curriculum
  - Create for STEM Partnership with MSU
- **2019-2020:**
  - Trained all newly hired science teachers in NGSx
  - American Modeling Association training
  - Began Chemistry and Physics re-design
  - Continued development of Earth Science and Biology Curriculum and assessments
  - Continued Create for STEM Partnership with MSU

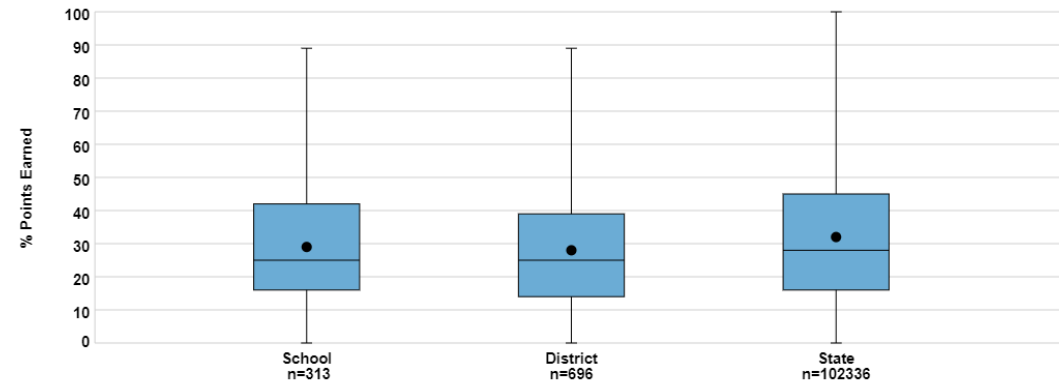
# High School Field Test Results

## School Science Field Test Summary

Year: 2019 | Assessment: M-STEP | ISD Code: 63000 | ISD Name: Oakland Schools | District Code: 63300 | District Name: Waterford School District | School Code: 05535 | School Name: Waterford Mott High School

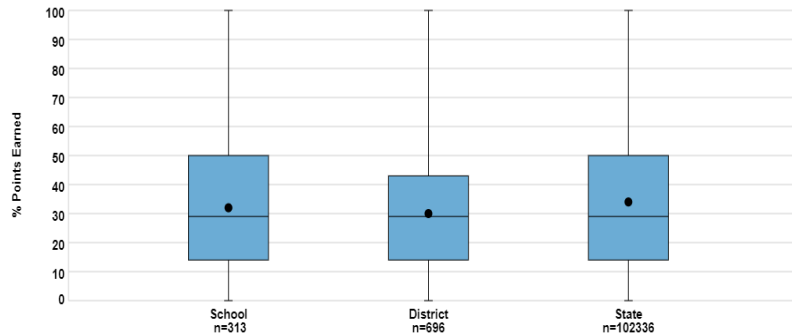
Grade 11 | Science Field Test

### Overall Science Field Test



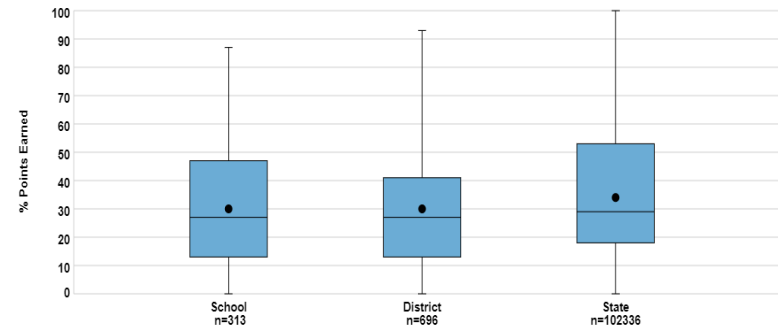
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### Earth Science



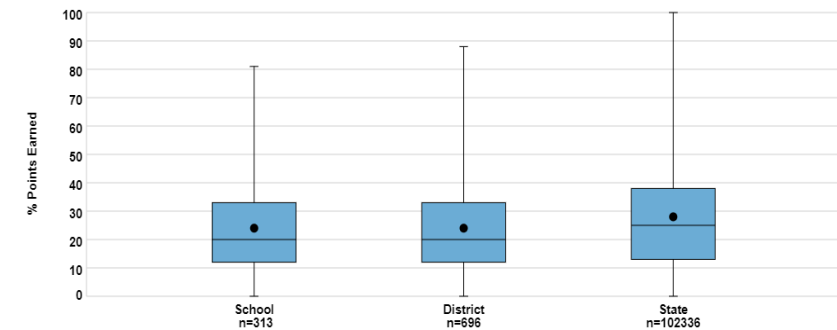
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### Life Science



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### Physical Science

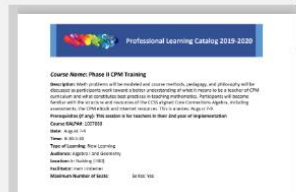


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# Waterford Instructional Library

## Waterford Instructional Library

Professional Learning Catalog



WSD Professional Learning Calendar

2019-2020 WSD Professional Learning Calendar

Today	Jan 1	Jan 2	Jan 3	Jan 4	Jan 5	Jan 6
	+1 more	+1 more	+1 more	+1 more	+2 more	+1 more
5			+1 more	+2 more	+2 more	
12			+3 more	+1 more	+2 more	+1 more
19		No Sch	+2 more	+2 more	+2 more	+3 more
26		+1 more	+3 more	+4 more	+2 more	+3 more

WSD Quick Links

[Frontline \(Teacher Evaluation\)](#)

[illuminateDNA \(Admin Only\)](#)

[KALPA](#)

[MDE State Assessment Timeline](#)

[MISTAR](#)

[NWEA](#)

[WSD District Website](#)

[WSD ESL Department](#)

[WSD STEM in the Classroom](#)

[Microsoft Surface Go Tutorials](#)

[Elementary Math Pilot - Envision](#)

[Elementary Math Pilot - Expressions](#)

[Contact Us](#)



## Science

Grade Level/Course

[Kindergarten](#)

[1st Grade](#)

[2nd Grade](#)

[3rd Grade](#)

[4th Grade](#)

[5th Grade](#)

[6th Grade](#)

[7th Grade](#)

[8th Grade](#)

[Earth Science](#)

[Biology](#)

[Physics](#)

[Chemistry](#)



# Next Steps:

- Continue to develop and refine curriculum to match new state assessable standards in all content areas at the K-12 levels
- Analyze and evaluate local assessment data points  
(formative and summative assessments)
- Analyze and evaluate state assessment data  
(MSTEP 2020)
- Use the data to drive decision making moving forward when discussing course design, course sequencing and assessments