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State Superintendent of Schools

Results of the 2018 Science Survey

Education – Core Content Areas – Accountability Program

The following is a summary of the surveys of local school systems conducted pursuant to House Bill 1227: Education-Core Content Areas-Accountability Program. The information was gathered in the fall of 2018. The 2018 administration of the science survey contained edited questions to better reflect and inform the legislatively mandated areas of focus regarding the progress being made on the implementation of the Next Generation Science Standards (NGSS) within the Local School Systems (LSSs): instructional time for science, availability and use of appropriate instructional materials aligned to the NGSS, instructional technology, and teacher certification.

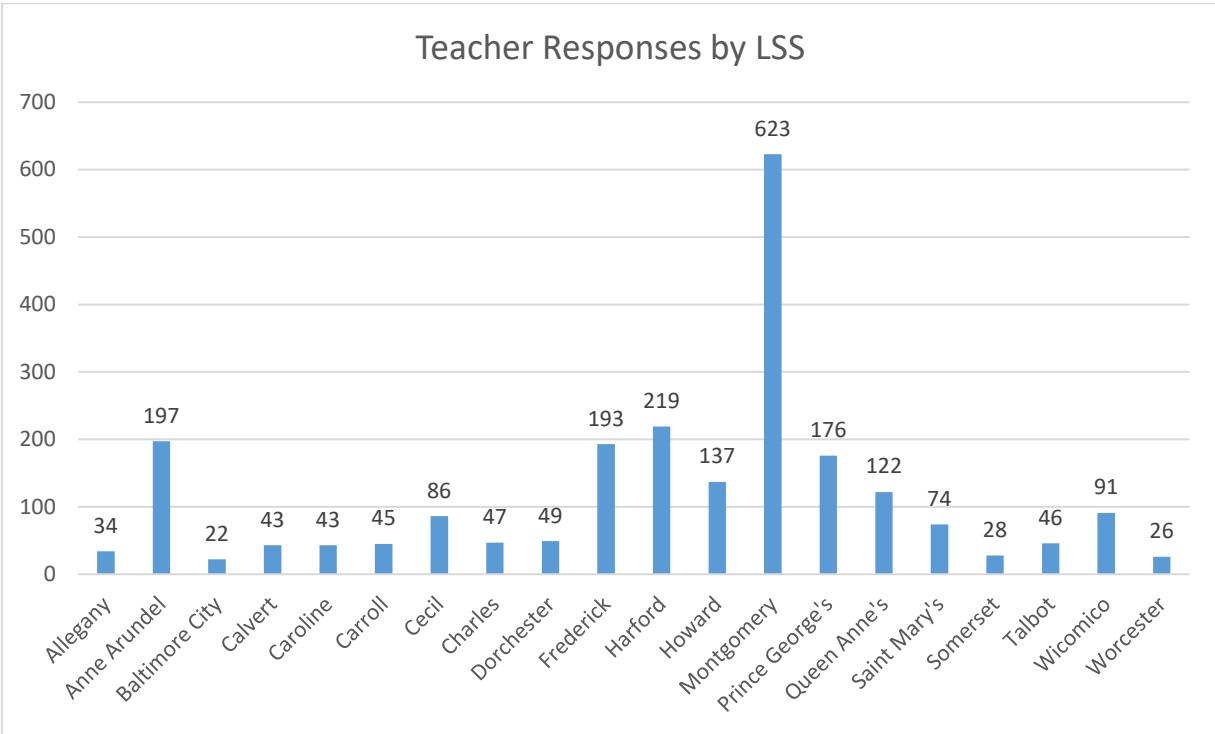
The number of respondents to the surveys were:

	Respondents	LEAs
Teacher Survey	2301	20
Supervisor Survey	18	16

Summary: The 2018 survey indicates lower number of hours spent on content aligned to NGSS in the science classroom per week, resource availability, technology availability and use, and professional development opportunities at the elementary level than at the middle and high school levels. Supervisors reported high levels of NGSS curriculum development and professional development at all grade levels. While the percentages of classes being taught by teachers out of their certification area are generally low, some supervisors reported as many as a third of science classes were taught by teachers not certified in the subject.

Summary of Science Teacher Survey

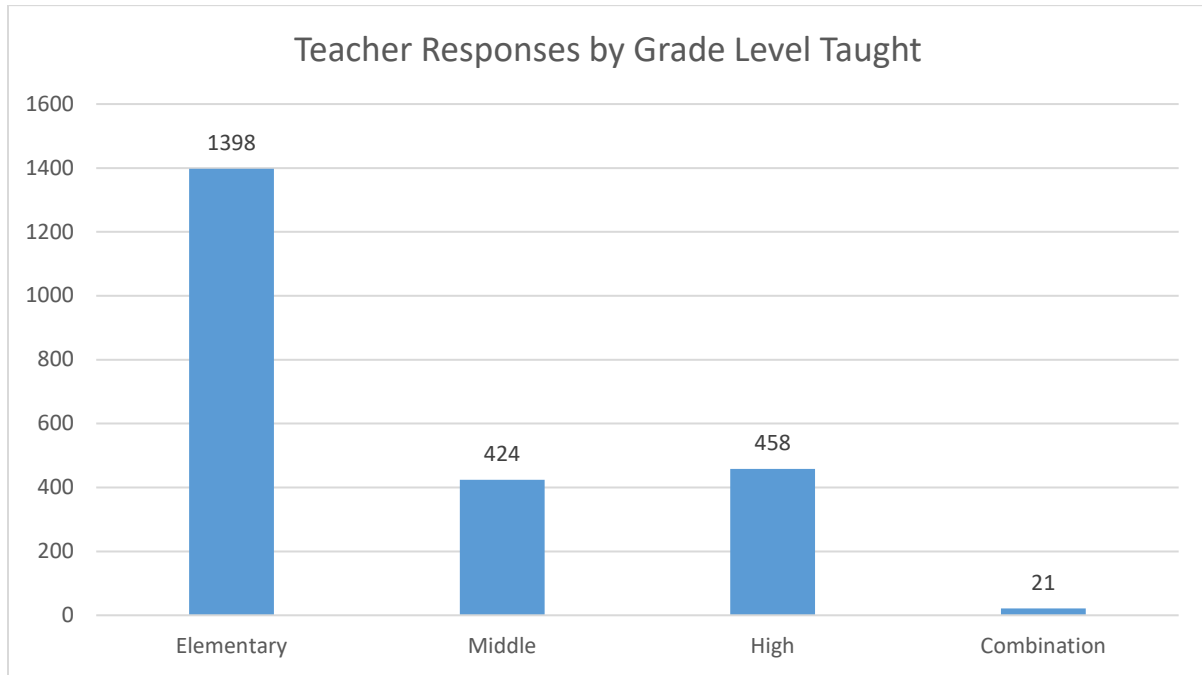
Teacher Responses by LSS



Teacher Responses by LSS

LSS	Count
Allegany	34
Anne Arundel	197
Baltimore City	22
Calvert	43
Caroline	43
Carroll	45
Cecil	86
Charles	47
Dorchester	49
Frederick	193
Harford	219
Howard	137
Montgomery	623
Prince George's	176
Queen Anne's	122
Saint Mary's	74
Somerset	28
Talbot	46
Wicomico	91
Worcester	26

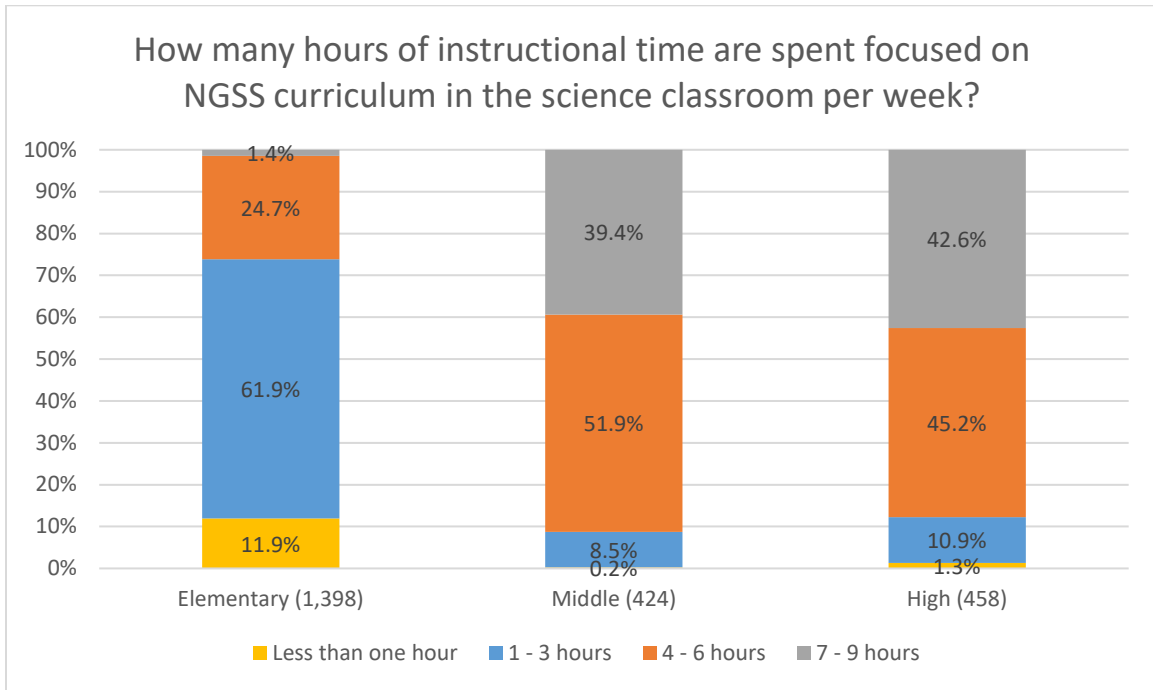
Teacher Responses by Grade Level Taught



Teacher Responses by Grade Level Taught

Grade Level	Count
Elementary	1398
Middle	424
High	458
Combination	21

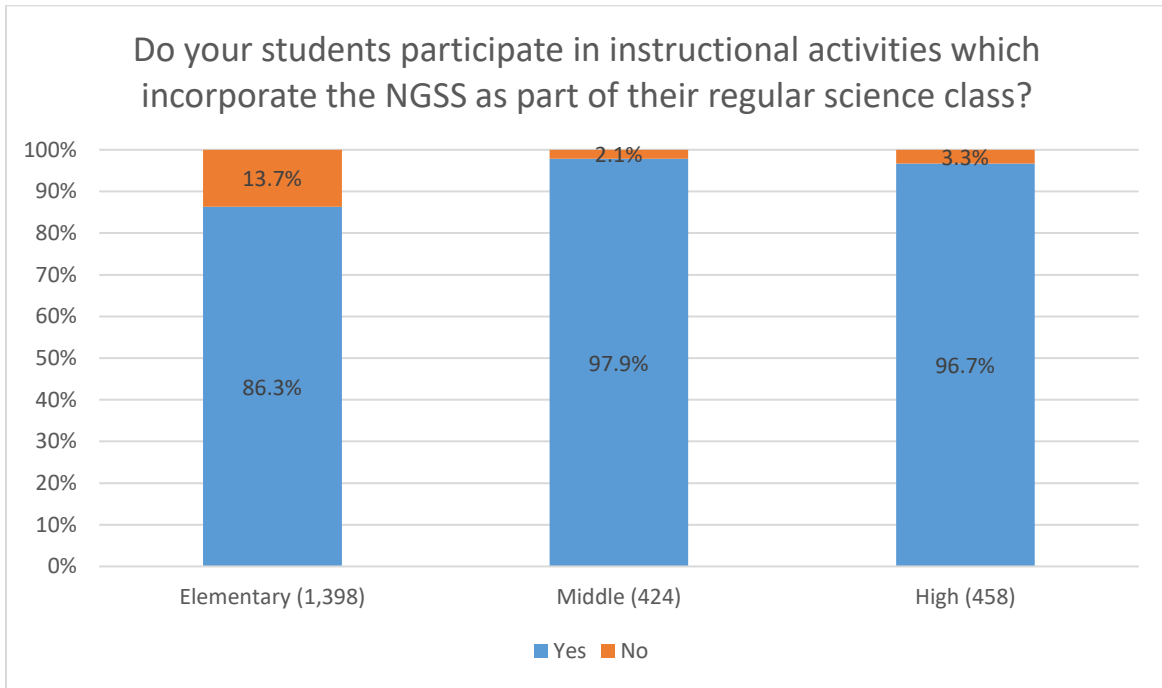
How many hours of instructional time are spent focused on NGSS curriculum in the science classroom per week?



Number of hours of instructional time spent focused on NGSS curriculum per week

Grade Level	Less than one hour	1 - 3 hours	4 - 6 hours	7 - 9 hours
Elementary (1,398)	11.9%	61.9%	24.7%	1.4%
Middle (424)	0.2%	8.5%	51.9%	39.4%
High (458)	1.3%	10.9%	45.2%	42.6%

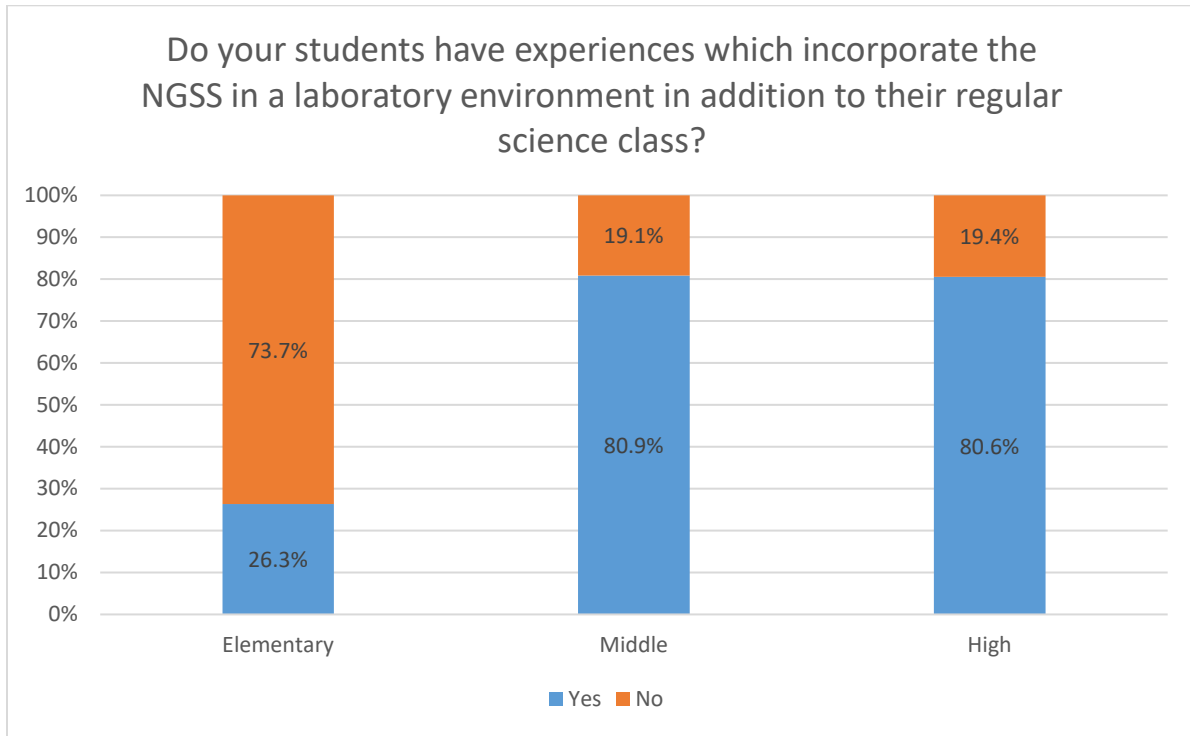
Do your students participate in instructional activities which incorporate the NGSS as part of their regular science class?



Do your students participate in instructional activities which incorporate the NGSS as part of their regular science class?

Grade Level	Yes	No
Elementary (1,398)	86.3%	13.7%
Middle (424)	97.9%	2.1%
High (458)	96.7%	3.3%

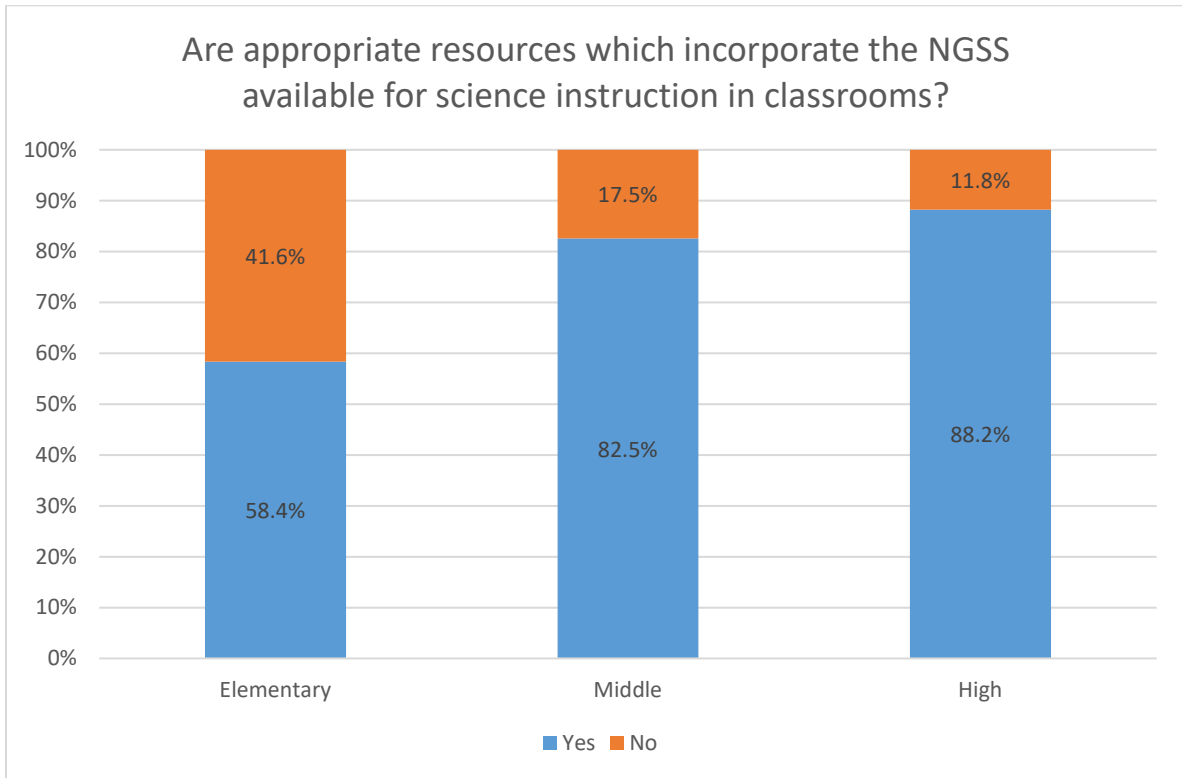
Do your students have experiences which incorporate the NGSS in a laboratory environment in addition to their regular science class?



Do your students have experience which incorporate the NGSS in a laboratory environment in addition to their regular science class?

Grade Level	Yes	No
Elementary	26.3%	73.7%
Middle	80.9%	19.1%
High	80.6%	19.4%

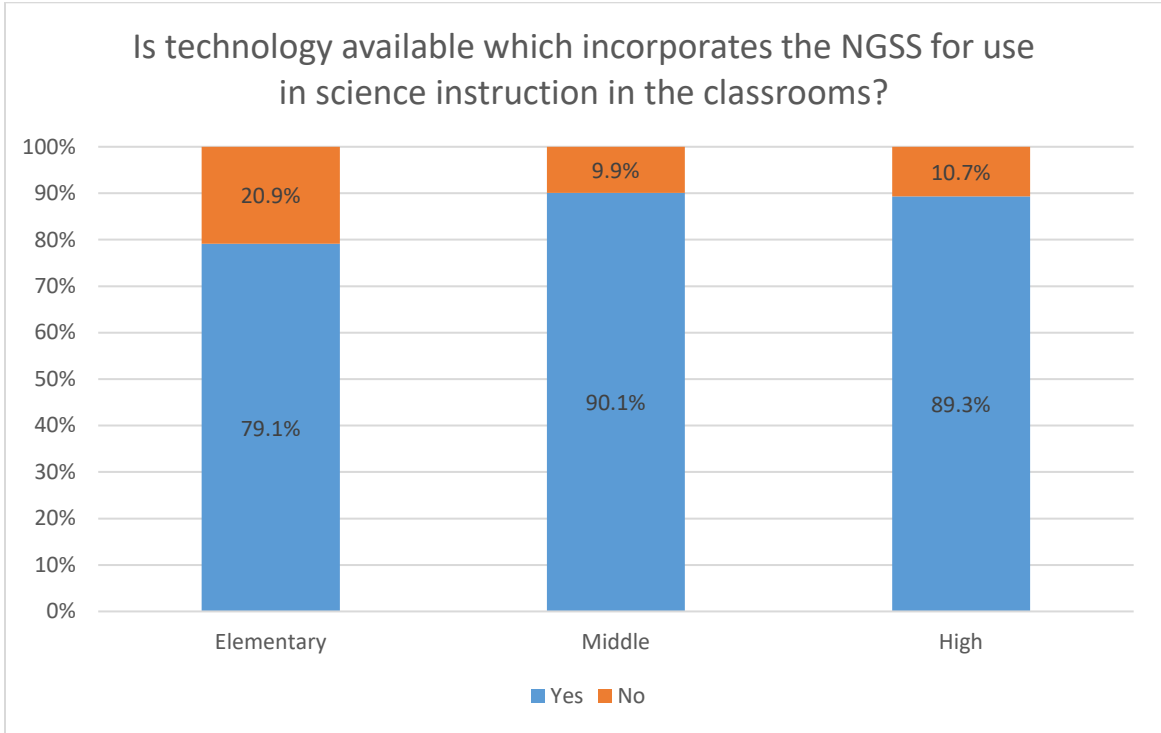
Are appropriate resources which incorporate the NGSS available for science instruction in classrooms?



Are appropriate resources which incorporate the NGSS available for science instruction in classrooms?

Grade Level	Yes	No
Elementary	58.4%	41.6%
Middle	82.5%	17.5%
High	88.2%	11.8%

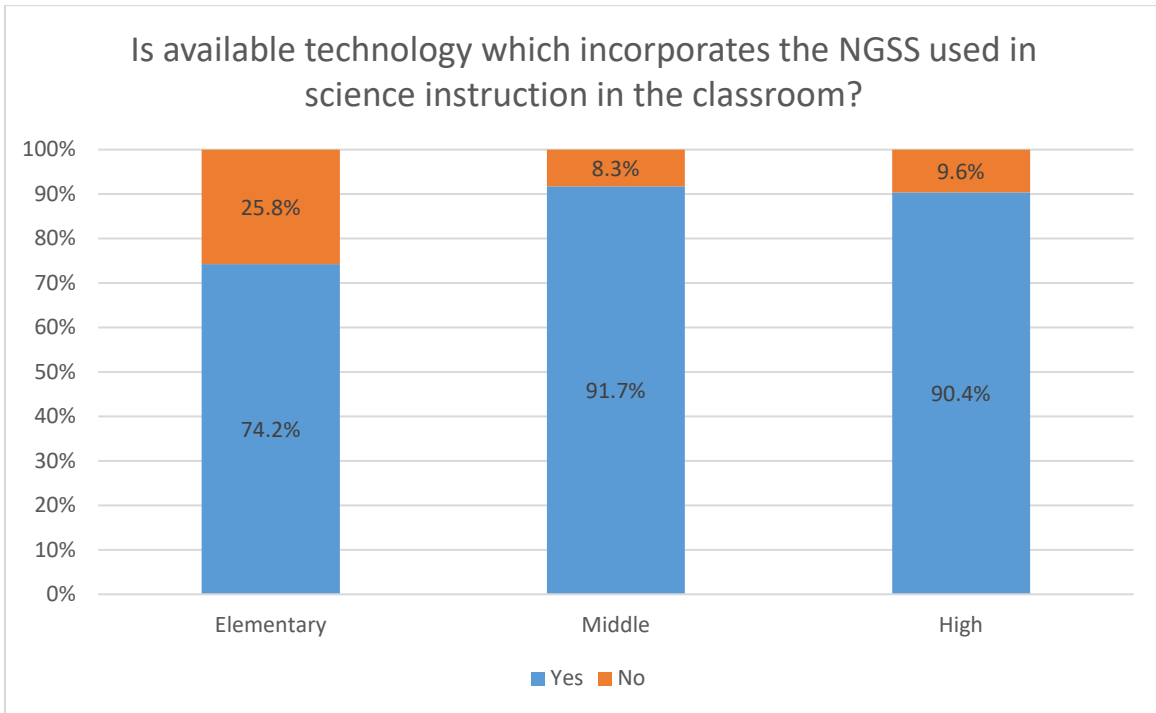
Is technology available which incorporates the NGSS for use in science instruction in the classrooms?



Is technology available which incorporate the NGSS for use in science instruction in the classrooms?

Grade Level	Yes	No
Elementary	79.1%	20.9%
Middle	90.1%	9.9%
High	89.3%	10.7%

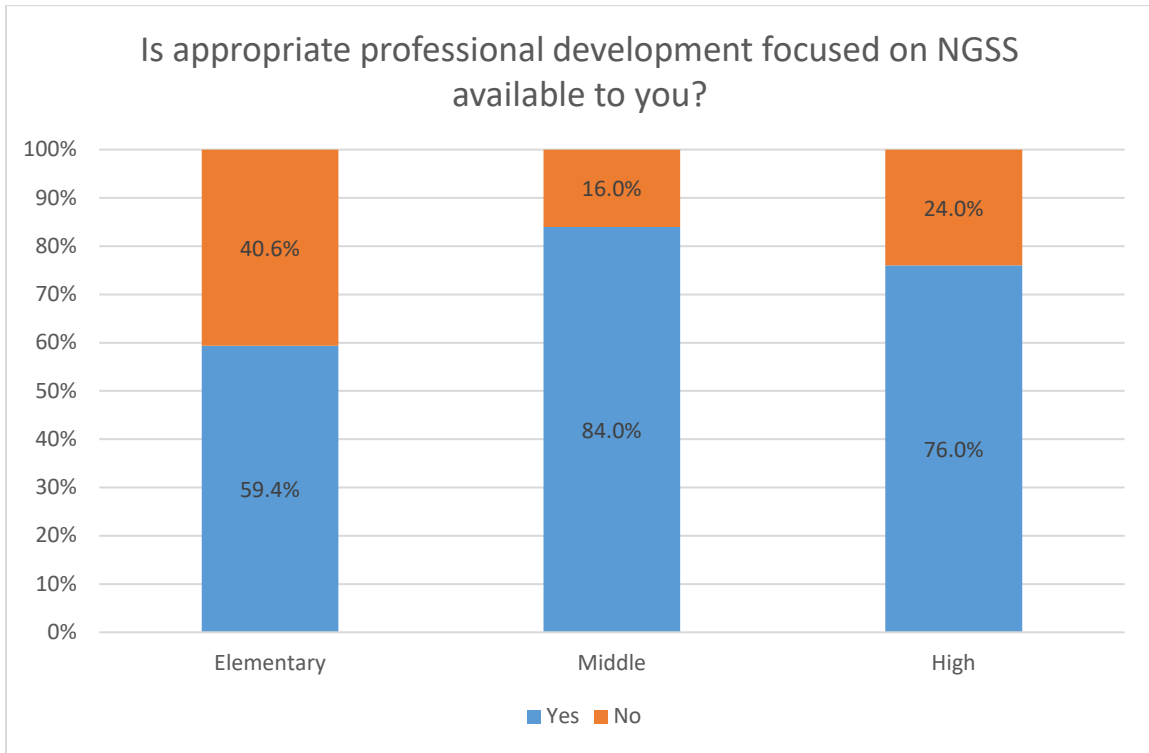
Is available technology which incorporates the NGSS used in science instruction in the classroom?



Is available technology which incorporate the NGSS used in science instruction in the classroom?

Grade Level	Yes	No
Elementary	74.2%	25.8%
Middle	91.7%	8.3%
High	90.4%	9.6%

Is appropriate professional development focused on NGSS available to you?



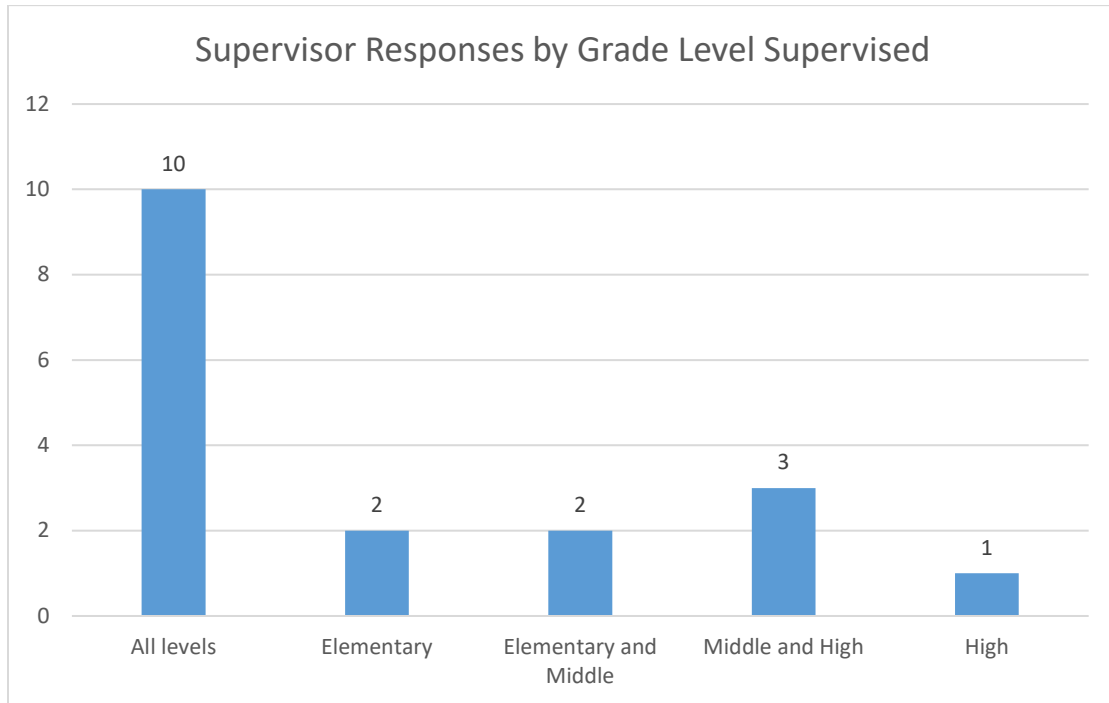
Is appropriate professional development focused on NGSS available to you?

Grade Level	Yes	No
Elementary	59.4%	40.6%
Middle	84.0%	16.0%
High	76.0%	24.0%

Respondent LSSs	Non-Respondent LSSs
Anne Arundel	Allegany
Calvert (2)	Baltimore City
Caroline	Baltimore County
Carroll	Cecil
Charles	Dorchester
Garrett	Frederick
Harford	Kent
Howard (2)	Washington
Montgomery	
Prince George's	
Queen Anne's	
Saint Mary's	
Somerset	
Talbot	
Wicomico	
Worcester	

Note: Numbers in parentheses indicate number of responses in each LSS (if greater than one) as some respondents only supervise certain grade levels.

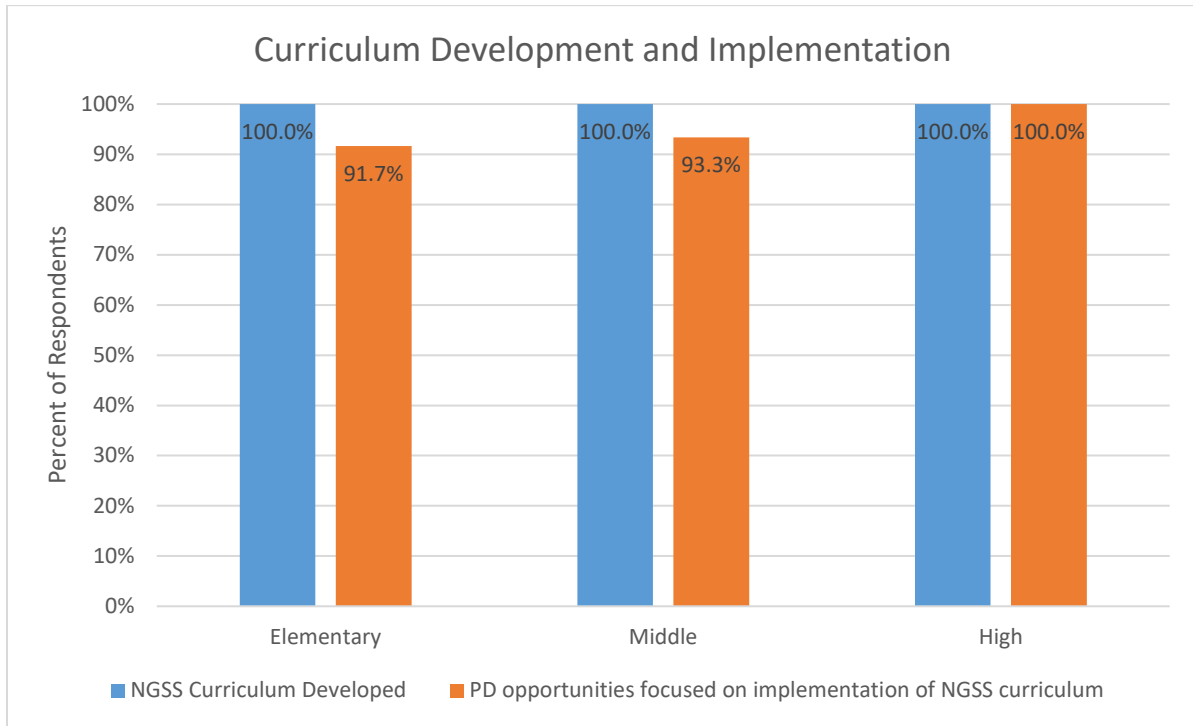
Supervisor Responses by Grade Level Supervised



Supervisor responses by grade level supervised

Level	Count
All levels	10
Elementary	2
Elementary and Middle	2
Middle and High	3
High	1

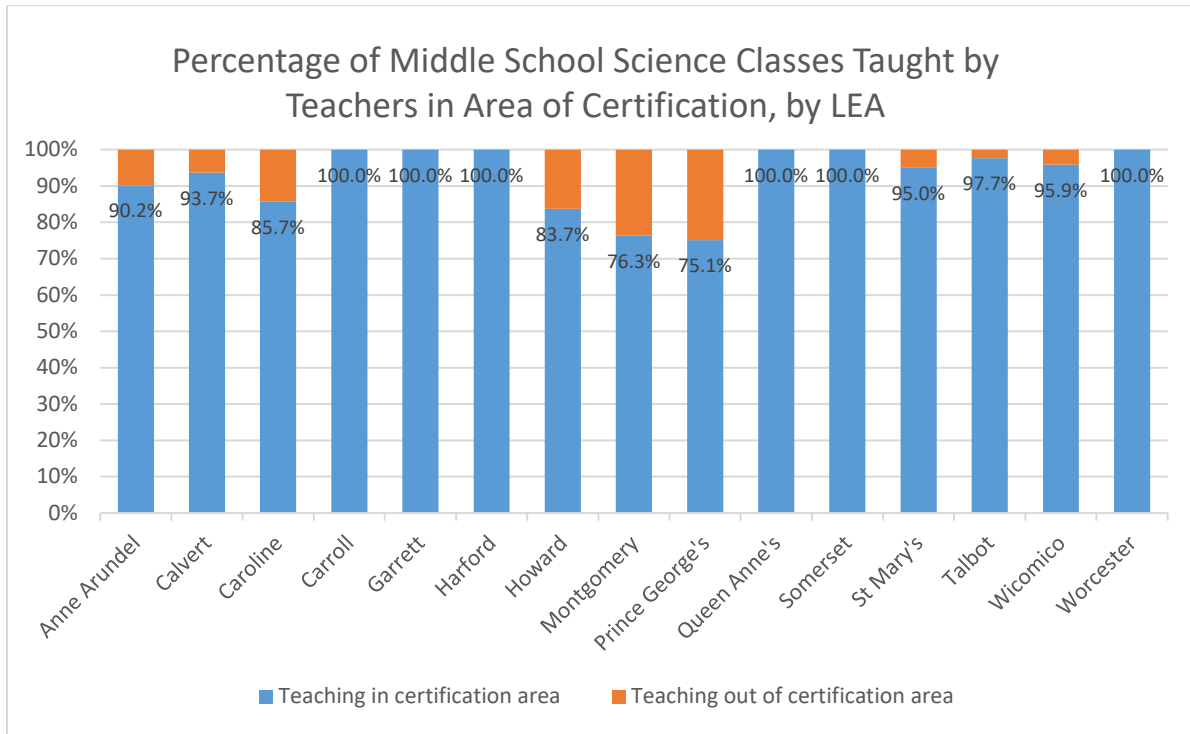
Curriculum Development and Implementation



Curriculum development and implementation

	NGSS Curriculum Developed	PD opportunities focused on implementation of NGSS curriculum
Elementary	100.0%	91.7%
Middle	100.0%	93.3%
High	100.0%	100.0%

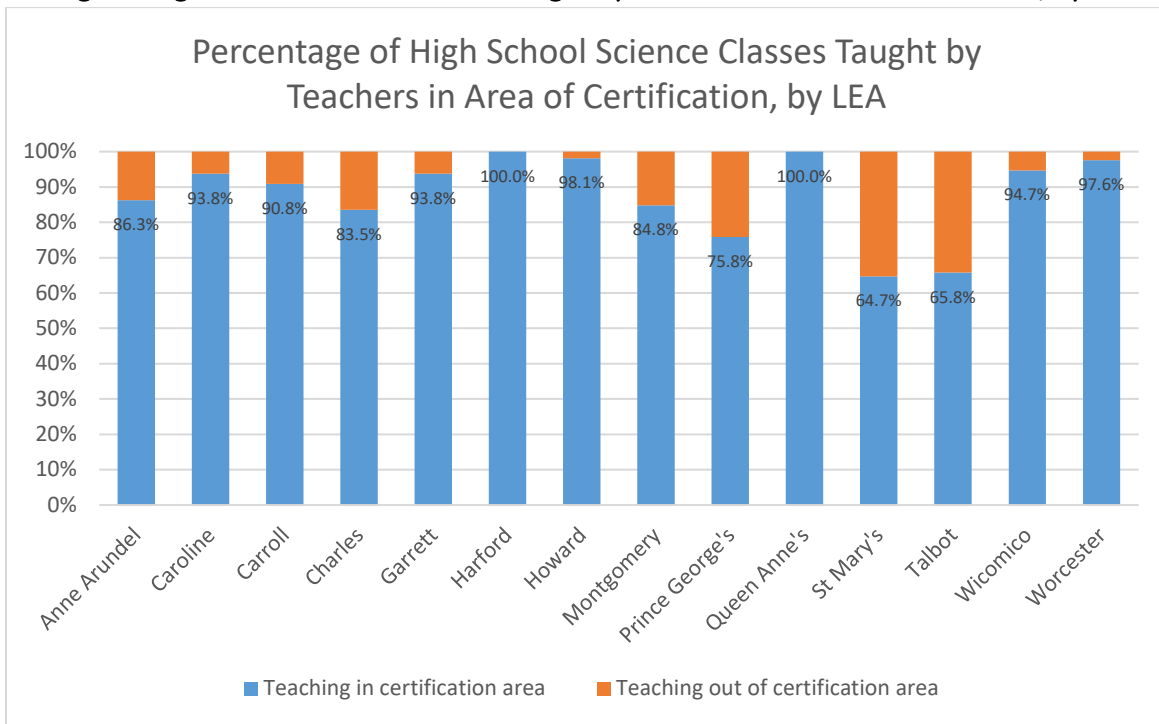
Percentage of Middle School Science Classes Taught by Teachers in Area of Certification, by LEA



Percentage of middle school science classes taught by teachers in area of certification, by LSS

Local School System	Teaching in Certification Area	Teaching out of Certification Area
Anne Arundel	90.2%	9.8%
Calvert	93.7%	6.3%
Caroline	85.7%	14.3%
Carroll	100.0%	0.0%
Garrett	100.0%	0.0%
Harford	100.0%	0.0%
Howard	83.7%	16.3%
Montgomery	76.3%	23.7%
Prince George's	75.1%	24.9%
Queen Anne's	100.0%	0.0%
Somerset	100.0%	0.0%
St Mary's	95.0%	5.0%
Talbot	97.7%	2.3%
Wicomico	95.9%	4.1%
Worcester	100.0%	0.0%

Percentage of High School Science Classes Taught by Teachers in Area of Certification, by LEA



Percentage of high school science classes taught by teachers in area of certification, by LSS

Local School System	Teaching in certification area	Teaching out of certification area
Anne Arundel	86.3%	13.7%
Caroline	93.8%	6.3%
Carroll	90.8%	9.2%
Charles	83.5%	16.5%
Garrett	93.8%	6.3%
Harford	100.0%	0.0%
Howard	98.1%	1.9%
Montgomery	84.8%	15.2%
Prince George's	75.8%	24.2%
Queen Anne's	100.0%	0.0%
St Mary's	64.7%	35.3%
Talbot	65.8%	34.2%
Wicomico	94.7%	5.3%
Worcester	97.6%	2.4%