

# CSDE NGSS Adoption Implications Study District Impact Survey

## Introduction and Instructions

Connecticut State Department of Education  
Next Generation Science Standards  
Adoption Implications Study  
District Impact Survey

INTRODUCTION: Next Generation Science Standards (NGSS), and the National Research Council's "Framework for K-12 Science Education" (NRC Science Framework) upon which the standards are based, together form a first step in an effort to provide a more coherent, focused, and inclusive science education for all students.

"Standards provide a vision for teaching and learning, but the vision cannot be realized unless the standards permeate the education system and guide curriculum, instruction, teacher preparation and professional development, and student assessment" (NRC Science Framework, p. 241)

The Connecticut State Department of Education (CSDE) recognizes that for new academic standards to be implemented effectively, they must be coordinated with improvements to curriculum, instruction, teacher preparation, certification and professional development. The intent of this survey is to solicit input from district-level educators concerning school districts' capacity and inclination to make changes to components of the K-12 science education system that are within their control. Survey responses will be used to help CSDE identify the resources, supports and costs associated with NGSS adoption and transition planning.

The District Impact Survey is one component of a more comprehensive NGSS Adoption Implications Study being conducted by CSDE. Other components of the study include an NGSS Content Crosswalk and an Instructional Shifts Analysis. Data from the study will be synthesized to inform a set of adoption and transition recommendations to be presented to the State Board of Education in late Fall 2013 or Winter 2014.

The survey functions both as a learning tool for respondents and a data collection tool for CSDE. To encourage familiarization with NGSS, each section of the survey begins with an introduction citing relevant excerpts from the "Framework for K-12 Science Education: Practices, Crosscutting Concepts and Core Ideas" (National Research Council, 2012) or the Next Generation Science Standards.

To download the NRC Framework: [http://www.nap.edu/catalog.php?record\\_id=13165](http://www.nap.edu/catalog.php?record_id=13165)

To download the NGSS: <http://www.nextgenscience.org>

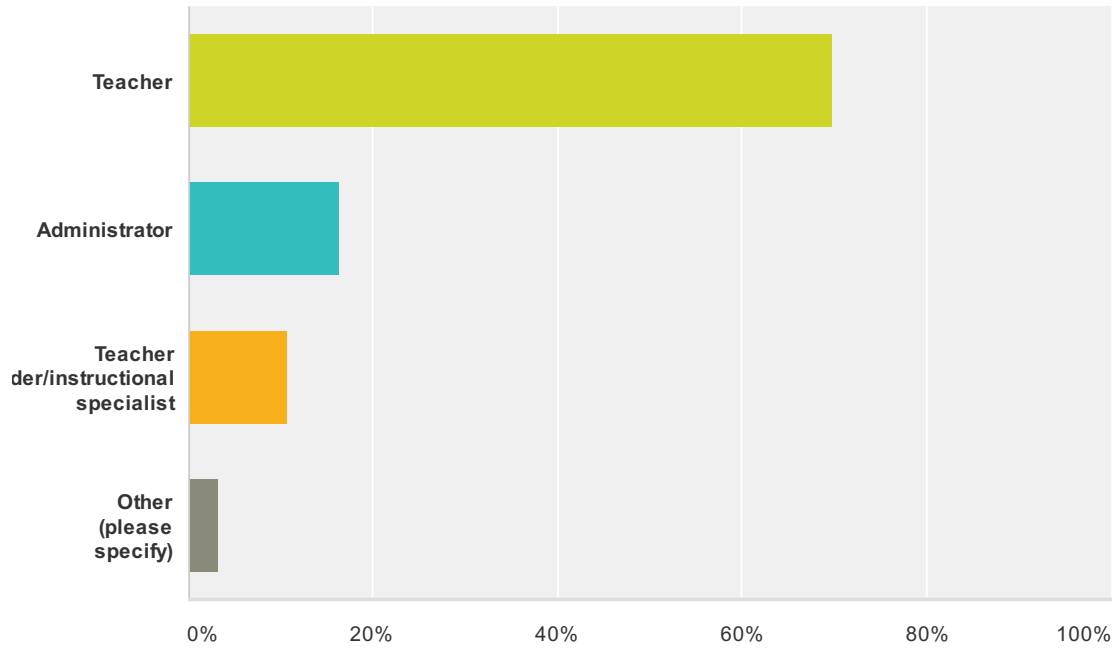
The number of questions in each survey section is shown in parentheses below:

- I. Respondent Information (7)
- II. District/School Information (5)
- III. Science Curriculum Development Capacity (7)
- IV. Curriculum Scope and Sequence (4)
- V. Science Education Leadership (4)
- VI. Science Instruction (6)
- VII. Professional Development (8)
- VIII. Instructional Time, Materials and Equipment (11)
- IX. Middle School and High School Course Organization(4)
- X. Teacher Preparation, Certification and School Staffing (9)
- XI. NGSS Adoption Decision and Transition (4)

INSTRUCTIONS: Teachers should respond to the survey questions based on their experiences in the school in which they teach; district administrators should respond based on district practices and policies. The entire survey is estimated to require 30-60 minutes to complete. Please respond to all of the questions. You may exit the survey and then return to work on it at another time, so long as you are always working from the same computer and web browser and do not delete browser cookies. Press "Done" on the last page when you are finished answering all questions.

### Q1 Which of the following best describes your main role?

Answered: 531 Skipped: 2



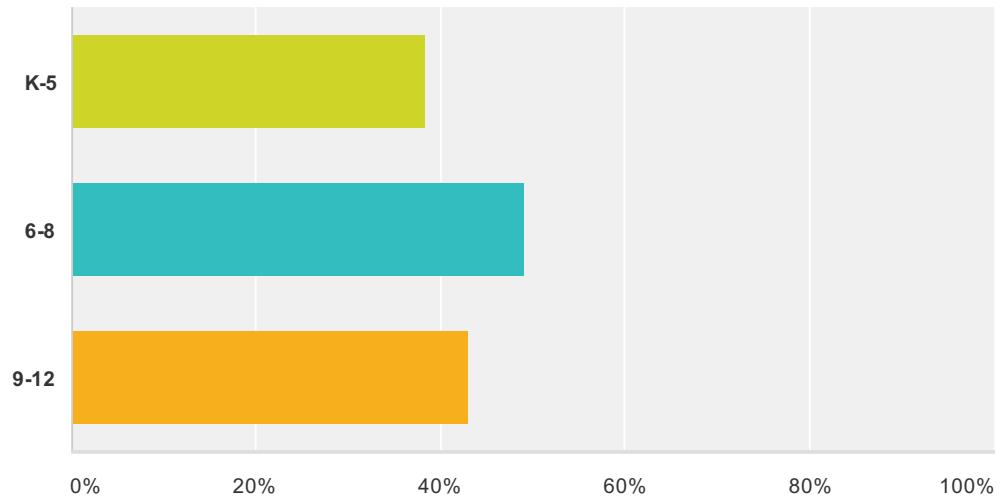
Answer Choices	Responses
Teacher	69.68% 370
Administrator	16.38% 87
Teacher leader/instructional specialist	10.73% 57
Other (please specify)	3.20% 17
<b>Total</b>	<b>531</b>

**Q2 Job Title:**

Answered: 531 Skipped: 2

**Q3 Grade band: (check all that apply)**

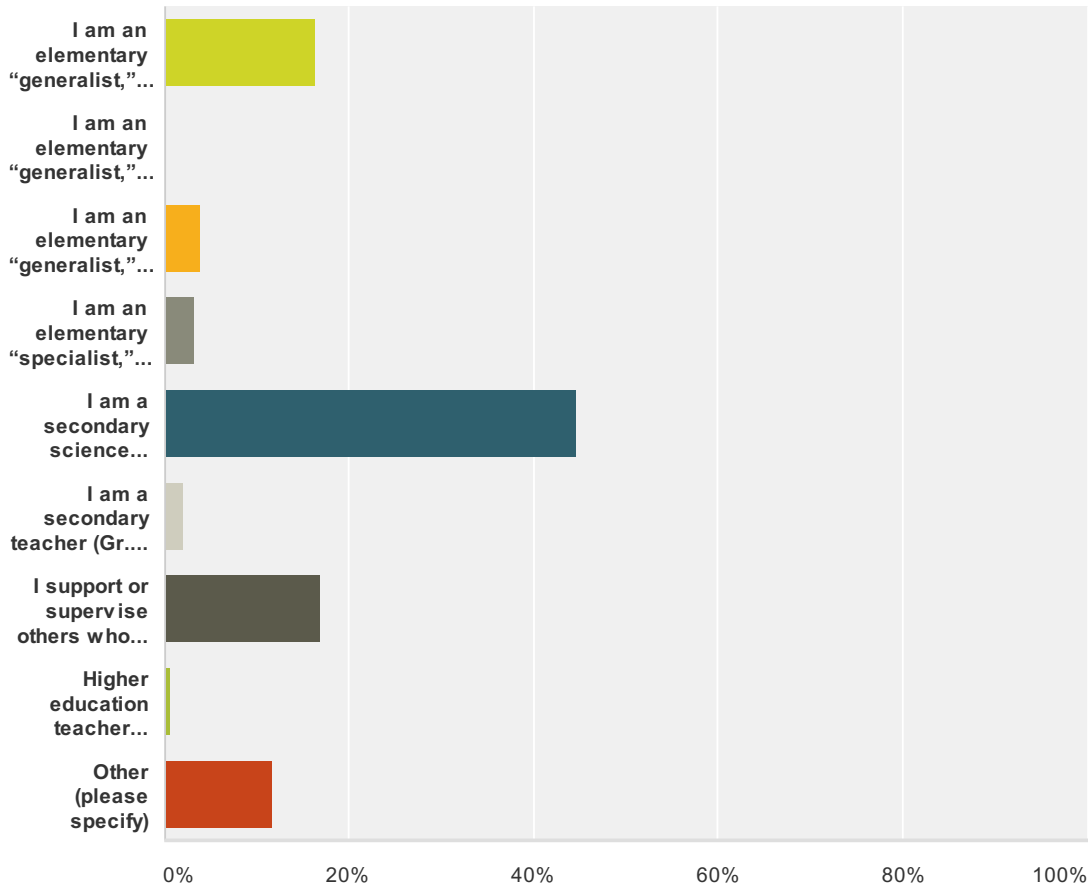
Answered: 531 Skipped: 2



Answer Choices	Responses
K-5	38.42% 204
6-8	48.96% 260
9-12	42.94% 228
<b>Total Respondents: 531</b>	

**Q4 Job description (check the one that is the \*best\* fit for your current assignment):**

Answered: 531 Skipped: 2



Answer Choices	Responses
I am an elementary "generalist," and I teach science, together with other core academic subjects, to my students	16.38% 87
I am an elementary "generalist," but someone other than me teaches science to my students	0.38% 2
I am an elementary "generalist," and I teach science to multiple classes within my school	3.95% 21
I am an elementary "specialist," and I teach only science to multiple classes in my school	3.20% 17
I am a secondary science teacher (Gr. 7-12), and I teach only science to several classes of students ("departmentalized")	44.63% 237
I am a secondary teacher (Gr. 7-12), and I teach a subject other than science (please indicate what subject you teach below)	2.07% 11
I support or supervise others who teach science, but I do not teach science classes	16.95% 90
Higher education teacher preparation faculty	0.75% 4
Other (please specify)	11.68% 62
<b>Total</b>	<b>531</b>

**Q5 Which CT educator certification(s) do you hold? Include cross-endorsements.**

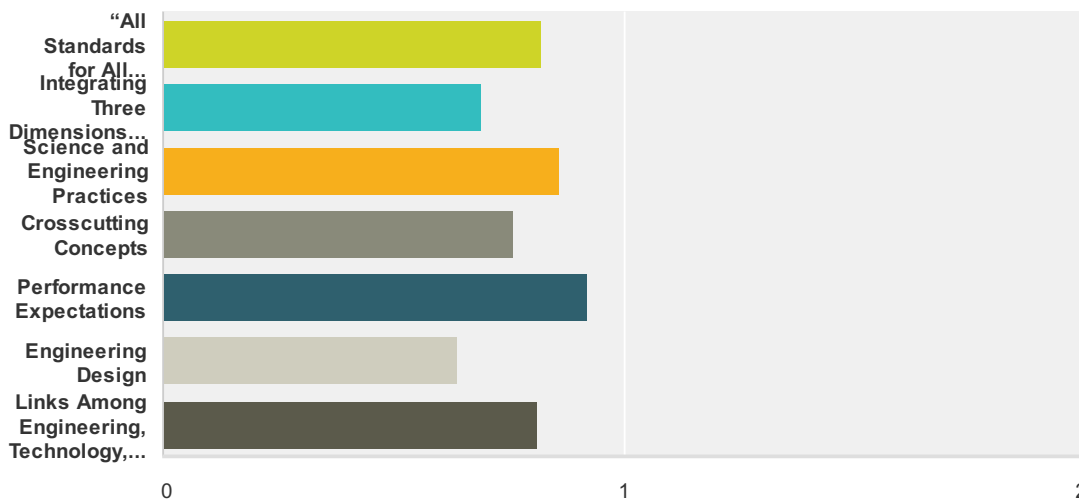
Answered: 531 Skipped: 2

Answer Choices	Responses	
certification 1	98.68%	524
certification 2	58.76%	312
certification 3	26.74%	142
certification 4	9.60%	51
certification 5	4.14%	22
certification 6	1.13%	6
or, type "none" here	1.32%	7

**Q6 Rate your understanding of the following changes to science education envisioned in the National Research Council’s “Framework for K-12 Science Education”**

**([http://www.nap.edu/catalog.php?record\\_id=13165](http://www.nap.edu/catalog.php?record_id=13165)).**

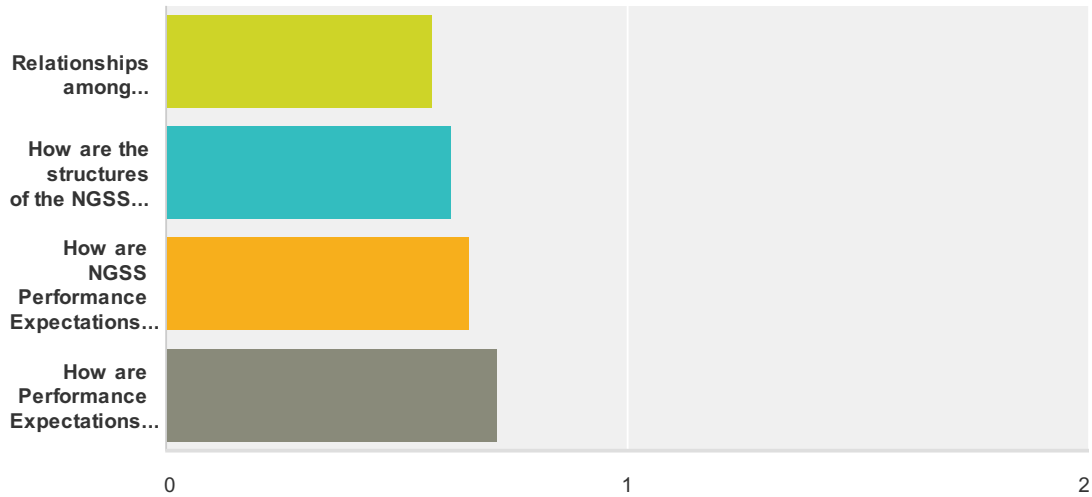
Answered: 531 Skipped: 2



	Minimally/not knowledgeable	Somewhat knowledgeable	Very knowledgeable	Total	Average Rating
"All Standards for All Students"	32.96% 175	52.35% 278	14.69% 78	531	0.82
Integrating Three Dimensions of science "proficiency"	42.18% 224	47.08% 250	10.73% 57	531	0.69
Science and Engineering Practices	34.46% 183	44.63% 237	20.90% 111	531	0.86
Crosscutting Concepts	40.30% 214	43.50% 231	16.20% 86	531	0.76
Performance Expectations	27.12% 144	53.86% 286	19.02% 101	531	0.92
Engineering Design	48.40% 257	39.55% 210	12.05% 64	531	0.64
Links Among Engineering, Technology, Science and Society	35.40% 188	48.21% 256	16.38% 87	531	0.81

**Q7 Rate your understanding of the following elements of the Next Generation Science Standards (www.nextgenscience.org):**

Answered: 531 Skipped: 2

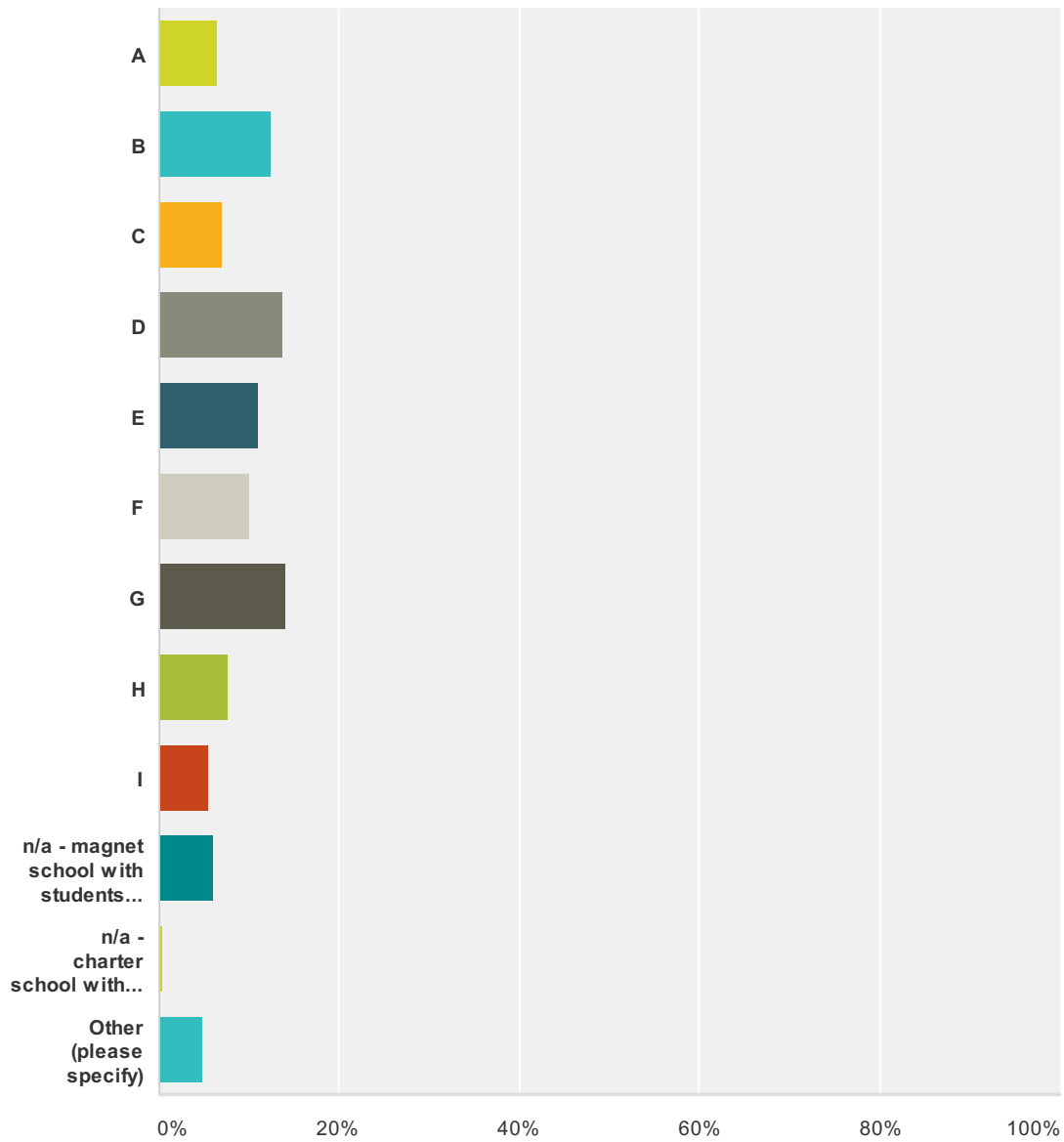


	Minimally/not knowledgeable	Somewhat knowledgeable	Very knowledgeable	Total	Average Rating
Relationships among Performance Expectations, Foundations Boxes and Connections Boxes in the Next Generation Science Standards	50.66% 269	40.30% 214	9.04% 48	531	0.58
How are the structures of the NGSS (e.g., Performance Expectations, Foundations Boxes, Connections Boxes) similar to the structures of the Connecticut Core Curriculum Framework?	46.89% 249	43.88% 233	9.23% 49	531	0.62
How are NGSS Performance Expectations related to curriculum development?	45.39% 241	43.50% 231	11.11% 59	531	0.66
How are Performance Expectations related to assessment of student learning?	38.79% 206	50.85% 270	10.36% 55	531	0.72



**Q8 District Reference Group (DRG) -- see the chart below:**

Answered: 519 Skipped: 14



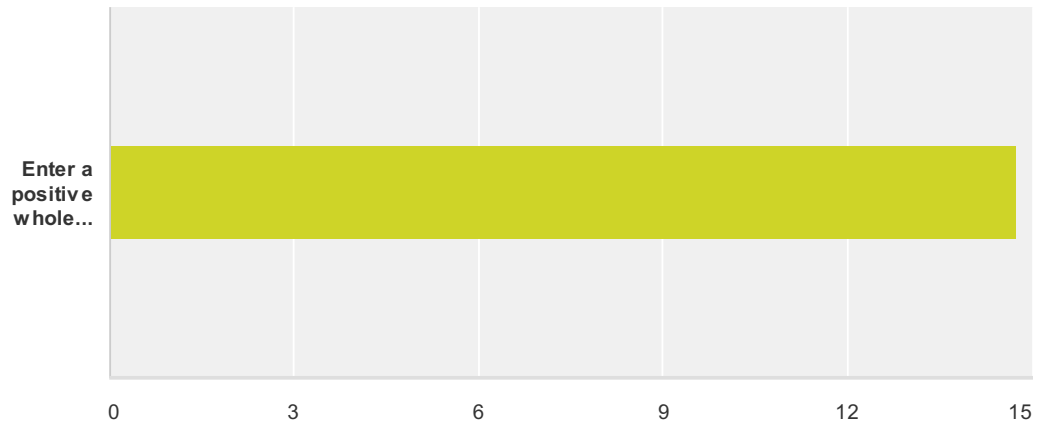
Answer Choices	Responses	Count
A	6.55%	34
B	12.52%	65
C	7.13%	37
D	13.68%	71
E	11.18%	58
F	10.02%	52
G	14.07%	73
H	7.71%	40

# CSDE NGSS Adoption Implications Study District Impact Survey

I	5.59%	29
n/a - magnet school with students from multiple districts	6.17%	32
n/a - charter school with students from multiple districts	0.58%	3
Other (please specify)	4.82%	25
<b>Total</b>		<b>519</b>

### Q9 Number of Schools in Your District:

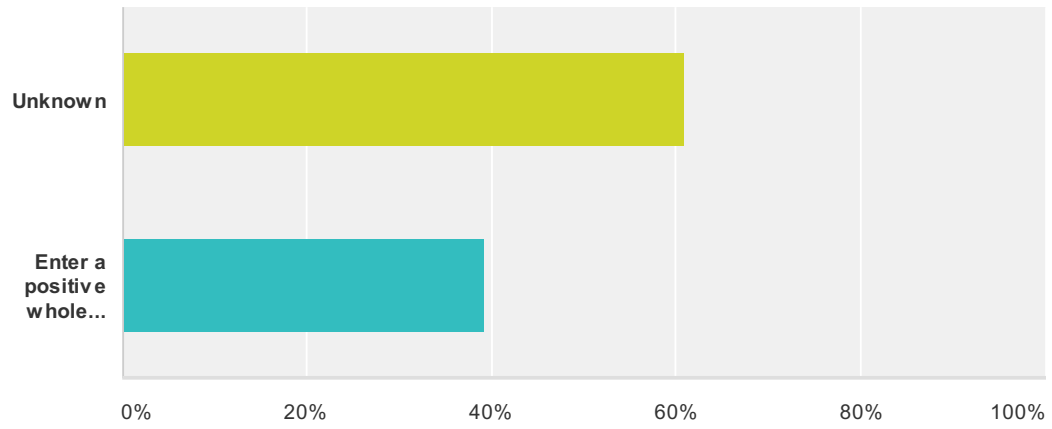
Answered: 519 Skipped: 14



Answer Choices	Average Number	Total Number	Responses
Enter a positive whole number:	15	7,650	519
<b>Total Respondents: 519</b>			

### Q10 Number of Students in Your District:

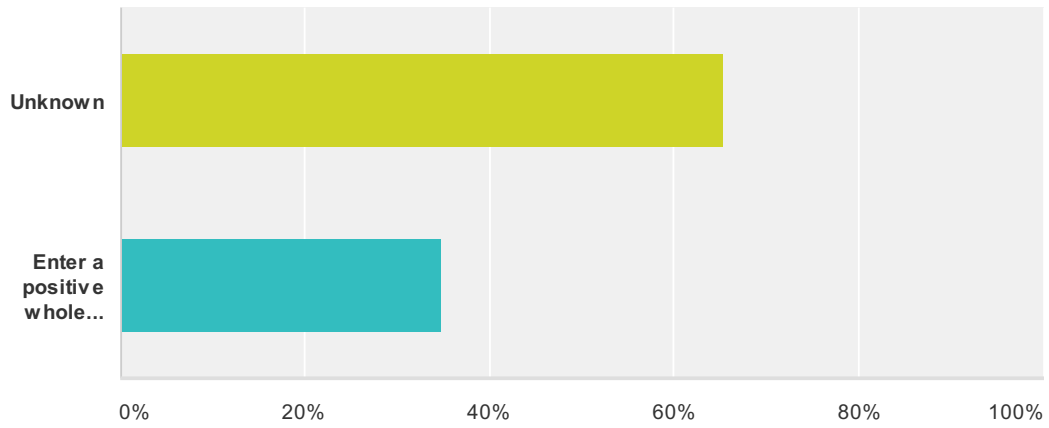
Answered: 519 Skipped: 14



Answer Choices	Responses	
Unknown	60.89%	316
Enter a positive whole number:	39.11%	203
<b>Total</b>		<b>519</b>

### Q11 Number of teachers in your school/district who teach science, including elementary teachers:

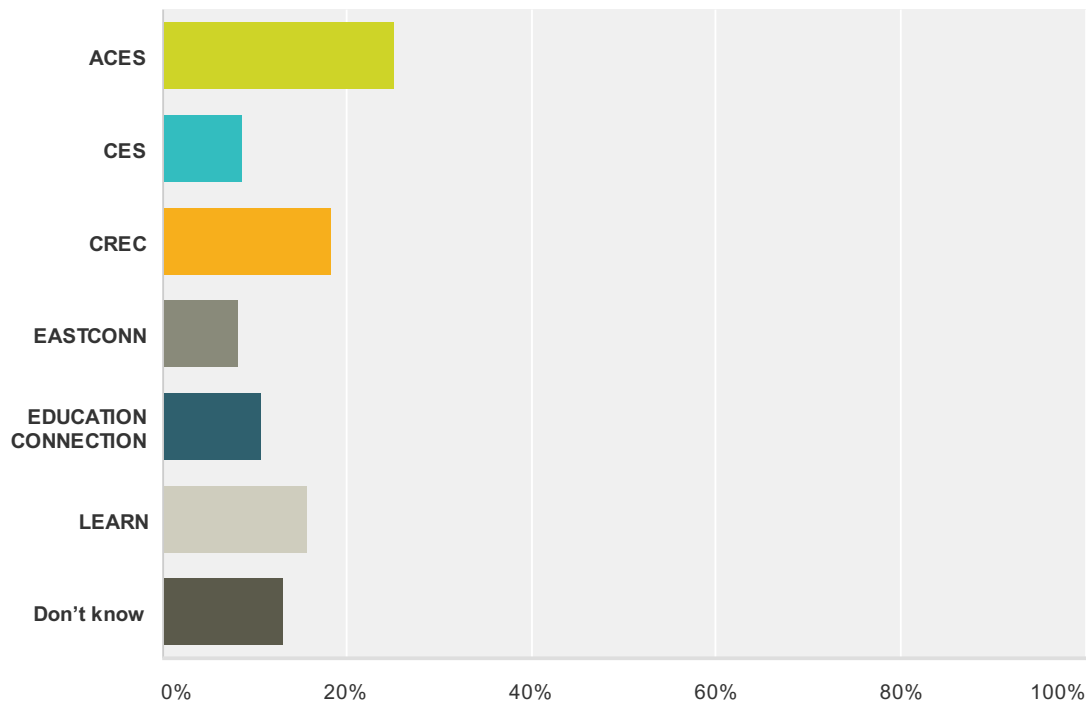
Answered: 519 Skipped: 14



Answer Choices	Responses
Unknown	65.32% 339
Enter a positive whole number:	34.68% 180
<b>Total</b>	<b>519</b>

### Q12 With which Regional Educational Service Center (RESC) is your district affiliated?

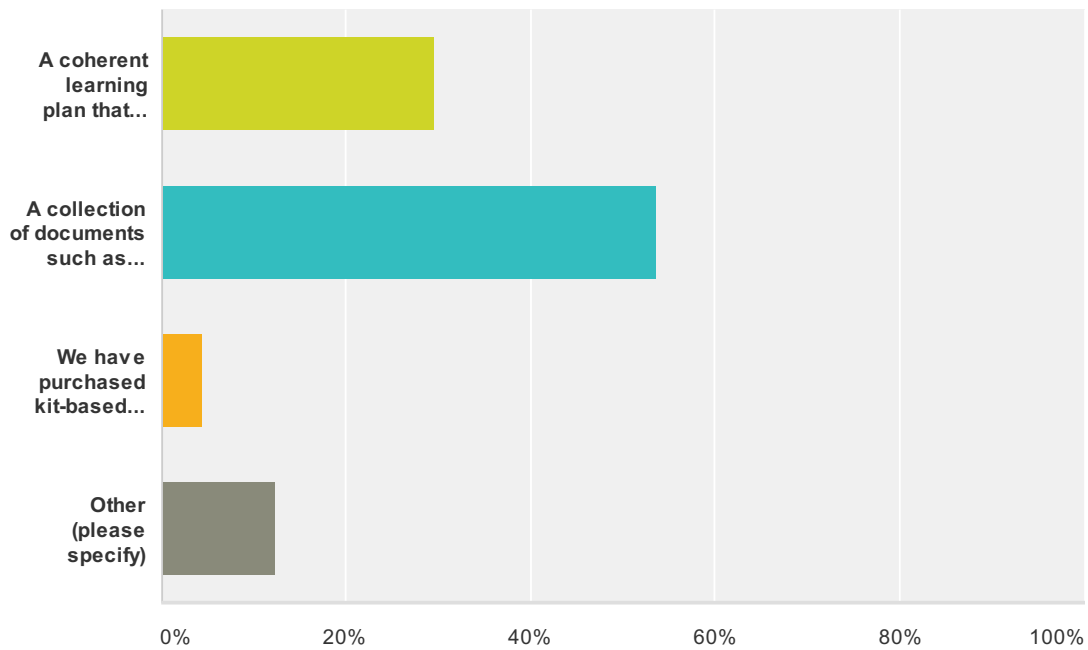
Answered: 519 Skipped: 14



Answer Choices	Responses
ACES	25.05% 130
CES	8.67% 45
CREC	18.30% 95
EASTCONN	8.29% 43
EDUCATION CONNECTION	10.79% 56
LEARN	15.80% 82
Don't know	13.10% 68
<b>Total</b>	<b>519</b>

### Q13 Which of the following most closely describes the nature of your current science curriculum?

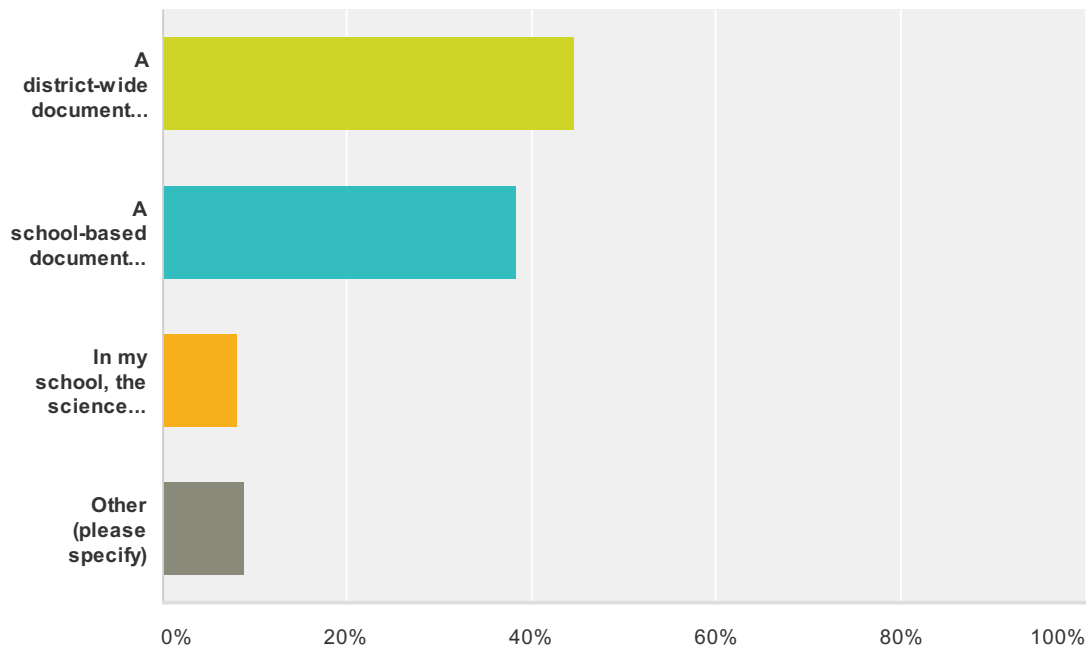
Answered: 493 Skipped: 40



Answer Choices	Responses
A coherent learning plan that describes a sequence of learning units for Kindergarten through Gr. 12 and describes engaging contexts, unit pacing, learner outcomes, learning activities, performance tasks, instructional resources, cross-disciplinary connections and assessment tools for each unit	29.61% 146
A collection of documents such as State standards, unit start/end dates, lists of learning objectives, or assorted learning activities	53.55% 264
We have purchased kit-based science programs and/or textbooks and consider those to be our curriculum.	4.46% 22
Other (please specify)	12.37% 61
<b>Total</b>	<b>493</b>

### Q14 Which of the following most closely describes the way in which your current science curriculum functions?

Answered: 493 Skipped: 40

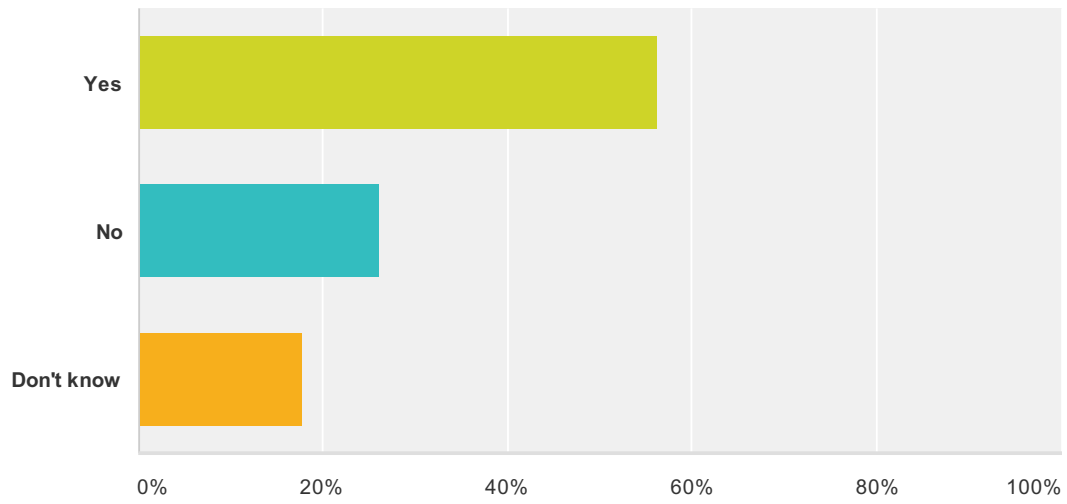


Answer Choices	Responses
A district-wide document that defines a clear and coherent science learning progression from K-5 through 6-8 and 9-12 (vertical articulation)	44.62% 220
A school-based document that defines a clear and coherent science learning progression for a single grade band (i.e., K-5, 6-8 or 9-12)	38.34% 189
In my school, the science curriculum is determined by each teacher.	8.11% 40
Other (please specify)	8.92% 44
<b>Total</b>	<b>493</b>



### Q15 Is there an established process for science curriculum writing in your district?

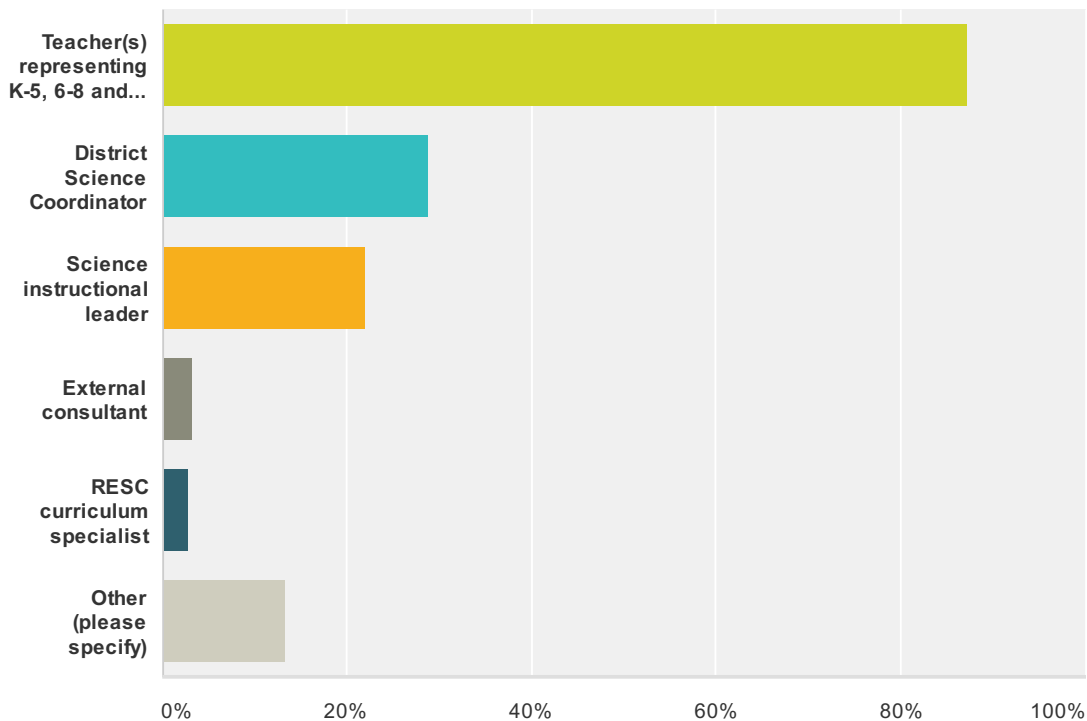
Answered: 493 Skipped: 40



Answer Choices	Responses
Yes	56.19% 277
No	26.17% 129
Don't know	17.65% 87
<b>Total</b>	<b>493</b>

### Q16 Who writes/ revises the science curriculum in your district? (check all that apply)

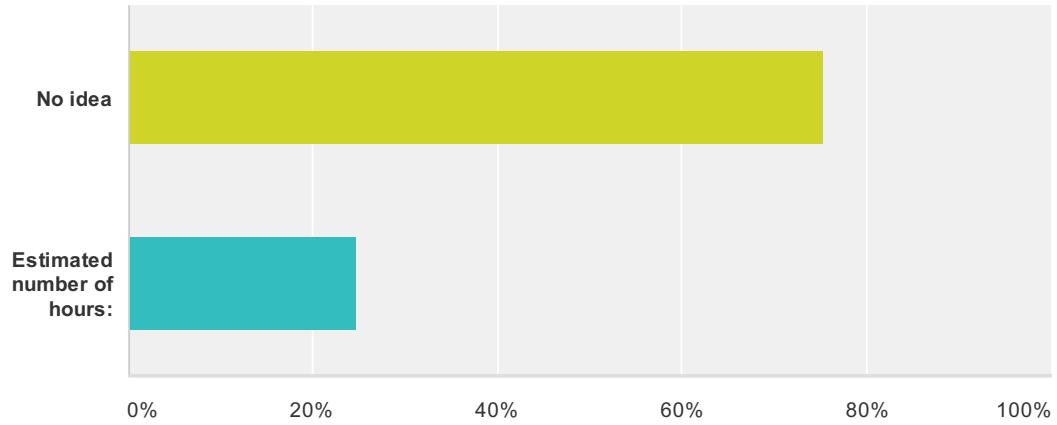
Answered: 493 Skipped: 40



Answer Choices	Responses
Teacher(s) representing K-5, 6-8 and 9-12 grade bands	87.02% 429
District Science Coordinator	28.80% 142
Science instructional leader	21.91% 108
External consultant	3.25% 16
RESC curriculum specialist	2.84% 14
Other (please specify)	13.39% 66
<b>Total Respondents: 493</b>	

**Q17 Based on your experience in your district, how much TIME do you estimate your district is likely to allocate for writing or revising science curriculum based on NGSS?**

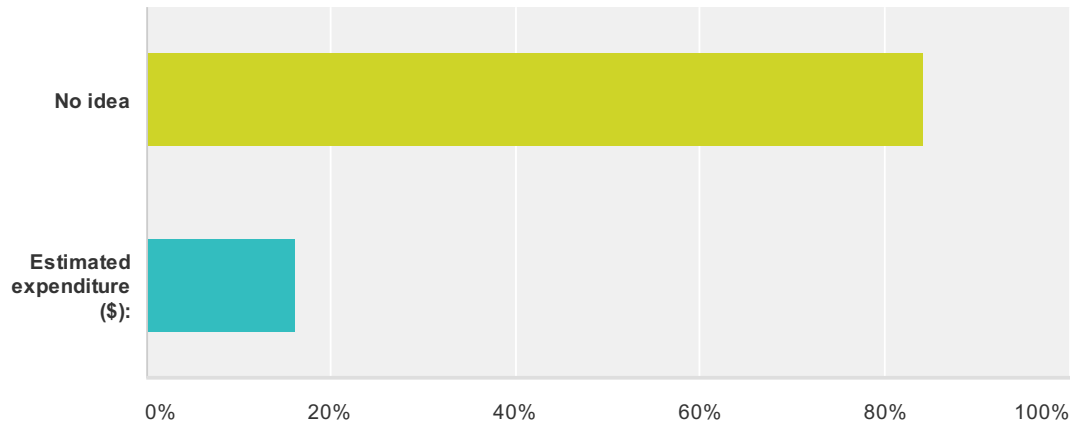
Answered: 493 Skipped: 40



Answer Choices	Responses	
No idea	75.25%	371
Estimated number of hours:	24.75%	122
<b>Total</b>		<b>493</b>

**Q18 Based on your experience in your district, how much MONEY do you estimate your district is likely to spend to write or revise science curriculum based on NGSS?**

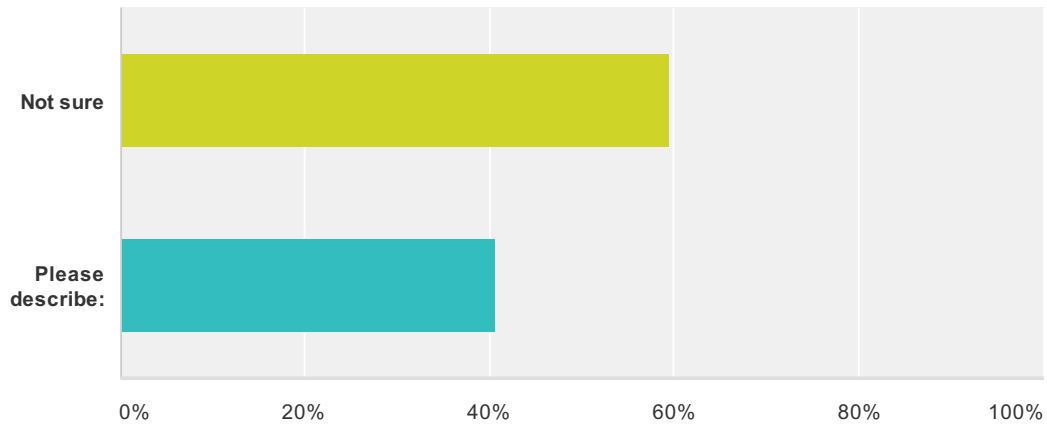
Answered: 493 Skipped: 40



Answer Choices	Responses
No idea	83.98% 414
Estimated expenditure (\$):	16.02% 79
<b>Total</b>	<b>493</b>

**Q19 What guidance from the Connecticut State Department of Education could your district use to support writing or revision of science curriculum to reflect the pedagogical and content changes described in the NRC Science Framework and the NGSS?**

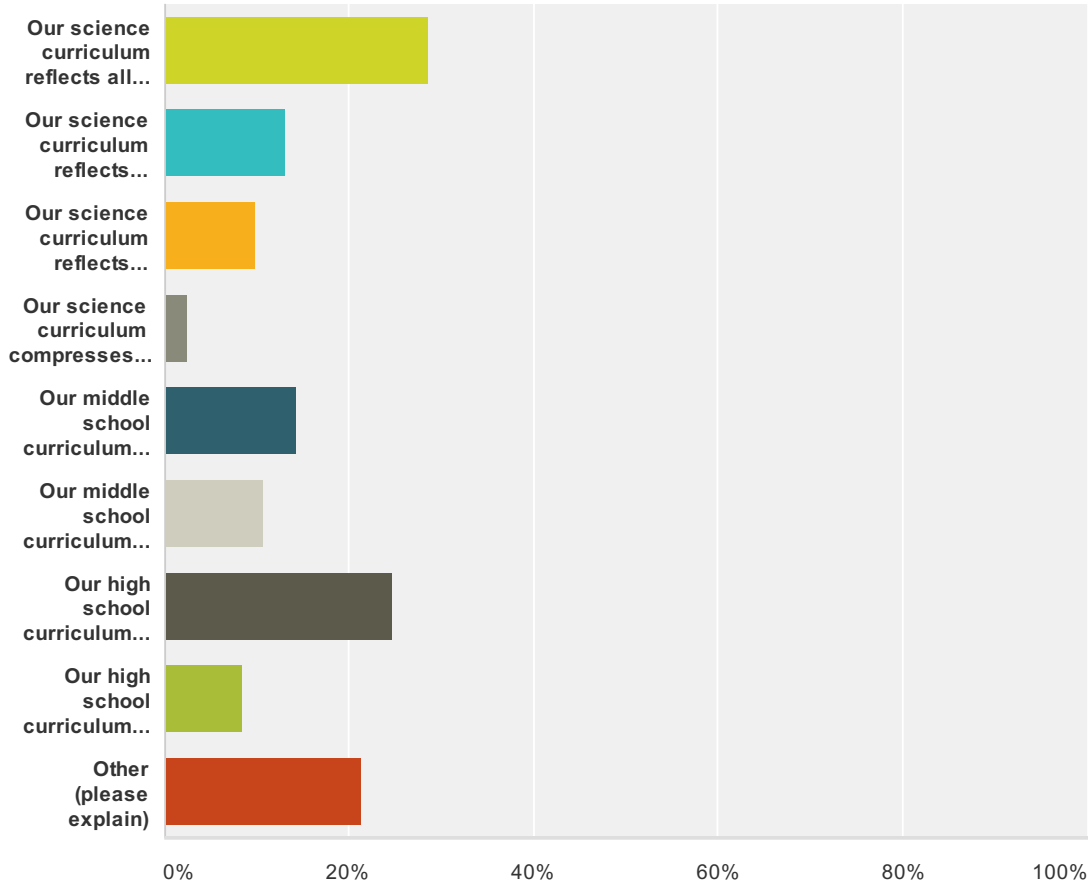
Answered: 493 Skipped: 40



Answer Choices	Responses
Not sure	59.43% 293
Please describe:	40.57% 200
<b>Total</b>	<b>493</b>

### Q20 How closely does your school/district adhere to Connecticut's Core Science Curriculum Framework and Curriculum Standards? (check all that apply)

Answered: 480 Skipped: 53



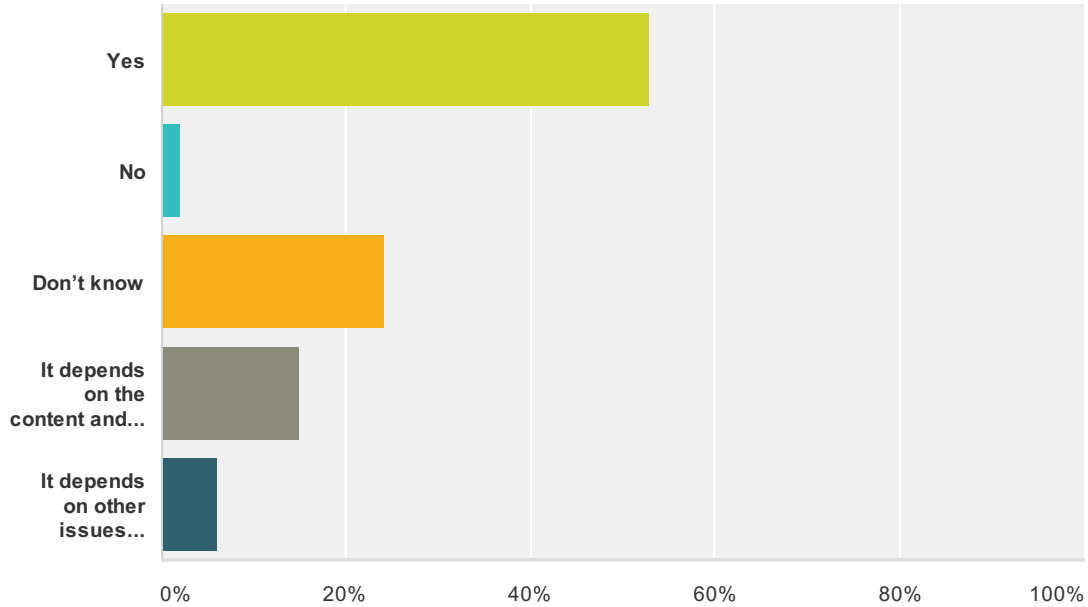
Answer Choices	Responses
Our science curriculum reflects all the K-10 standards exactly as they are assigned to each grade in state standards.	<b>28.54%</b> 137
Our science curriculum reflects only the K-8 standards exactly as they are assigned to each grade in state standards.	<b>13.13%</b> 63
Our science curriculum reflects only the K-5 standards exactly as they are assigned to each grade in state standards.	<b>10%</b> 48
Our science curriculum compresses all the K-5 standards into Grades 3-5.	<b>2.50%</b> 12
Our middle school curriculum reorganizes state standards for Grades 6-8 into a full year course in a single science discipline (i.e., life science, physical science, Earth science).	<b>14.38%</b> 69
Our middle school curriculum reflects 3 general science courses, but the standards addressed in each course differ from those suggested in the state standards.	<b>10.63%</b> 51
Our high school curriculum includes an integrated physical/Earth science course in Grade 9 and a biology course in Grade 10, as suggested in the state standards.	<b>24.79%</b> 119
Our high school curriculum includes courses in Grades 9 and 10 that differ from those suggested in the state standards.	<b>8.54%</b> 41

# CSDE NGSS Adoption Implications Study District Impact Survey

Other (please explain)	21.25% 102
<b>Total Respondents: 480</b>	

**Q21 Do you anticipate that your school/district would adhere to the NGSS grade-by-grade learning progressions for Grades K-5 if adopted by Connecticut?**

Answered: 480 Skipped: 53

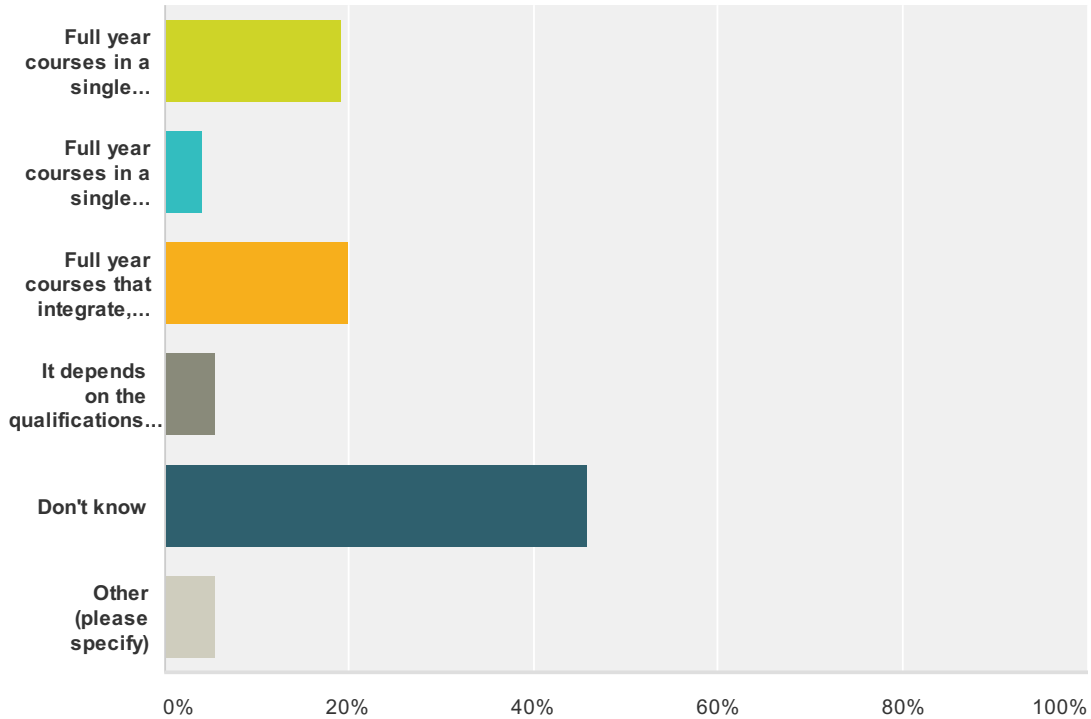


Answer Choices	Responses
Yes	52.71% 253
No	2.08% 10
Don't know	24.17% 116
It depends on the content and grades at which future Next Generation science assessments are administered	15% 72
It depends on other issues (please explain):	6.04% 29
<b>Total</b>	<b>480</b>



**Q22 Which of the following best describes the way in which you anticipate your school/district might organize the NGSS grade banded Performance Expectations for Grades 6-8?**

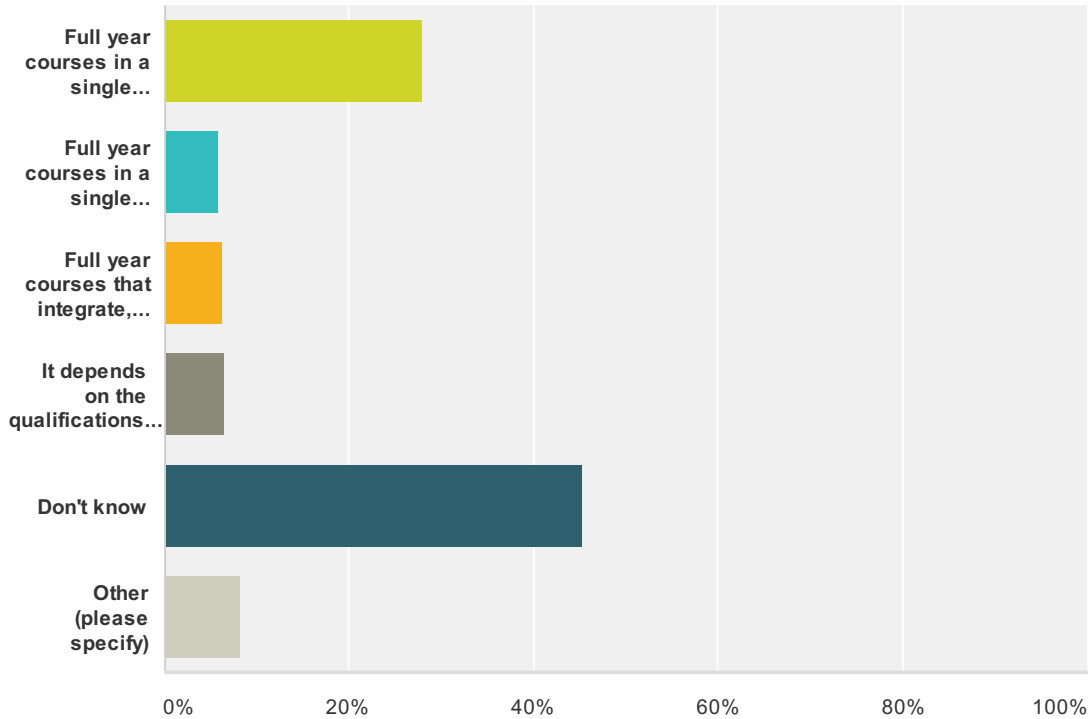
Answered: 480 Skipped: 53



Answer Choices	Responses
Full year courses in a single science domain (e.g., life science, earth/space science, physical science), with engineering Performance Expectations integrated within each science course	19.17% 92
Full year courses in a single science domain (e.g., life science, earth/space science, physical science), without engineering Performance Expectations integrated within each science course	4.17% 20
Full year courses that integrate, or "bundle," Performance Expectations drawn from different science domains	20% 96
It depends on the qualifications and certifications held by teachers employed by the district	5.42% 26
Don't know	45.83% 220
Other (please specify)	5.42% 26
<b>Total</b>	<b>480</b>

**Q23 Which of the following best describes the way in which you anticipate your school/district might organize the NGSS grade banded Performance Expectations for Grades 9-12?**

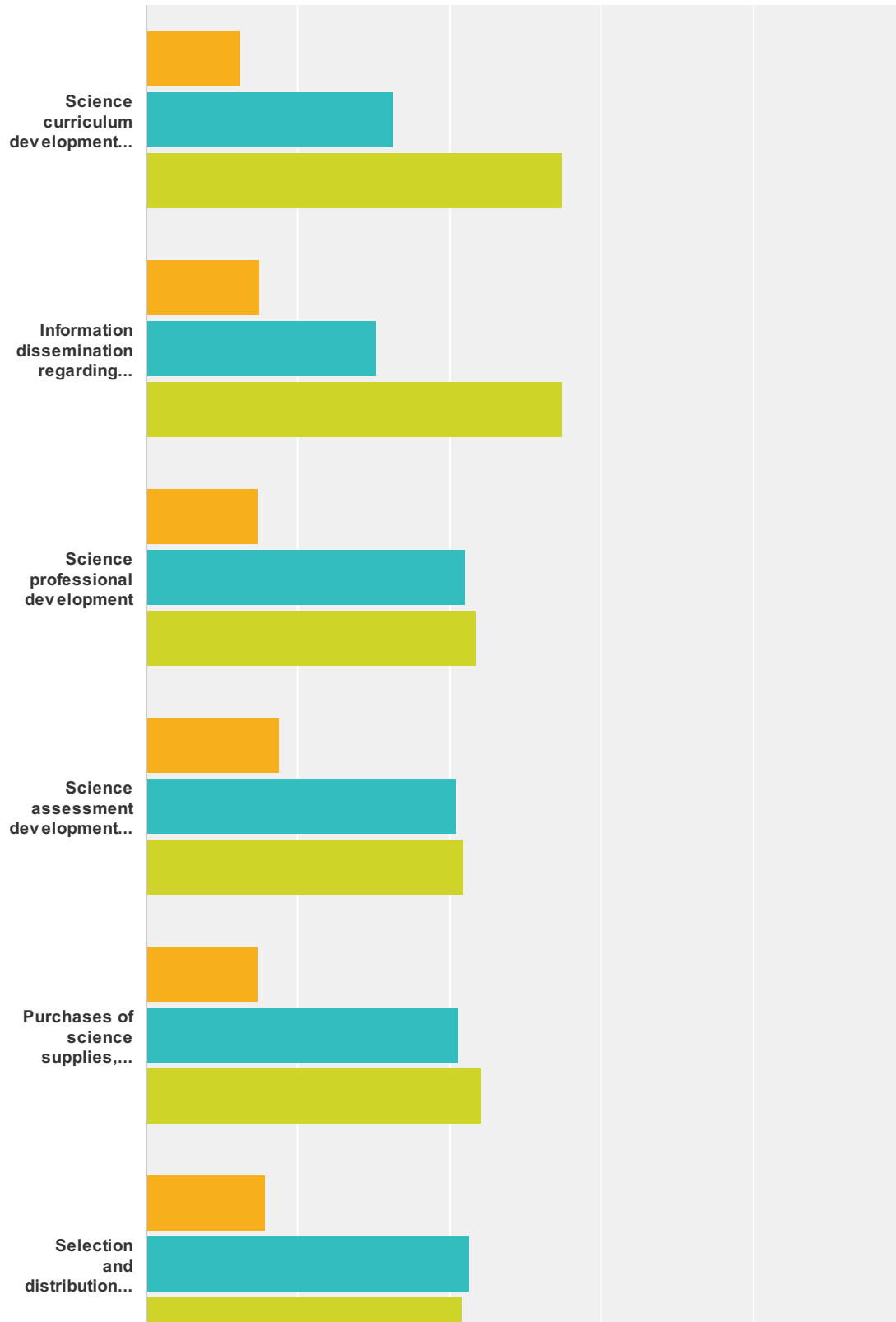
Answered: 480 Skipped: 53



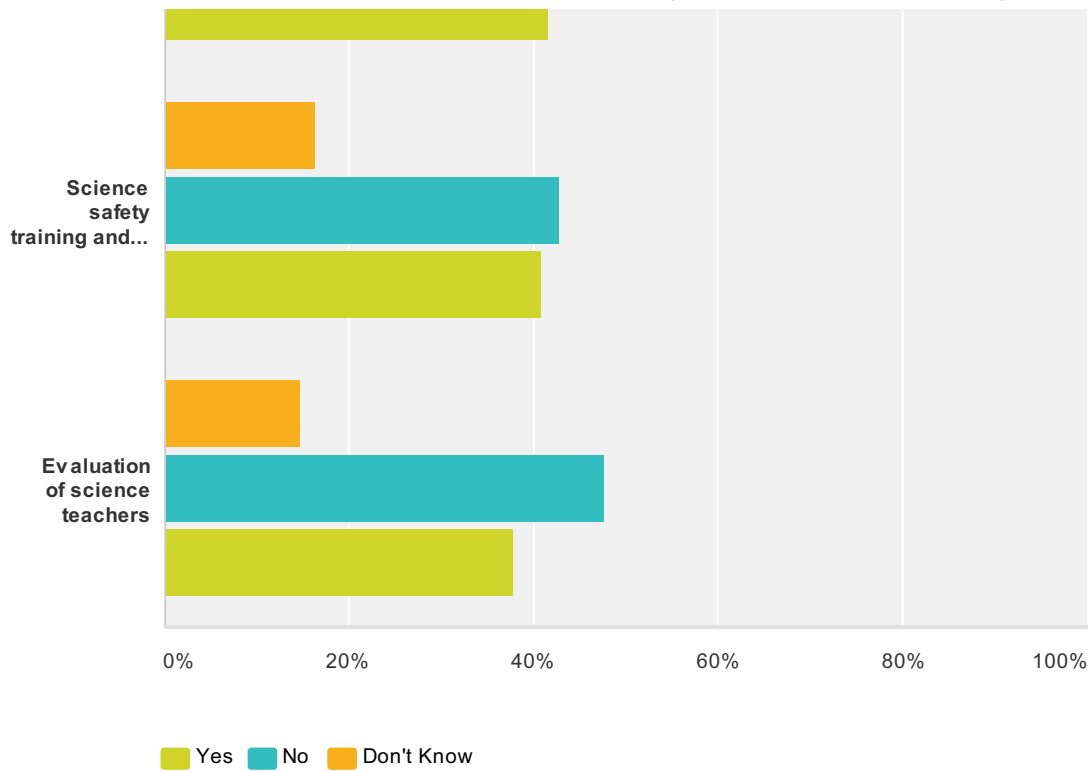
Answer Choices	Responses
Full year courses in a single science domain (e.g., life science, earth/space science, physical science), with engineering Performance Expectations integrated within each science course	27.92% 134
Full year courses in a single science domain (e.g., life science, earth/space science, physical science), without engineering Performance Expectations integrated within each science course	5.83% 28
Full year courses that integrate, or "bundle", Performance Expectations drawn from different science domains	6.25% 30
It depends on the qualifications and certifications held by teachers employed by the district	6.46% 31
Don't know	45.21% 217
Other (please specify)	8.33% 40
<b>Total</b>	<b>480</b>

**Q24 For each of the following DISTRICT science leadership functions, please indicate whether your district has a science leader who is responsible for \*coordinating\* across elementary, middle and/or high schools:**

Answered: 469 Skipped: 64



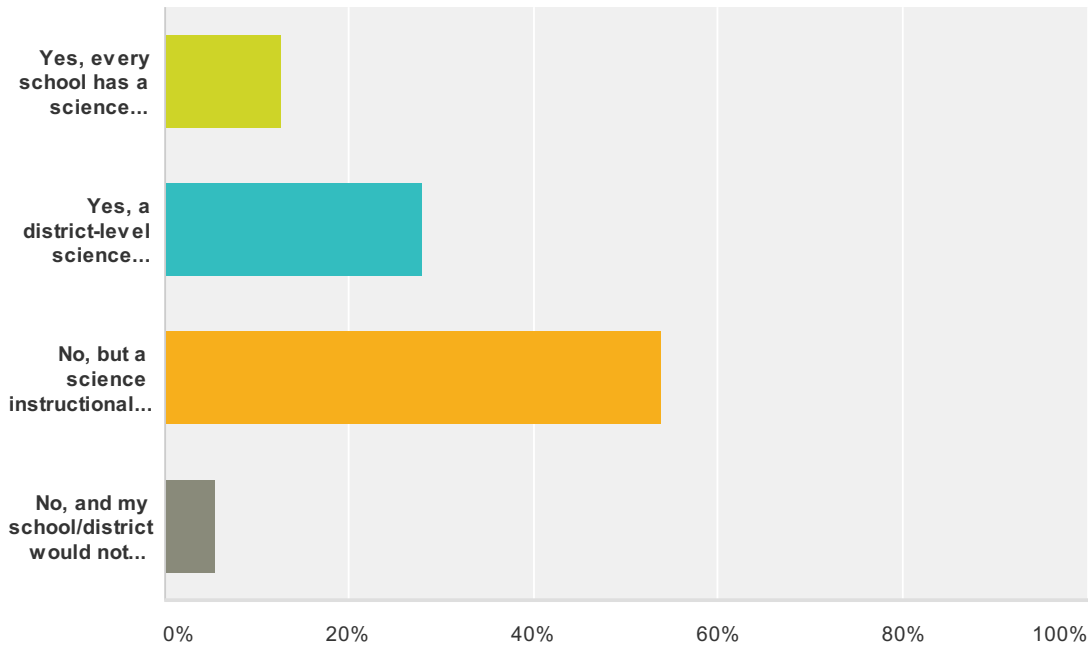
# CSDE NGSS Adoption Implications Study District Impact Survey



	Yes	No	Don't Know	Total
Science curriculum development and revision	54.80% 257	32.62% 153	12.58% 59	469
Information dissemination regarding state science standards, curriculum-embedded performance tasks, science CMT and CAPT and other state initiatives	54.80% 257	30.28% 142	14.93% 70	469
Science professional development	43.28% 203	42.00% 197	14.71% 69	469
Science assessment development and/or data analysis	41.79% 196	40.72% 191	17.48% 82	469
Purchases of science supplies, equipment and consumable materials (restocking kits)	44.14% 207	41.15% 193	14.71% 69	469
Selection and distribution of teaching materials and resources	41.58% 195	42.64% 200	15.78% 74	469
Science safety training and lab safety regulatory compliance	40.72% 191	42.86% 201	16.42% 77	469
Evaluation of science teachers	37.74% 177	47.55% 223	14.71% 69	469

**Q25 Does your school/district have a science instructional leader(s) whose primary responsibility is working with teachers to enhance the quality of science teaching?**

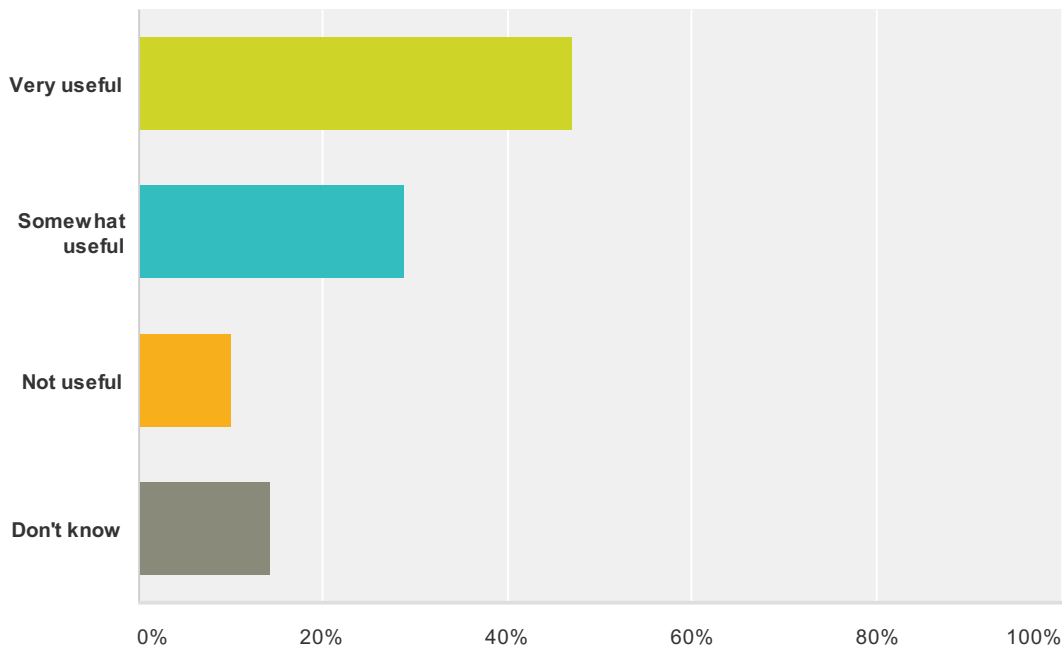
Answered: 469 Skipped: 64



Answer Choices	Responses	
Yes, every school has a science instructional leader on the faculty	12.79%	60
Yes, a district-level science instructional leader visits schools to work with teachers occasionally	27.93%	131
No, but a science instructional leader would be beneficial to our students' science learning	53.73%	252
No, and my school/district would not benefit from a science instructional leader	5.54%	26
<b>Total</b>		<b>469</b>

**Q26 How useful would your school/district find it if the State Department of Education established an optional certification endorsement describing qualifications for individuals whose primary responsibility is working with \*elementary\* teachers to improve science instruction?**

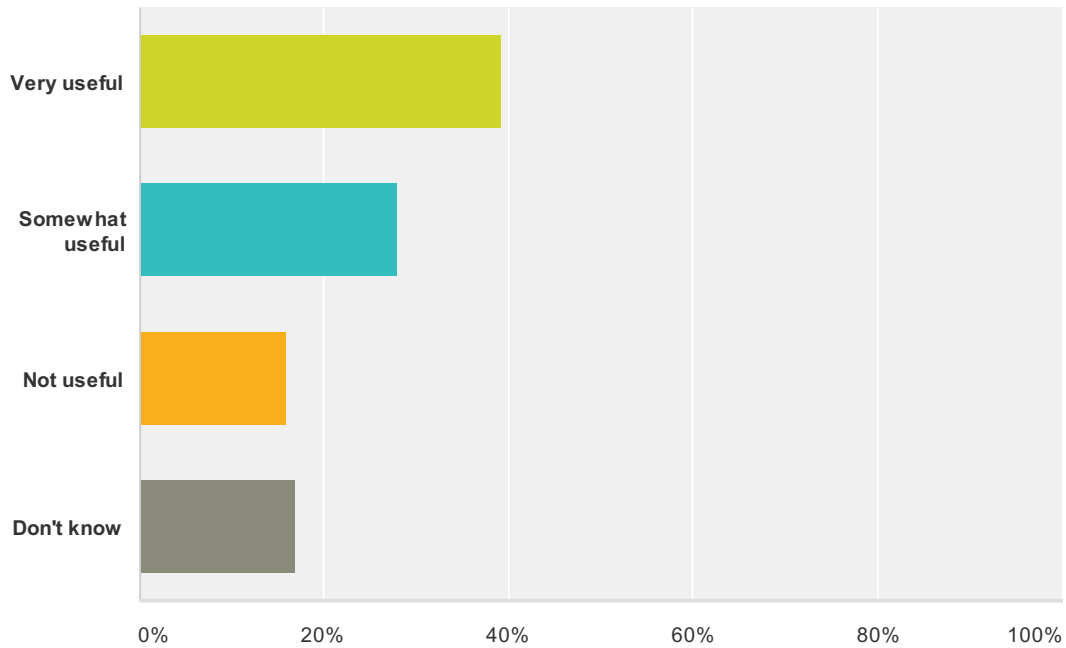
Answered: 469 Skipped: 64



Answer Choices	Responses
Very useful	46.91% 220
Somewhat useful	28.78% 135
Not useful	10.02% 47
Don't know	14.29% 67
<b>Total</b>	<b>469</b>

**Q27 How useful would your school/district find it if the State Department of Education established an optional certification endorsement describing qualifications for individuals whose primary responsibility is working with \*secondary\* teachers to improve science instruction?**

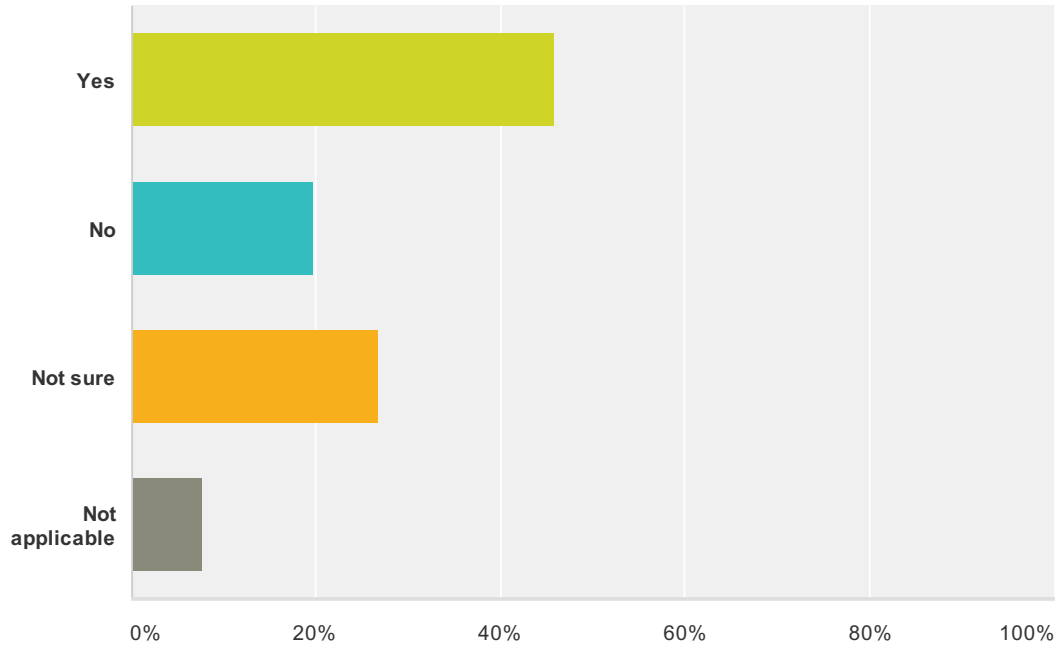
Answered: 469 Skipped: 64



Answer Choices	Responses
Very useful	39.23% 184
Somewhat useful	27.93% 131
Not useful	15.99% 75
Don't know	16.84% 79
<b>Total</b>	<b>469</b>

**Q28 My school/district communicates a clear expectation that science teaching and learning is a valued part of the \*elementary\* school curriculum.**

Answered: 463 Skipped: 70

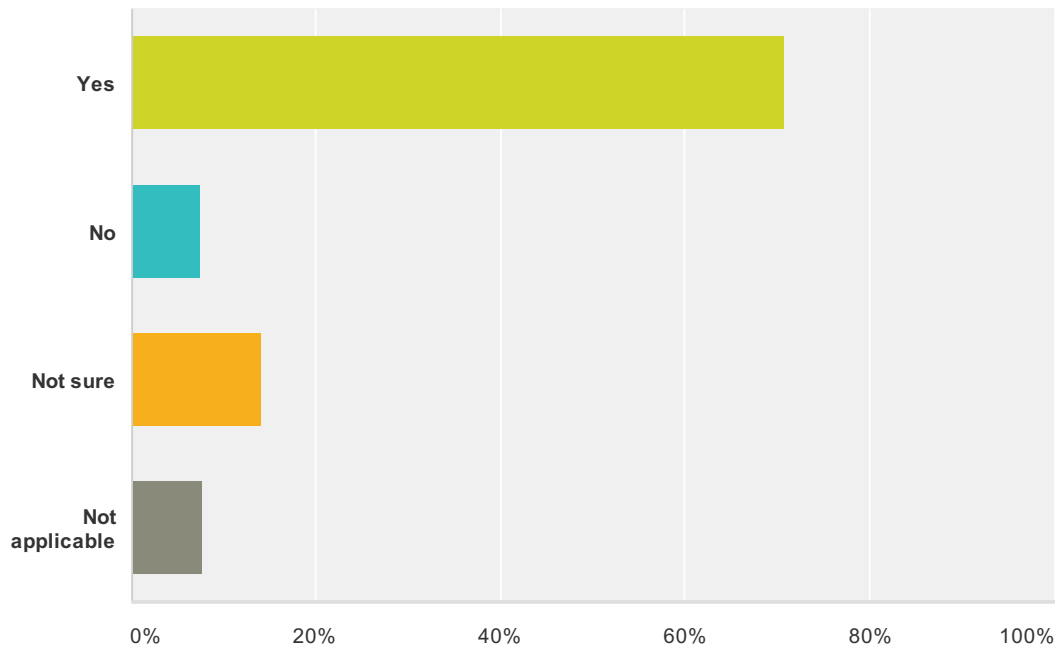


Answer Choices	Responses	
Yes	45.79%	212
No	19.65%	91
Not sure	26.78%	124
Not applicable	7.78%	36
<b>Total</b>		<b>463</b>



**Q29 My school/district communicates a clear expectation that science teaching and learning is a valued part of the \*middle\* school curriculum.**

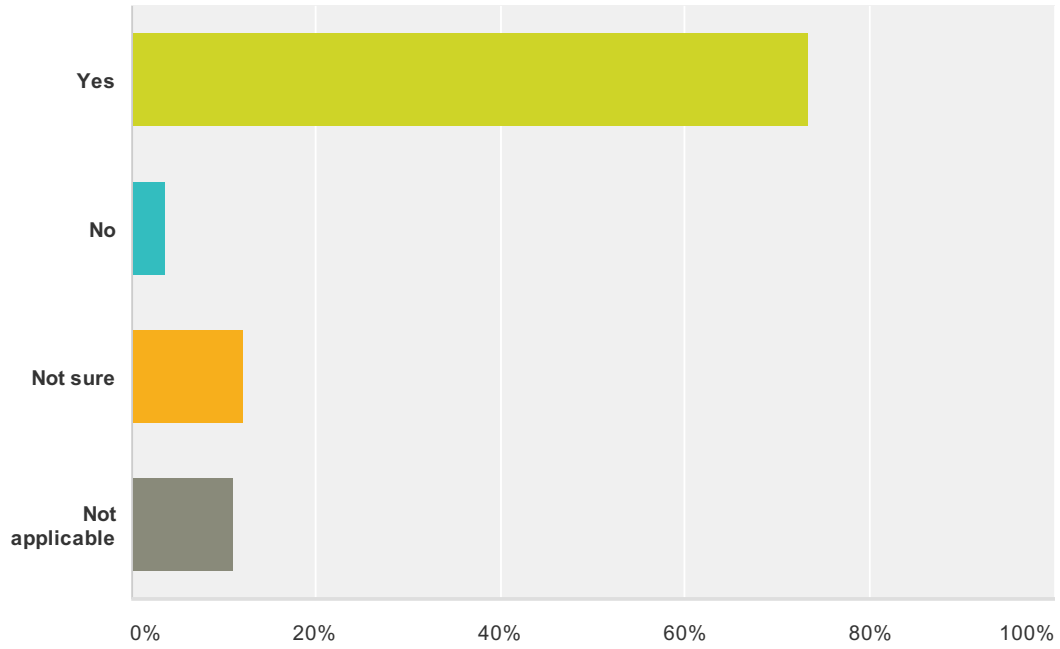
Answered: 463 Skipped: 70



Answer Choices	Responses
Yes	70.63% 327
No	7.56% 35
Not sure	14.04% 65
Not applicable	7.78% 36
<b>Total</b>	<b>463</b>

**Q30 My school/district communicates a clear expectation that science teaching and learning is a valued part of the \*high\* school curriculum.**

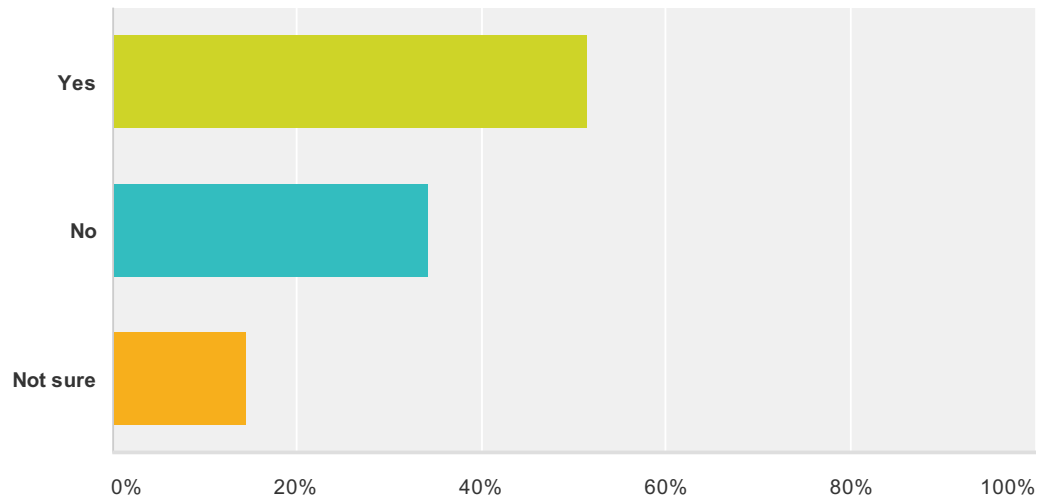
Answered: 463 Skipped: 70



Answer Choices	Responses
Yes	73.22% 339
No	3.67% 17
Not sure	12.10% 56
Not applicable	11.02% 51
<b>Total</b>	<b>463</b>

**Q31 My school/district helps teachers understand the elements of effective science teaching.**

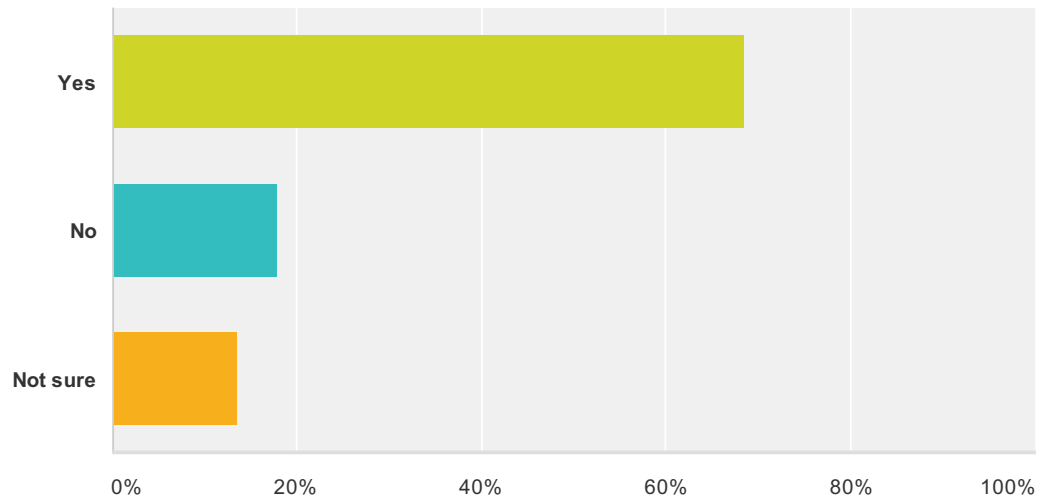
Answered: 463 Skipped: 70



Answer Choices	Responses	
Yes	51.40%	238
No	34.13%	158
Not sure	14.47%	67
<b>Total</b>		<b>463</b>

**Q32 My school/district nurtures students' interest in science learning and science-related activities.**

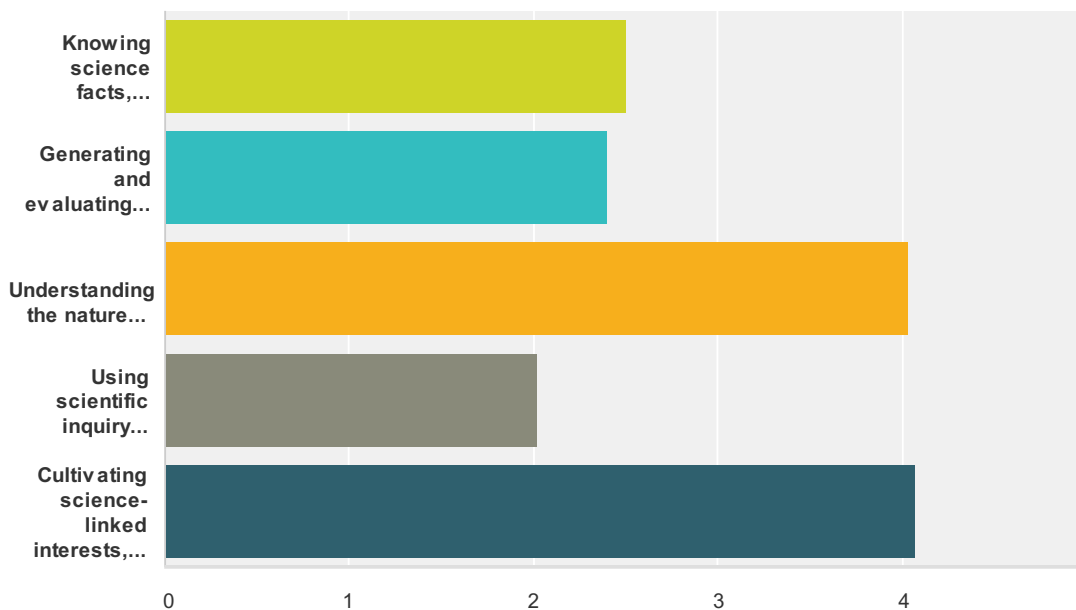
Answered: 463 Skipped: 70



Answer Choices	Responses
Yes	68.47% 317
No	17.93% 83
Not sure	13.61% 63
<b>Total</b>	<b>463</b>

**Q33 What aspects of science learning are emphasized in your class, school or district? Please rank the following from greatest emphasis to least emphasis.**

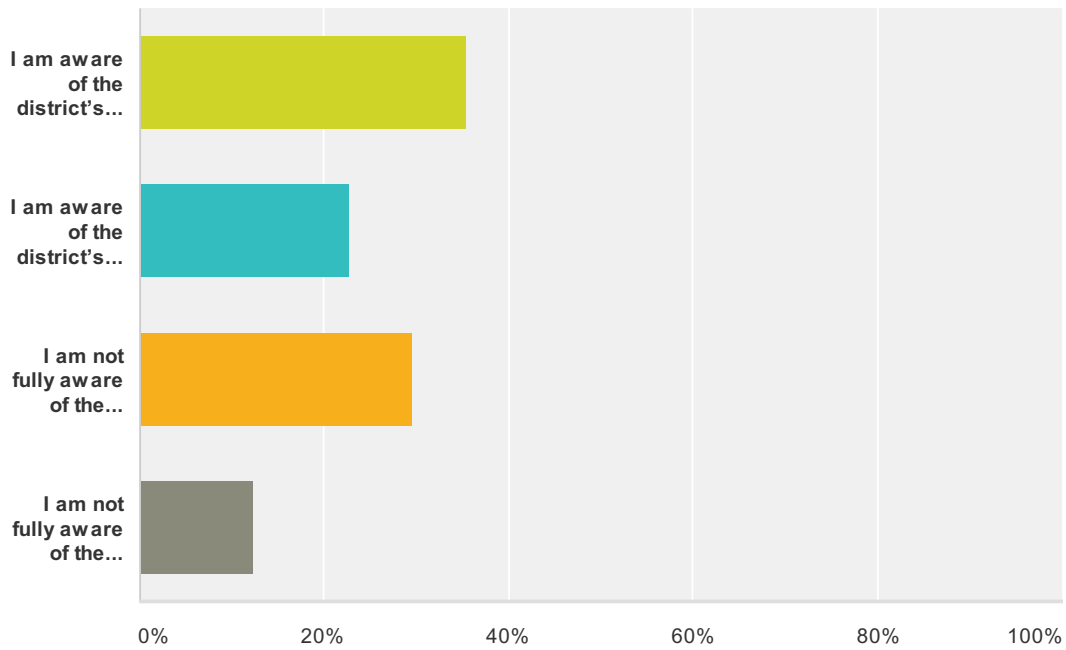
Answered: 463 Skipped: 70



	greatest emphasis	second greatest emphasis	third greatest emphasis	fourth greatest emphasis	least emphasis	Total	Average Rating
Knowing science facts, concepts and terminology.	31.10% 144	19.65% 91	26.35% 122	13.82% 64	9.07% 42	463	2.50
Generating and evaluating scientific data, evidence and explanations.	14.69% 68	46.22% 214	27.00% 125	8.86% 41	3.24% 15	463	2.40
Understanding the nature of science and the historical development of scientific knowledge.	2.81% 13	7.99% 37	14.25% 66	34.56% 160	40.39% 187	463	4.02
Using scientific inquiry practices (such as developing conceptual models, generating and analyzing data, or constructing evidence-based arguments) to deepen understanding of core ideas	47.30% 219	20.52% 95	19.01% 88	9.07% 42	4.10% 19	463	2.02
Cultivating science-linked interests, aspirations and identity.	4.10% 19	5.62% 26	13.39% 62	33.69% 156	43.20% 200	463	4.06

### Q34 Which of the following statements applies to you (choose one)?

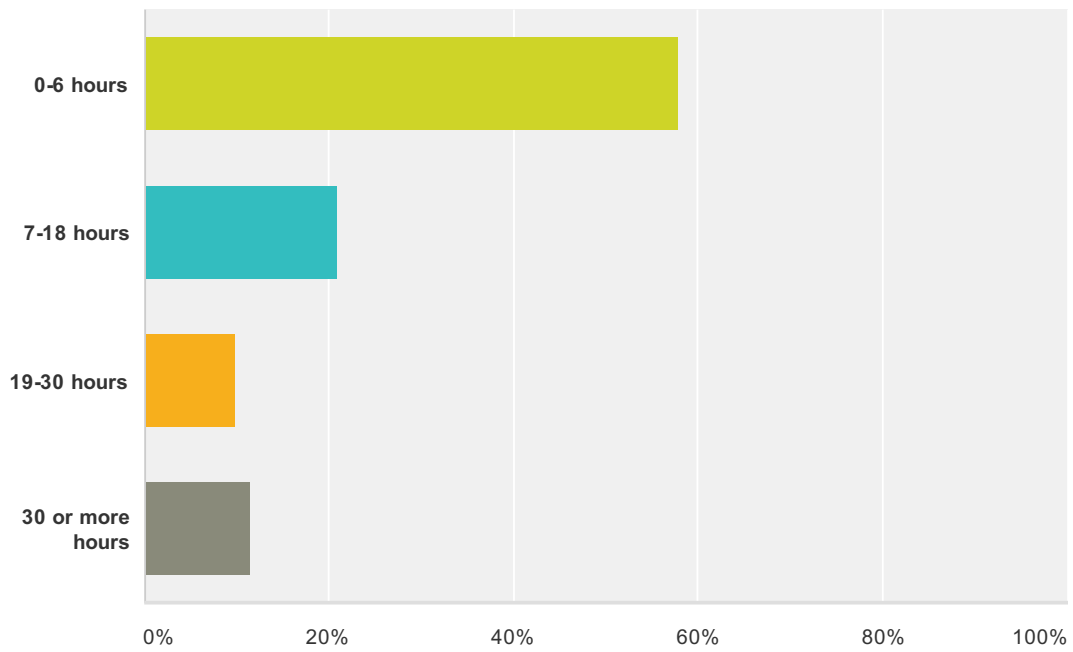
Answered: 436 Skipped: 97



Answer Choices	Responses
I am aware of the district's vision of effective science teaching, and I participate in professional development opportunities to help me achieve it.	35.32% 154
I am aware of the district's vision of effective science teaching, but it is not the focus of my professional development.	22.71% 99
I am not fully aware of the district's vision of effective science teaching, but I do participate in professional development to improve my ability to plan, implement and assess science learning.	29.59% 129
I am not fully aware of the district's vision of effective science teaching, and I do not participate in professional development opportunities to improve my ability to plan, implement and assess science learning.	12.39% 54
<b>Total</b>	<b>436</b>

### Q35 During the last school year, in how many hours of science-related PD did you participate?

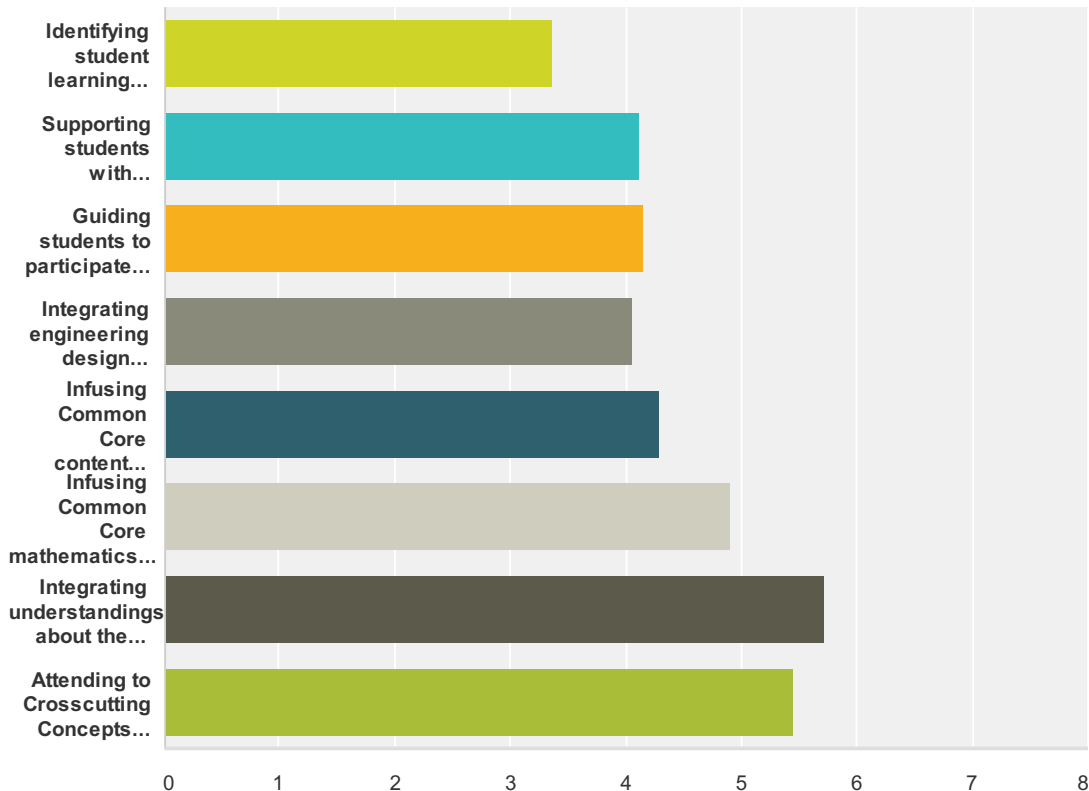
Answered: 436 Skipped: 97



Answer Choices	Responses
0-6 hours	57.80% 252
7-18 hours	20.87% 91
19-30 hours	9.86% 43
30 or more hours	11.47% 50
<b>Total</b>	<b>436</b>

**Q36 Rank, from highest to lowest priority, your need for professional development in each of the following instructional “advances” envisioned in the NRC Science Framework.**

Answered: 436 Skipped: 97



	highest priority	2nd highest priority	3rd highest priority	4th highest priority	5th highest priority	6th highest priority	7th highest priority	lowest priority	Total	Average Rating
Identifying student learning outcomes that combine a science/engineering Practice with a Core Idea and a Crosscutting Concept;	32.11% 140	14.91% 65	10.78% 47	10.78% 47	9.63% 42	8.72% 38	7.11% 31	5.96% 26	436	3.35
Supporting students with developing conceptual models to explain scientific phenomena	9.17% 40	21.10% 92	15.14% 66	11.93% 52	13.53% 59	12.16% 53	10.09% 44	6.88% 30	436	4.11
Guiding students to participate in scientific argument supported by evidence	10.55% 46	13.07% 57	19.95% 87	15.14% 66	13.99% 61	10.78% 47	9.40% 41	7.11% 31	436	4.14
Integrating engineering design concepts and practices within science lessons	16.06% 70	15.14% 66	11.24% 49	18.12% 79	11.93% 52	10.55% 46	6.65% 29	10.32% 45	436	4.05
Infusing Common Core content literacy standards within science lessons	18.12% 79	10.32% 45	10.32% 45	13.07% 57	15.37% 67	10.09% 44	12.16% 53	10.55% 46	436	4.29

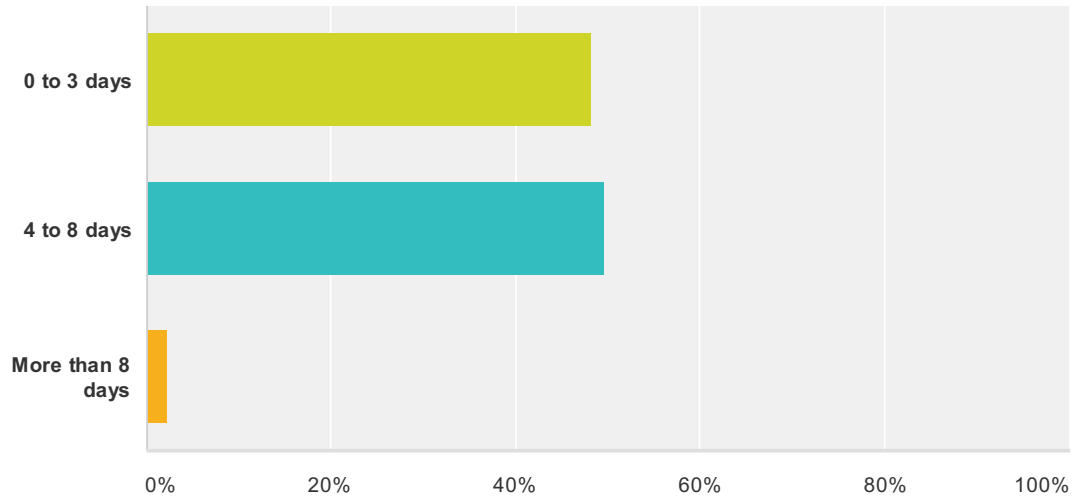


## CSDE NGSS Adoption Implications Study District Impact Survey

Infusing Common Core mathematics standards within science lessons	<b>3.67%</b> 16	<b>14.22%</b> 62	<b>12.61%</b> 55	<b>11.70%</b> 51	<b>11.47%</b> 50	<b>19.50%</b> 85	<b>15.37%</b> 67	<b>11.47%</b> 50	436	4.90
Integrating understandings about the Nature of Science into science lessons	<b>5.73%</b> 25	<b>4.36%</b> 19	<b>6.88%</b> 30	<b>8.94%</b> 39	<b>11.70%</b> 51	<b>16.74%</b> 73	<b>24.31%</b> 106	<b>21.33%</b> 93	436	5.71
Attending to Crosscutting Concepts that show connections across science disciplines	<b>4.59%</b> 20	<b>6.88%</b> 30	<b>13.07%</b> 57	<b>10.32%</b> 45	<b>12.39%</b> 54	<b>11.47%</b> 50	<b>14.91%</b> 65	<b>26.38%</b> 115	436	5.45

**Q37 How many professional development FULL days does your district schedule during the school year for all professional learning (not just science)?**

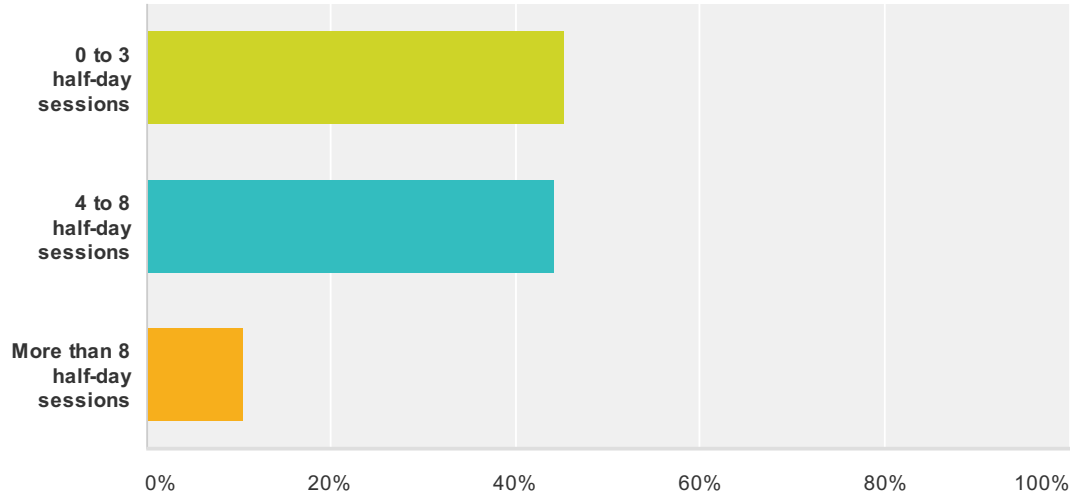
Answered: 436 Skipped: 97



Answer Choices	Responses
0 to 3 days	48.17% 210
4 to 8 days	49.54% 216
More than 8 days	2.29% 10
<b>Total</b>	<b>436</b>

**Q38 How many professional development HALF days does your district schedule during the school year for all professional learning (not just science)?**

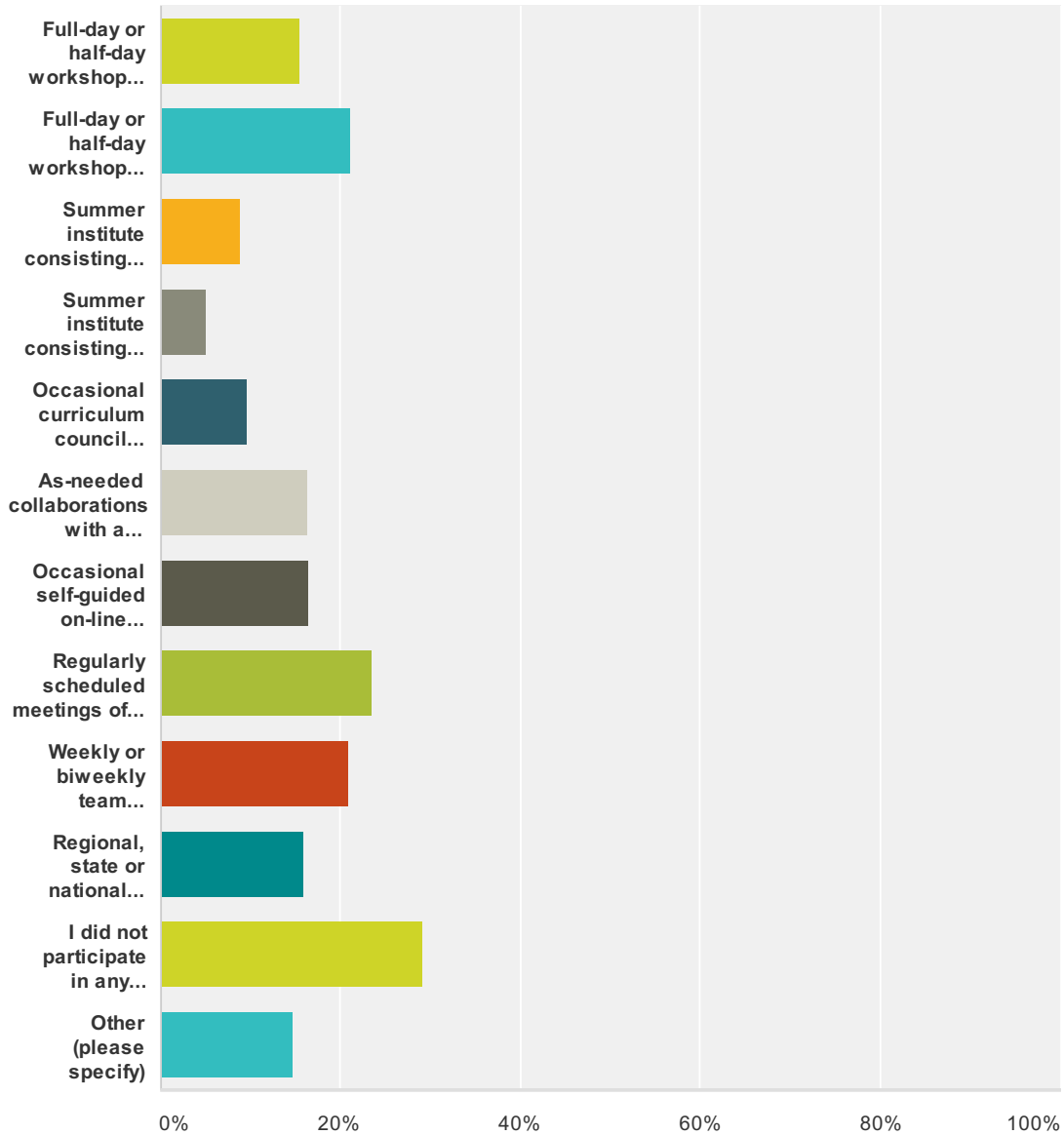
Answered: 436 Skipped: 97



Answer Choices	Responses	
0 to 3 half-day sessions	45.18%	197
4 to 8 half-day sessions	44.27%	193
More than 8 half-day sessions	10.55%	46
<b>Total</b>		<b>436</b>

**Q39 Which of the following best describe the format of science PD you experienced during the past school year? (check all that apply)**

Answered: 436 Skipped: 97



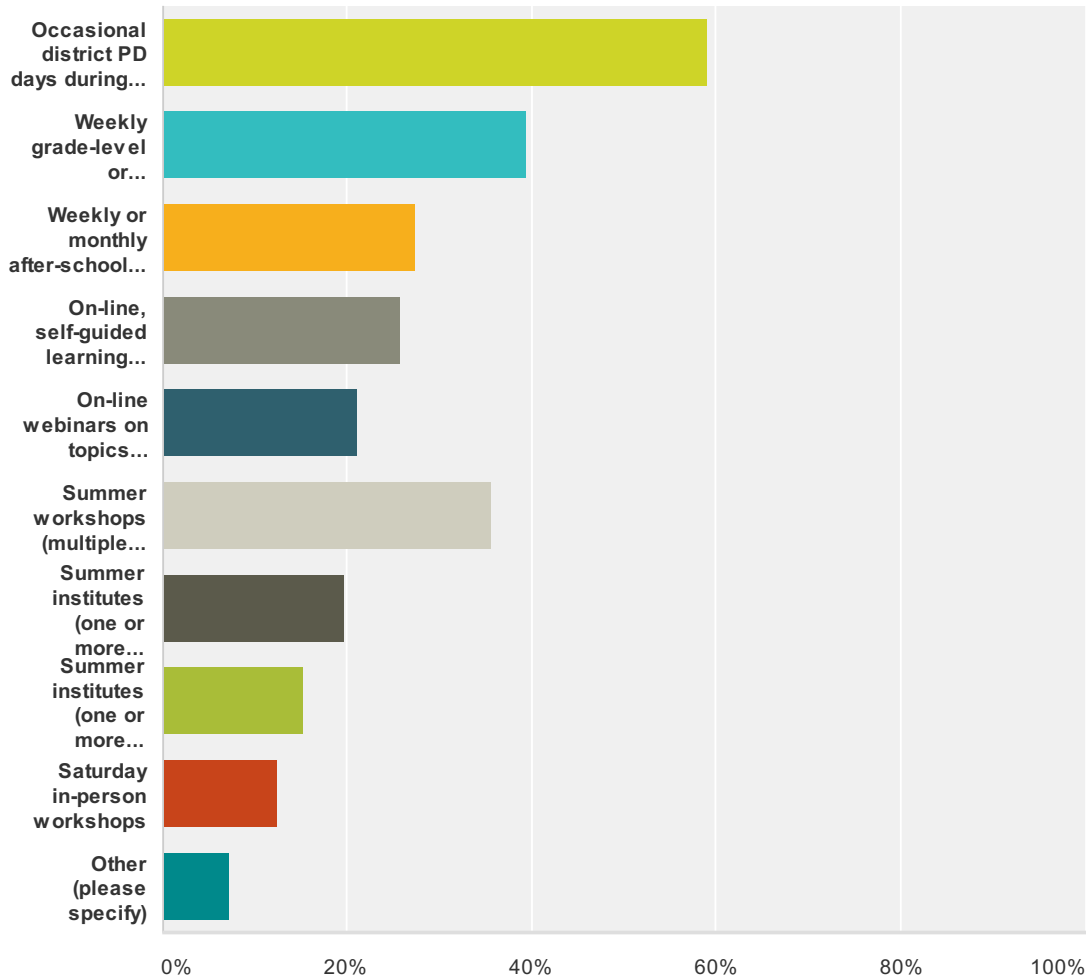
Answer Choices	Responses
Full-day or half-day workshop presented in the district by an external science education expert	15.60% 68
Full-day or half-day workshop presented in the district by an internal science education expert	21.10% 92
Summer institute consisting of one or two full weeks of sustained learning	8.94% 39
Summer institute consisting of one or two full weeks of sustained learning with follow-up academic year sessions	5.05% 22
Occasional curriculum council meetings hosted at a RESC	9.63% 42
As-needed collaborations with a science instructional specialist	16.28% 71
Occasional self-guided on-line learning modules in content or pedagogy	16.51% 72

# CSDE NGSS Adoption Implications Study District Impact Survey

Regularly scheduled meetings of a professional learning community, lesson study group or other structured learning group	<b>23.62%</b>	103
Weekly or biweekly team meetings to analyze student work on common assessments	<b>20.87%</b>	91
Regional, state or national science teaching conference attendee or presenter (e.g., NSTA, CSTA)	<b>15.83%</b>	69
I did not participate in any science PD during the past school year.	<b>29.13%</b>	127
Other (please specify)	<b>14.68%</b>	64
<b>Total Respondents: 436</b>		

**Q40 Which of the following professional learning formats are most effective in helping you to learn and implement new teaching practices? (check all that apply)**

Answered: 436 Skipped: 97



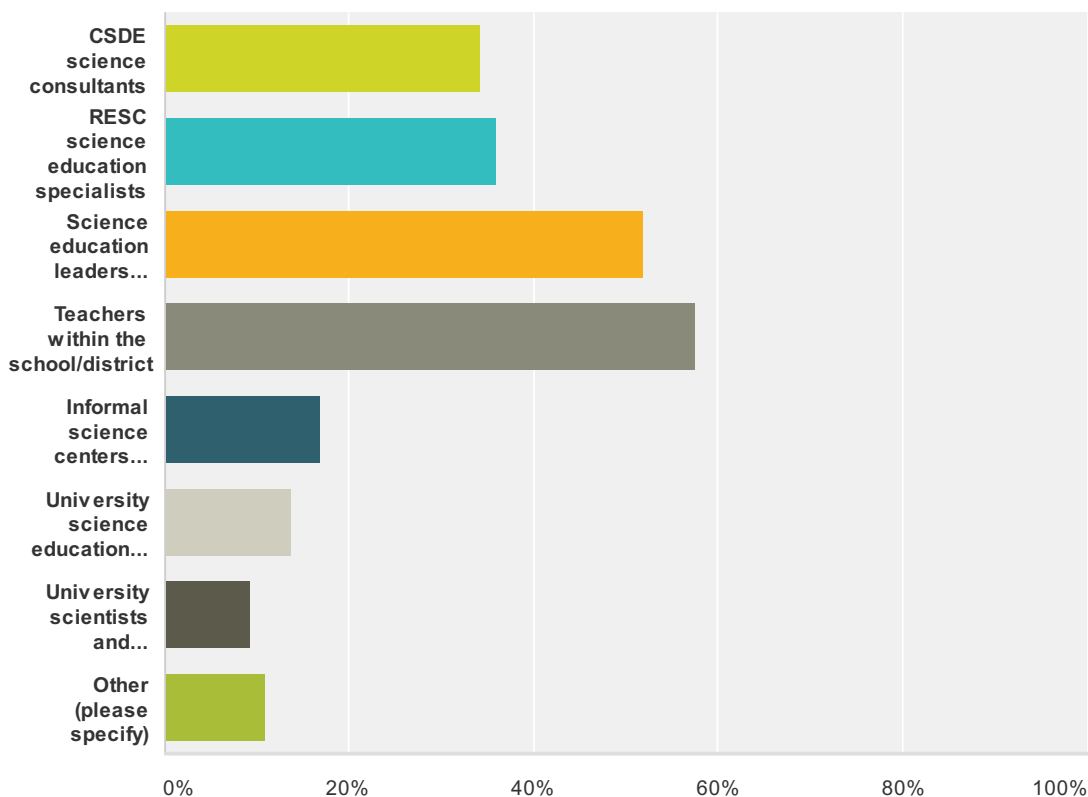
Answer Choices	Responses
Occasional district PD days during the school year	58.94% 257
Weekly grade-level or department meetings during the school day	39.45% 172
Weekly or monthly after-school structured learning sessions	27.29% 119
On-line, self-guided learning modules on topics relevant to my teaching (e.g., <a href="http://learningcenter.nsta.org/products/default.aspx">http://learningcenter.nsta.org/products/default.aspx</a> )	25.69% 112
On-line webinars on topics relevant to my teaching (e.g., <a href="http://learningcenter.nsta.org/products/web_seminar_archive_sponsor.aspx?page=NGSS">http://learningcenter.nsta.org/products/web_seminar_archive_sponsor.aspx?page=NGSS</a> )	21.10% 92
Summer workshops (multiple days)	35.55% 155

# CSDE NGSS Adoption Implications Study District Impact Survey

Summer institutes (one or more weeks)	<b>19.72%</b> 86
Summer institutes (one or more weeks) with school year follow-up days	<b>15.37%</b> 67
Saturday in-person workshops	<b>12.61%</b> 55
Other (please specify)	<b>7.34%</b> 32
<b>Total Respondents: 436</b>	

**Q41 What individuals or organizations would your school/district likely turn to for professional learning related to science and engineering content and pedagogy envisioned in the NRC Science Framework and NGSS? (check all that apply)**

Answered: 436 Skipped: 97

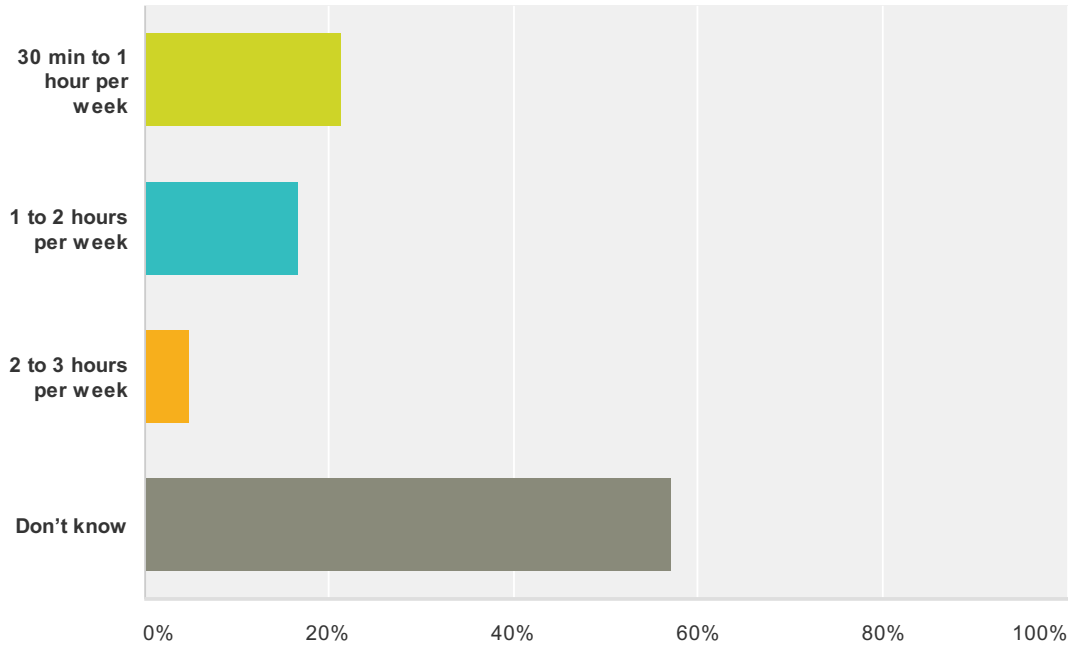


Answer Choices	Responses
CSDE science consultants	34.17% 149
RESC science education specialists	36.01% 157
Science education leaders within my school/district	51.83% 226
Teachers within the school/district	57.34% 250
Informal science centers (museums, aquariums or nature centers)	16.97% 74
University science education faculty	13.76% 60
University scientists and engineers	9.40% 41
Other (please specify)	11.01% 48
<b>Total Respondents: 436</b>	



### Q42 In your school/district, about how much time per week do students in Kindergarten, Grade 1 and Grade 2 spend doing science?

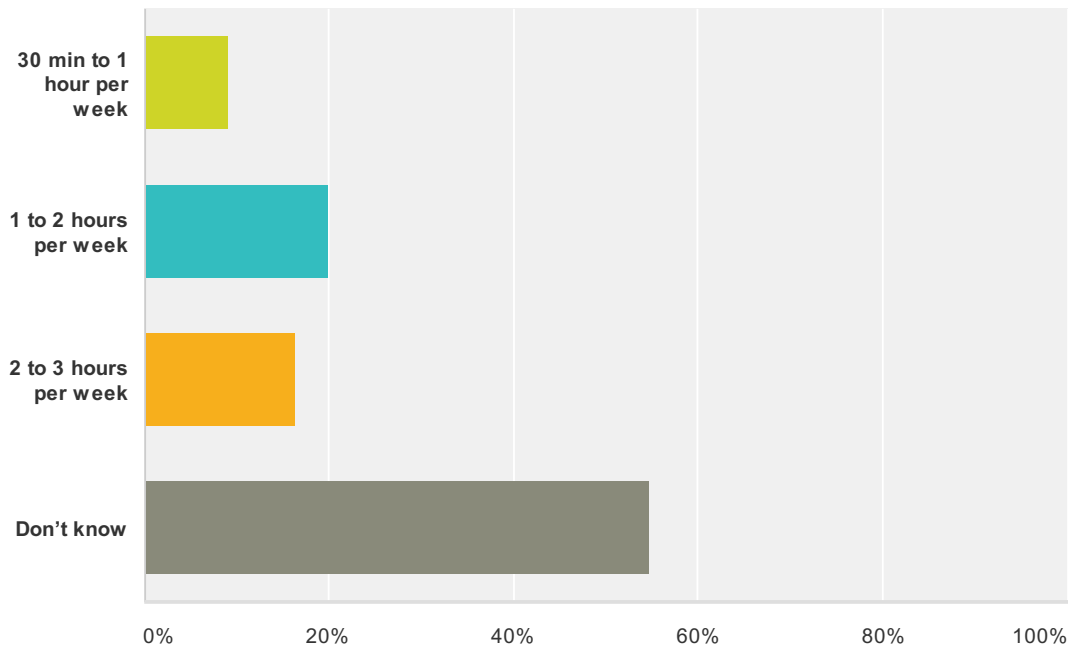
Answered: 428 Skipped: 105



Answer Choices	Responses
30 min to 1 hour per week	21.26% 91
1 to 2 hours per week	16.82% 72
2 to 3 hours per week	4.91% 21
Don't know	57.01% 244
<b>Total</b>	<b>428</b>

### Q43 In your school/district, about how much time per week do students in Grade 3, Grade 4 and Grade 5 spend doing science?

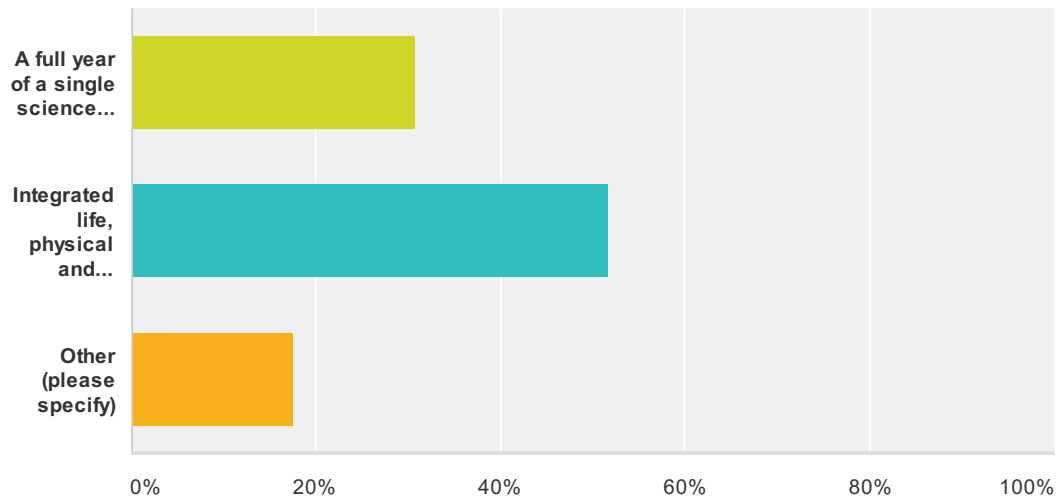
Answered: 428 Skipped: 105



Answer Choices	Responses
30 min to 1 hour per week	9.11% 39
1 to 2 hours per week	19.86% 85
2 to 3 hours per week	16.36% 70
Don't know	54.67% 234
<b>Total</b>	<b>428</b>

### Q44 For Grades 6-8, how does your school organize the science curriculum?

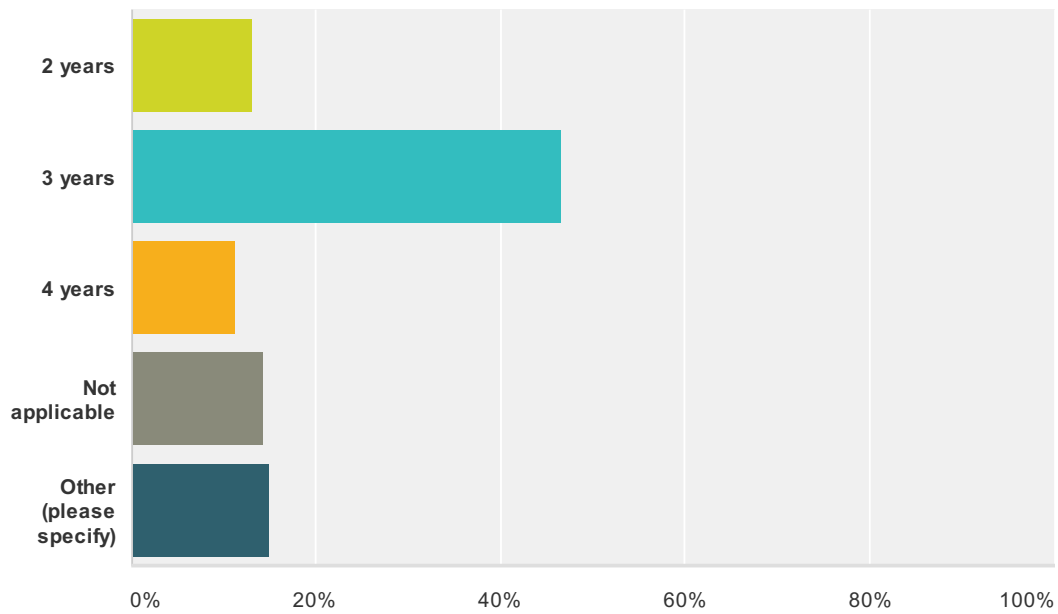
Answered: 428 Skipped: 105



Answer Choices	Responses
A full year of a single science discipline (e.g., full year of life science, full year of physical science, etc.)	30.84% 132
Integrated life, physical and earth/space science standards at each grade level	51.64% 221
Other (please specify)	17.52% 75
<b>Total</b>	<b>428</b>

### Q45 How many years of high school science does your district currently require for graduation?

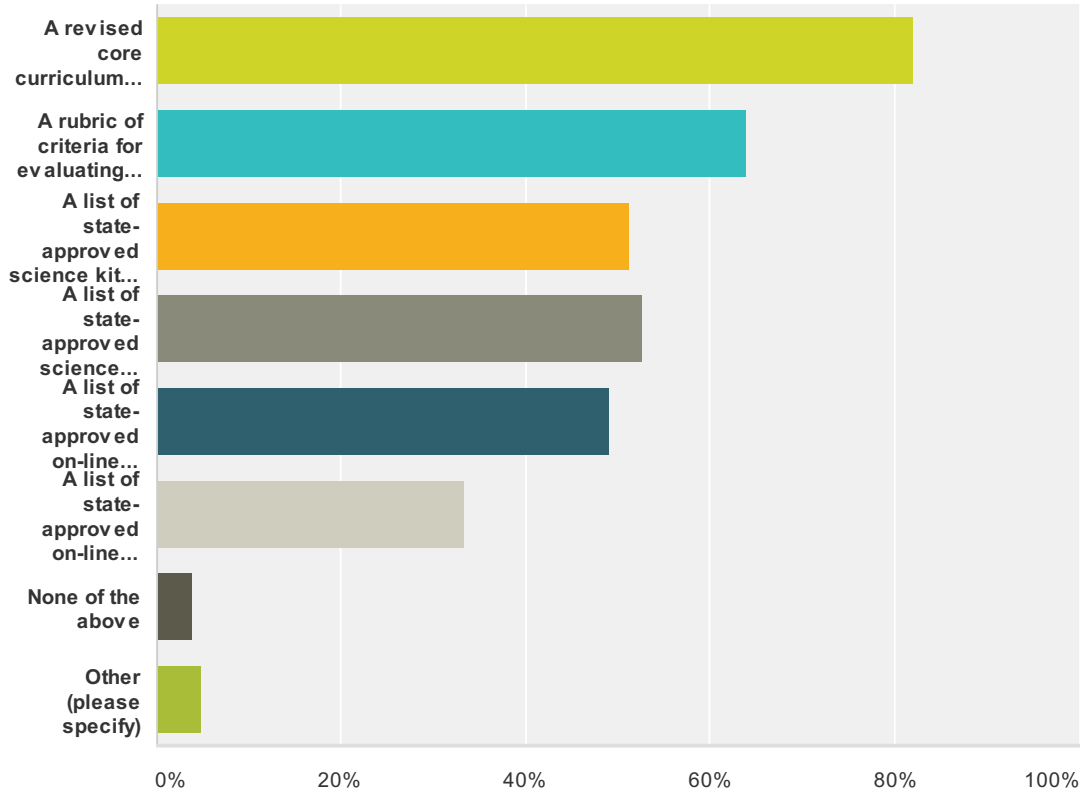
Answered: 428 Skipped: 105



Answer Choices	Responses	
2 years	13.08%	56
3 years	46.50%	199
4 years	11.21%	48
Not applicable	14.25%	61
Other (please specify)	14.95%	64
<b>Total</b>		<b>428</b>

**Q46 If Connecticut were to adopt NGSS science standards, which of the following would aid your district in selecting or adapting instructional materials aligned with NGSS standards and assessments? (check all that apply)**

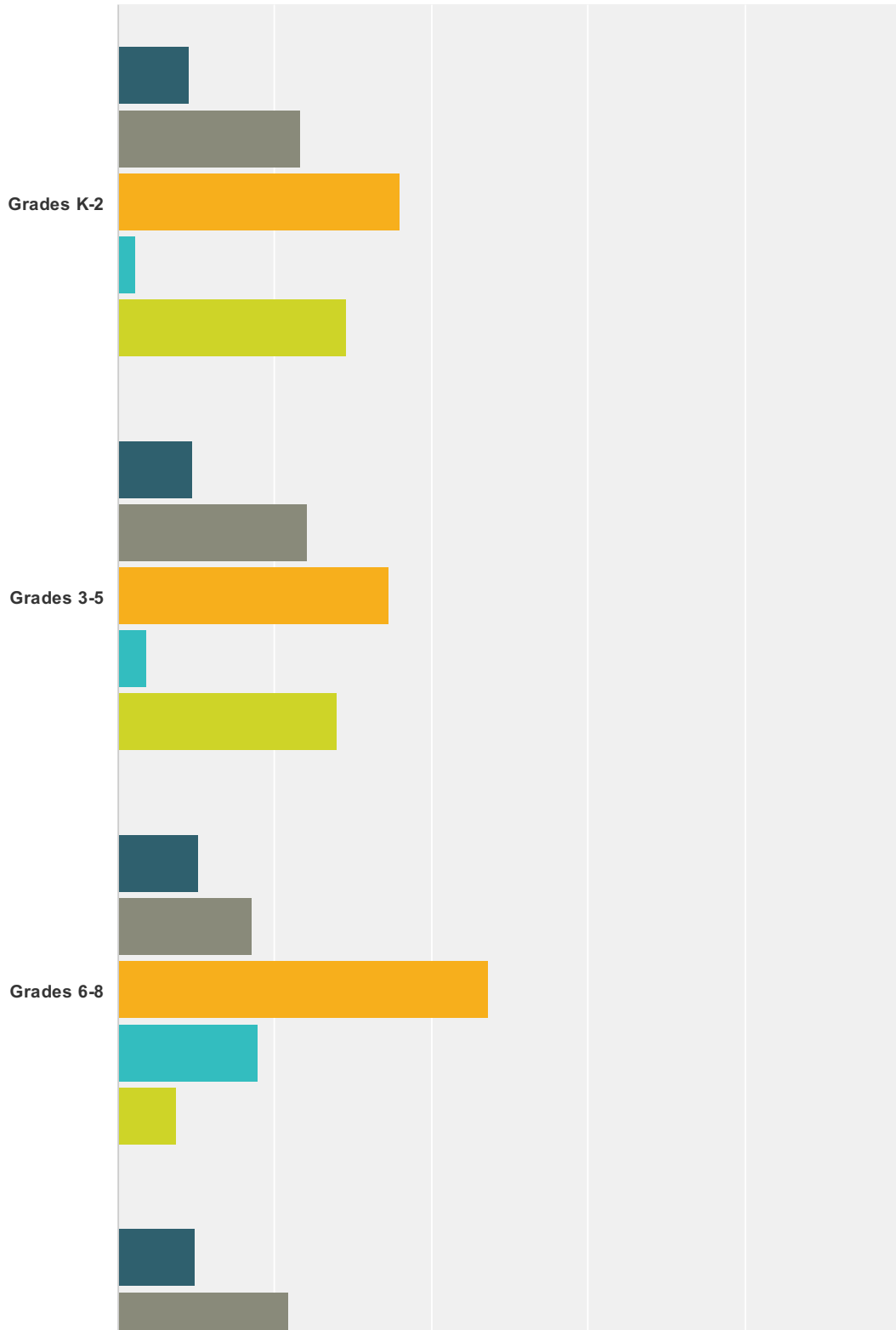
Answered: 428 Skipped: 105



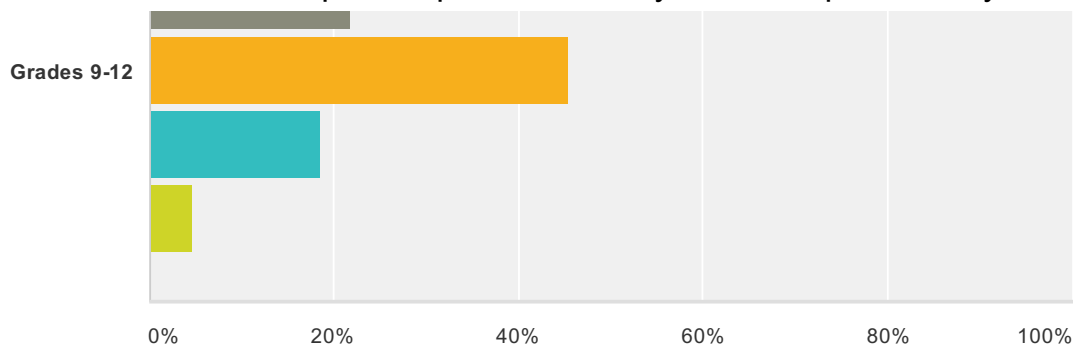
Answer Choices	Responses
A revised core curriculum framework and curriculum standards (similar to state science standards)	81.78% 350
A rubric of criteria for evaluating instructional materials' alignment with NGSS	63.79% 273
A list of state-approved science kit programs (e.g., STC, FOSS, Insights, etc.)	51.17% 219
A list of state-approved science textbooks or textbook programs	52.57% 225
A list of state-approved on-line student learning modules	49.07% 210
A list of state-approved on-line courses for students	33.41% 143
None of the above	3.97% 17
Other (please specify)	4.91% 21
<b>Total Respondents: 428</b>	

**Q47 NGSS adoption would introduce new concepts and Performance Expectations into the curriculum. How is your school/district likely to address the need for upgraded instructional materials in each grade band listed below? (check all that apply)**

Answered: 428 Skipped: 105



# CSDE NGSS Adoption Implications Study District Impact Survey

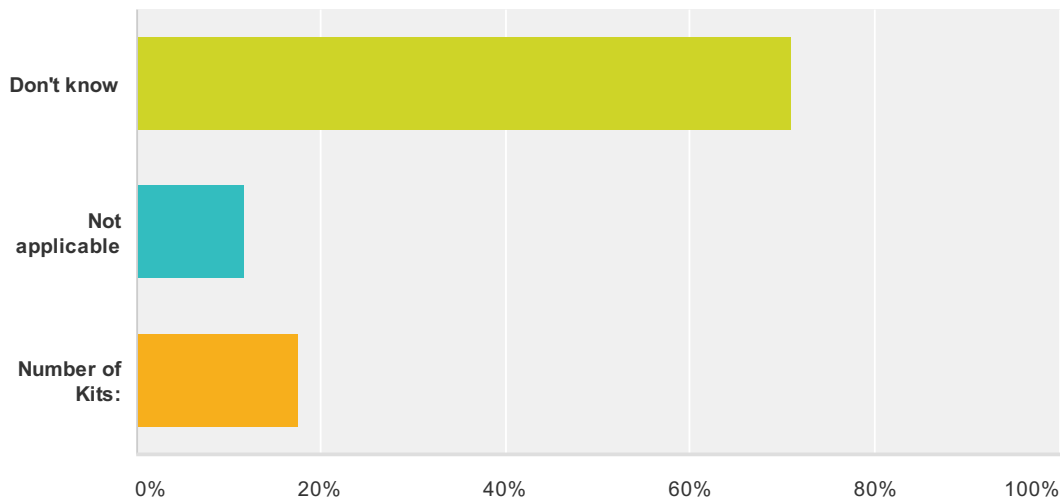


- Purchase new science kits (e.g., STC, FOSS, Insights, etc.)
- Purchase new textbooks or textbook upgrades
- Have teachers create/find new learning activities and unit plans
- Not applicable
- Other (specify below)

	Purchase new science kits (e.g., STC, FOSS, Insights, etc.)	Purchase new textbooks or textbook upgrades	Have teachers create/find new learning activities and unit plans	Not applicable	Other (specify below)	Total
Grades K-2	<b>29.21%</b> 125	<b>2.34%</b> 10	<b>35.98%</b> 154	<b>23.36%</b> 100	<b>9.11%</b> 39	428
Grades 3-5	<b>28.04%</b> 120	<b>3.74%</b> 16	<b>34.58%</b> 148	<b>24.07%</b> 103	<b>9.58%</b> 41	428
Grades 6-8	<b>7.48%</b> 32	<b>17.99%</b> 77	<b>47.20%</b> 202	<b>17.06%</b> 73	<b>10.28%</b> 44	428
Grades 9-12	<b>4.67%</b> 20	<b>18.46%</b> 79	<b>45.33%</b> 194	<b>21.73%</b> 93	<b>9.81%</b> 42	428

**Q48 In terms of instructional materials, if Connecticut were to adopt NGSS science standards, and one new topic were added to each K-5 grade level, about how many new science kits would your district need to purchase based upon the number of elementary classes?**

Answered: 428 Skipped: 105

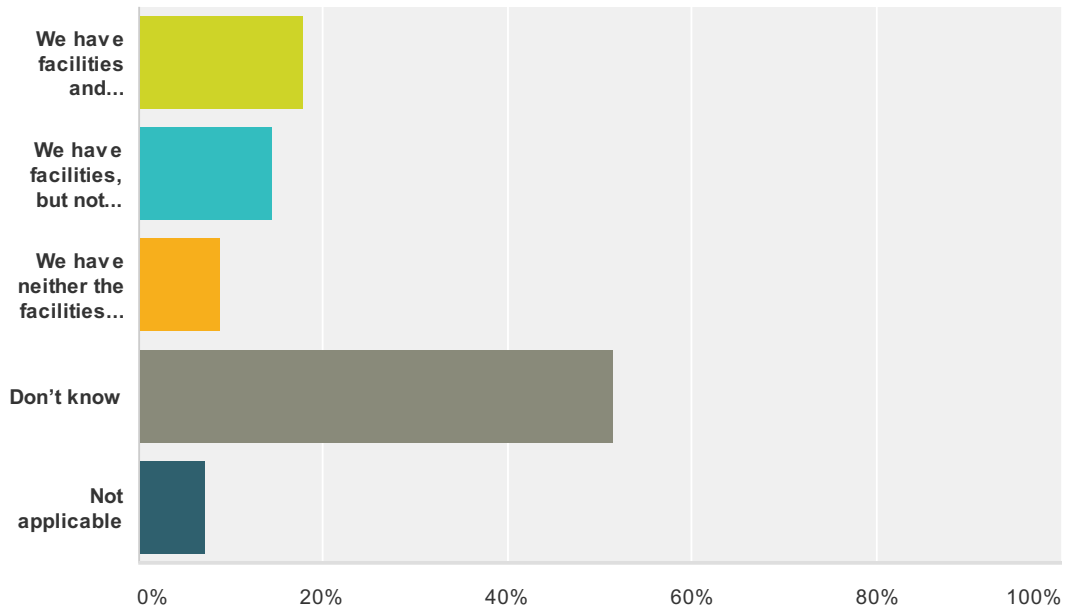


Answer Choices	Responses
Don't know	70.79% 303
Not applicable	11.68% 50
Number of Kits:	17.52% 75
<b>Total</b>	<b>428</b>



**Q49 In terms of facilities and equipment within your district/school, what capacity currently exists for \*K-2\* students to engage in Performance Expectations such as “Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light” (NGSS, 1-PS4-3)?**

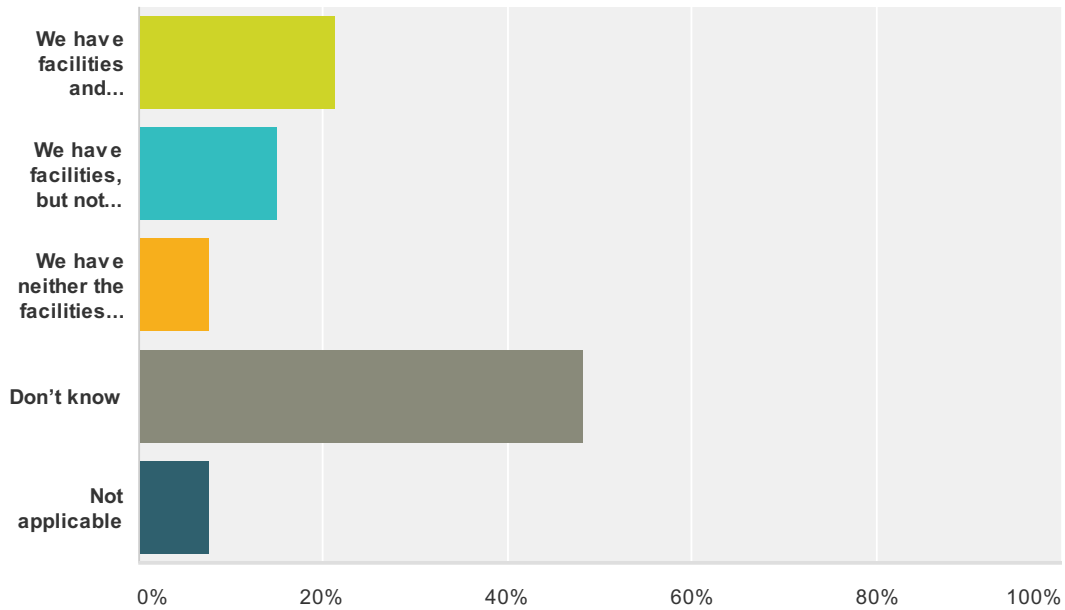
Answered: 428 Skipped: 105



Answer Choices	Responses
We have facilities and equipment needed to engage all K-2 students in investigations like the example	17.99% 77
We have facilities, but not equipment, needed to engage all K-2 students in investigations like the example	14.49% 62
We have neither the facilities nor the equipment needed to engage all K-2 students in investigations like the example	8.88% 38
Don't know	51.40% 220
Not applicable	7.24% 31
<b>Total</b>	<b>428</b>

**Q50 In terms of facilities and equipment within your district/school, what capacity currently exists for students in Gr. 3-5 to engage in Performance Expectations such as as “Conduct an investigation to determine whether the mixing of two or more substances results in new substances” (5-PS1-4)?**

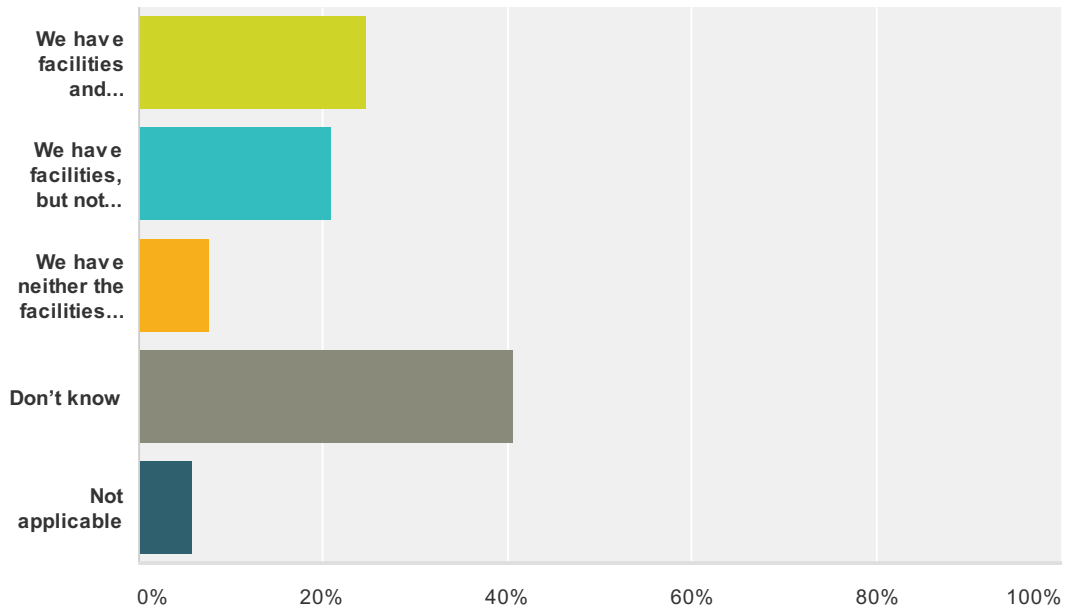
Answered: 428 Skipped: 105



Answer Choices	Responses
We have facilities and equipment needed to engage all Gr. 3-5 students in investigations like the example	21.26% 91
We have facilities, but not equipment, needed to engage all Gr. 3-5 students in investigations like the example	15.19% 65
We have neither the facilities nor the equipment needed to engage all Gr. 3-5 students in investigations like the example	7.71% 33
Don't know	48.13% 206
Not applicable	7.71% 33
<b>Total</b>	<b>428</b>

**Q51 In terms of facilities and equipment within your district/school, what capacity currently exists for students in Gr. 6-8 to engage in Performance Expectations such as “Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories” (MS-LS1-8)?**

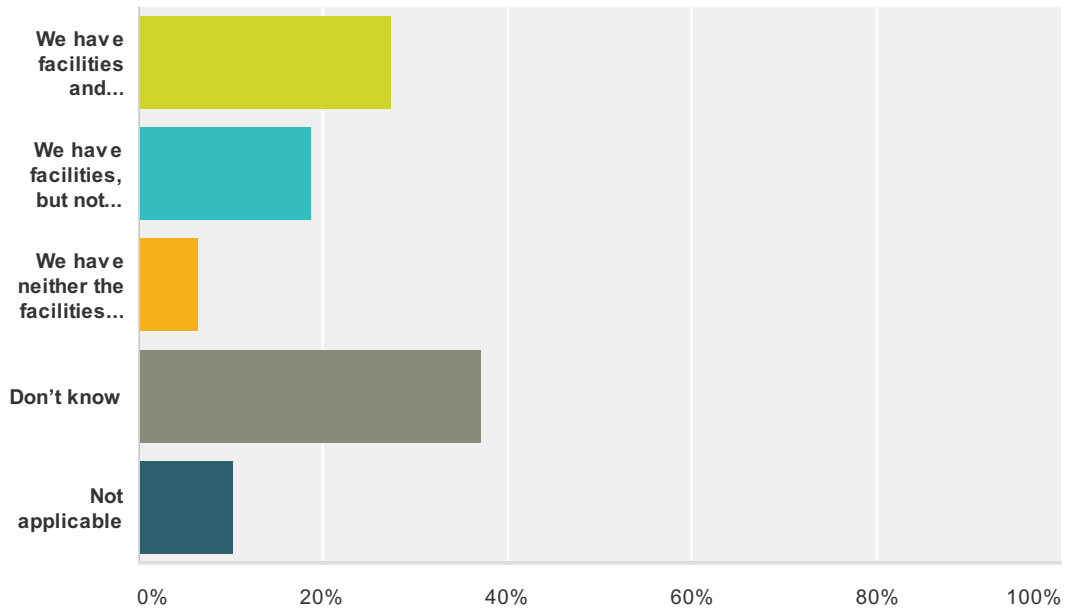
Answered: 428 Skipped: 105



Answer Choices	Responses
We have facilities and equipment needed to engage all Gr. 6-8 students in investigations like the example	24.77% 106
We have facilities, but not equipment, needed to engage all Gr. 6-8 students in investigations like the example	21.03% 90
We have neither the facilities nor the equipment needed to engage all Gr. 6-8 students in investigations like the example	7.71% 33
Don't know	40.65% 174
Not applicable	5.84% 25
<b>Total</b>	<b>428</b>

**Q52 In terms of facilities and equipment within your district/school, what capacity currently exists for students in Gr. 9-12 to engage in Performance Expectations such as “Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision” (HS-PS2-3)?**

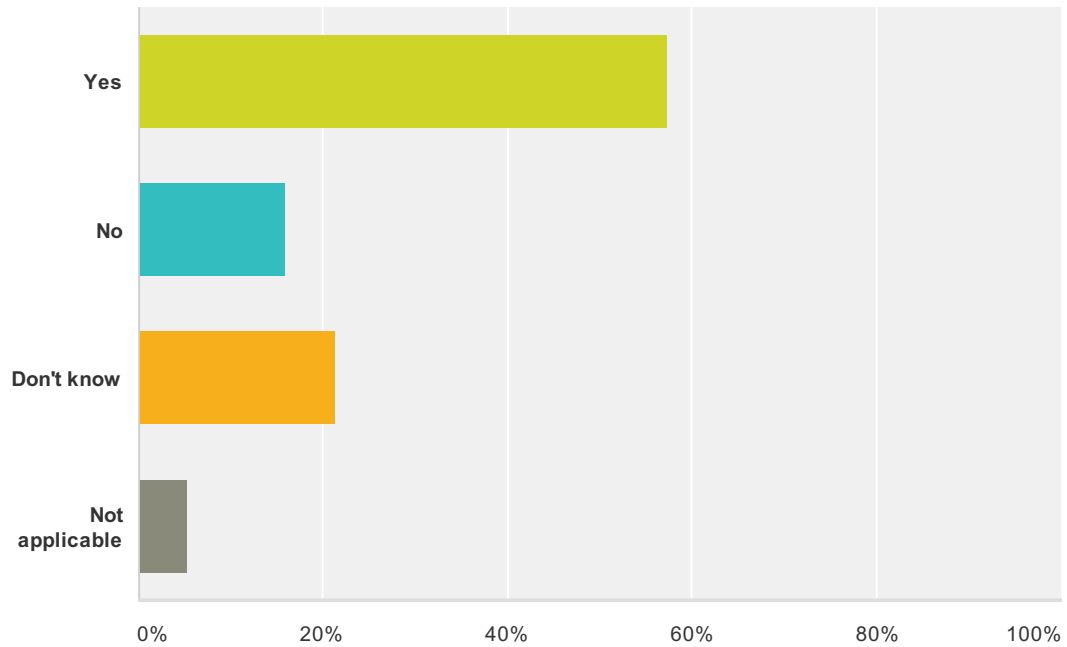
Answered: 428 Skipped: 105



Answer Choices	Responses
We have facilities and equipment needed to engage all Gr. 9-12 students in investigations like the example	27.34% 117
We have facilities, but not equipment, needed to engage all Gr. 9-12 students in investigations like the example	18.69% 80
We have neither the facilities nor the equipment needed to engage all Gr. 9-12 students in investigations like the example	6.54% 28
Don't know	37.15% 159
Not applicable	10.28% 44
<b>Total</b>	<b>428</b>

**Q53 If Connecticut were to adopt NGSS, do you believe that the Connecticut Department of Education should recommend the content and sequence of courses offered in Grades 6, 7 and 8?**

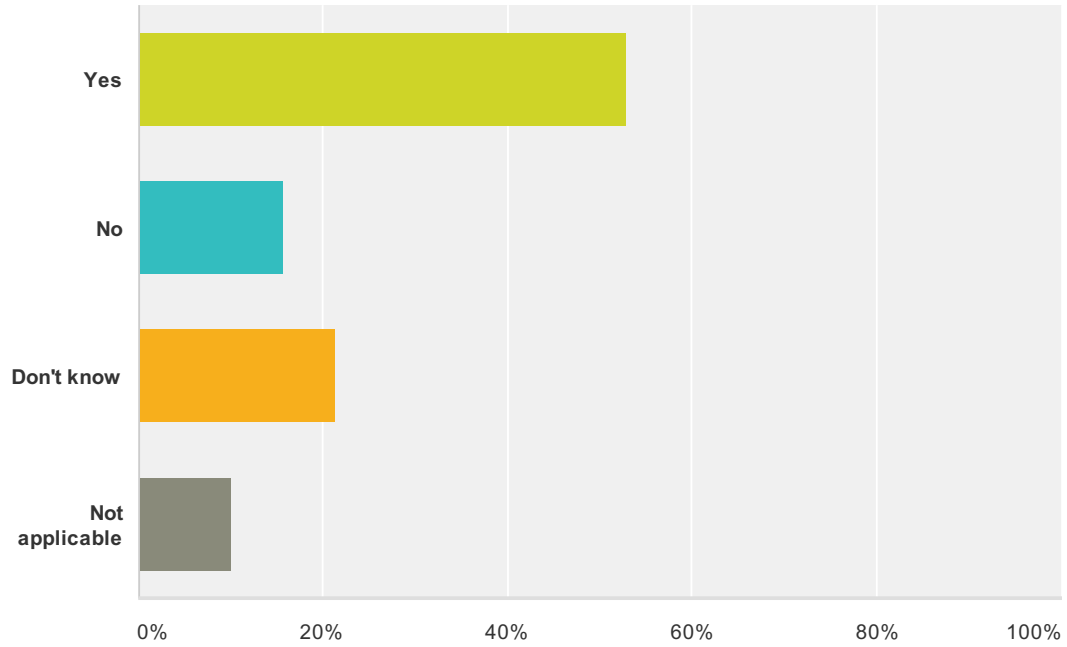
Answered: 426 Skipped: 107



Answer Choices	Responses	
Yes	57.28%	244
No	15.96%	68
Don't know	21.36%	91
Not applicable	5.40%	23
<b>Total</b>		<b>426</b>

**Q54 If Connecticut were to adopt NGSS, do you believe that the Connecticut Department of Education should recommend the content and sequence of courses offered in Grades 9, 10, and 11?**

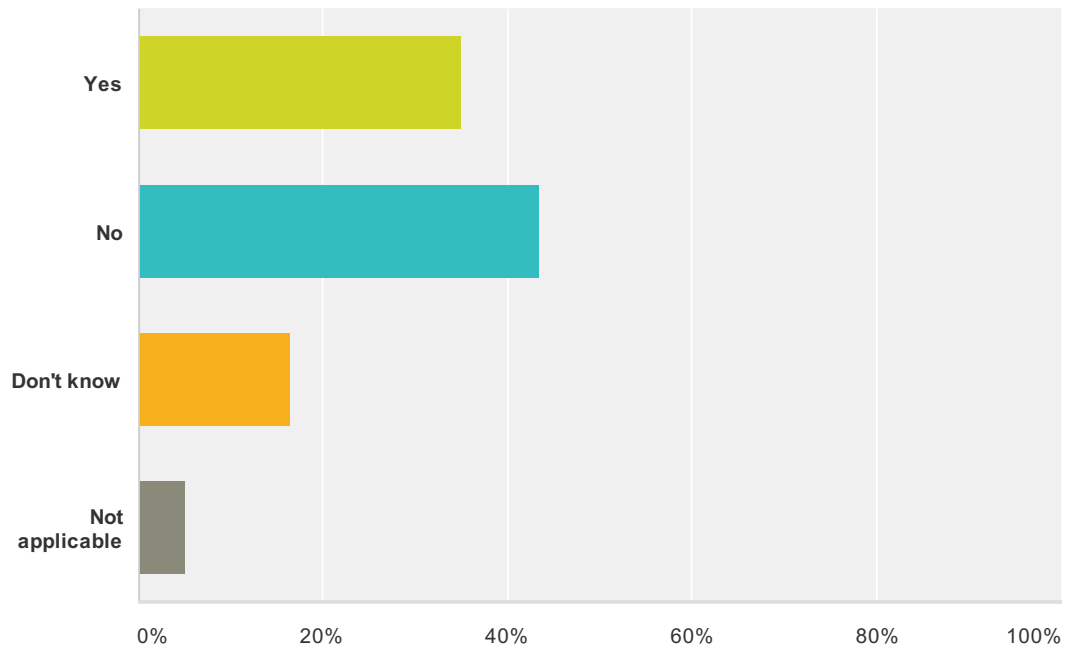
Answered: 426 Skipped: 107



Answer Choices	Responses	
Yes	52.82%	225
No	15.73%	67
Don't know	21.36%	91
Not applicable	10.09%	43
<b>Total</b>		<b>426</b>

**Q55 Would you prefer that decisions about \*middle\* school science course content and sequence be determined by each school district?**

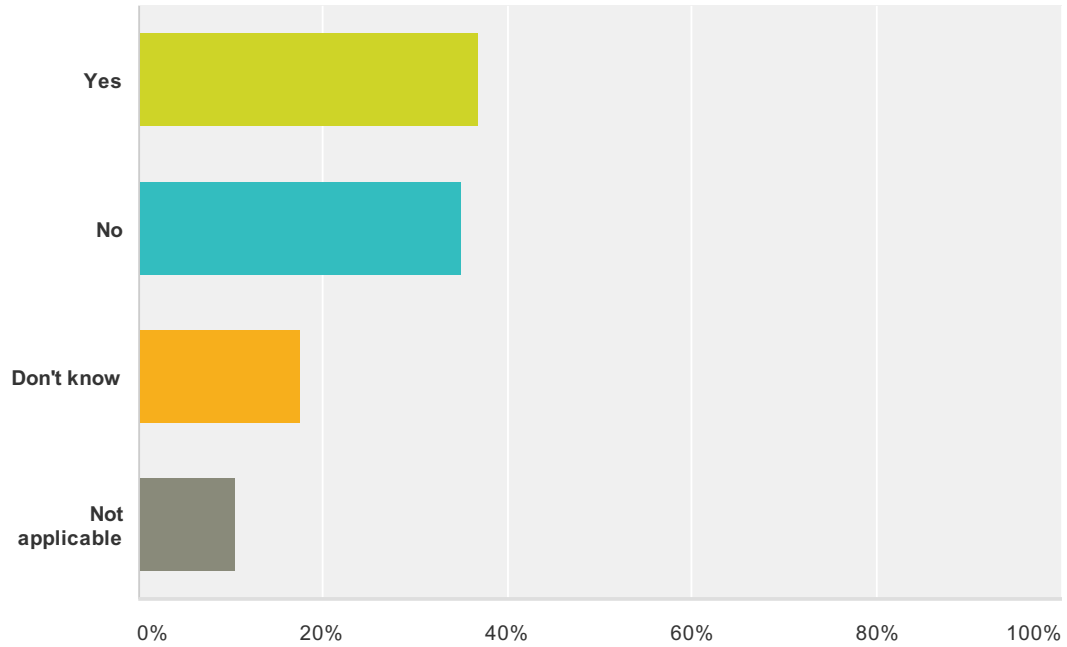
Answered: 426 Skipped: 107



Answer Choices	Responses	
Yes	34.98%	149
No	43.43%	185
Don't know	16.43%	70
Not applicable	5.16%	22
<b>Total</b>		<b>426</b>

**Q56 Would you prefer that decisions about \*high\* school science course content and sequence be determined by each school district?**

Answered: 426 Skipped: 107

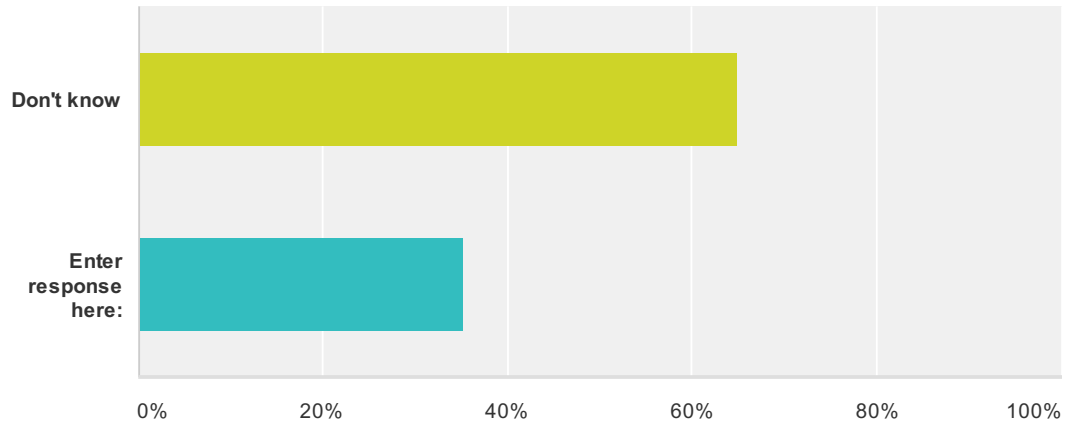


Answer Choices	Responses
Yes	36.85% 157
No	34.98% 149
Don't know	17.61% 75
Not applicable	10.56% 45
<b>Total</b>	<b>426</b>



**Q57 In Grades 9-12, the NGSS include more Earth/Space Science standards than current state science standards. What changes in \*teacher preparation\* requirements would be needed for teachers to facilitate learning effectively?**

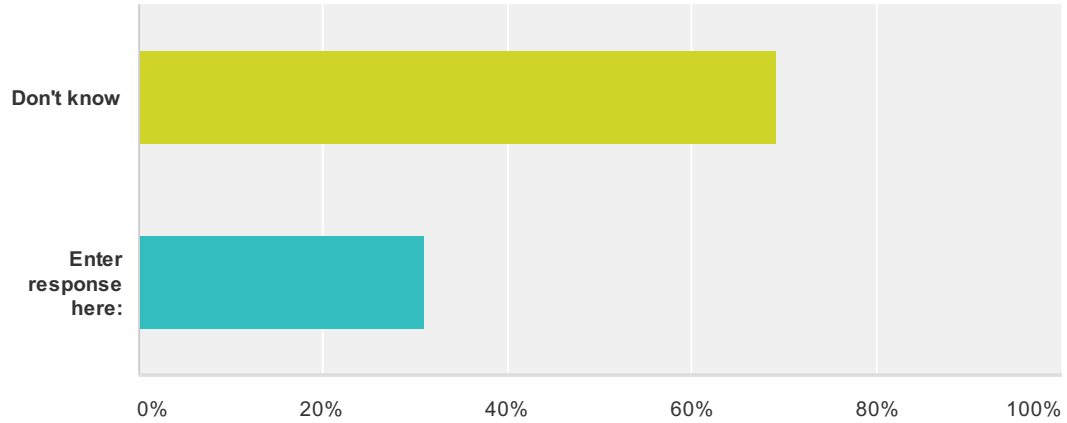
Answered: 416 Skipped: 117



Answer Choices	Responses	
Don't know	64.90%	270
Enter response here:	35.10%	146
<b>Total</b>		<b>416</b>

**Q58 In Grades 9-12, the NGSS include more Earth/Space Science standards than current state science standards. What changes in \*certification\* requirements would be needed for teachers to facilitate learning effectively?**

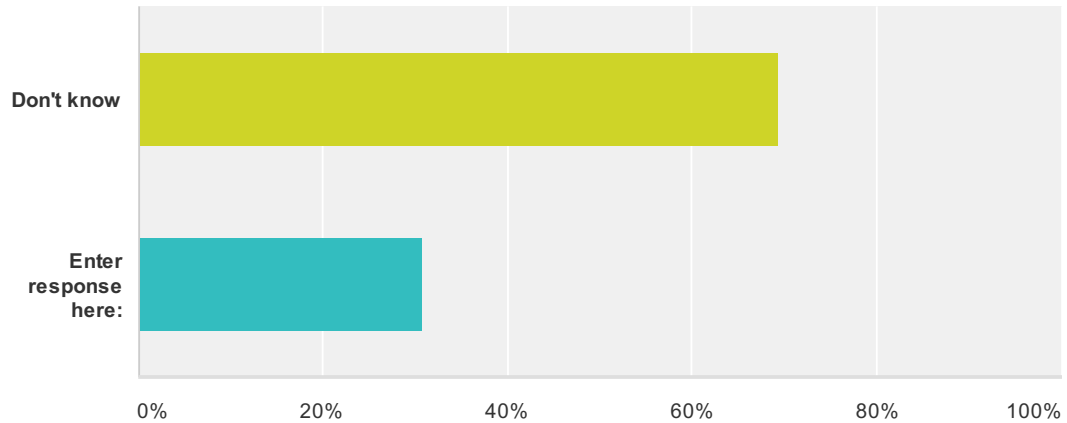
Answered: 416 Skipped: 117



Answer Choices	Responses
Don't know	68.99% 287
Enter response here:	31.01% 129
<b>Total</b>	<b>416</b>

**Q59 In Grades 9-12, the NGSS include more Physics standards than current state science standards. What changes in \*teacher preparation\* requirements would be needed for teachers to facilitate learning effectively?**

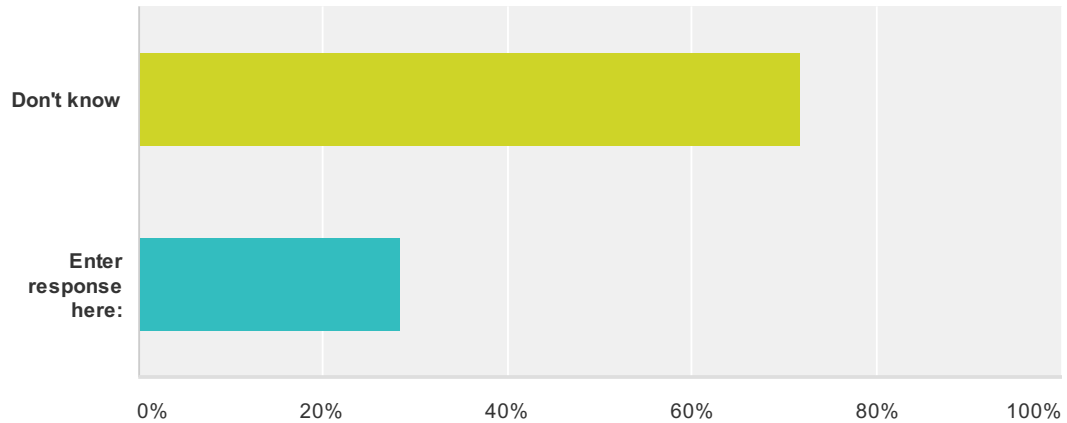
Answered: 416 Skipped: 117



Answer Choices	Responses	
Don't know	69.23%	288
Enter response here:	30.77%	128
<b>Total</b>		<b>416</b>

**Q60 In Grades 9-12, the NGSS include more Physics standards than current state science standards. What changes in \*certification\* requirements would be needed for teachers to facilitate learning effectively?**

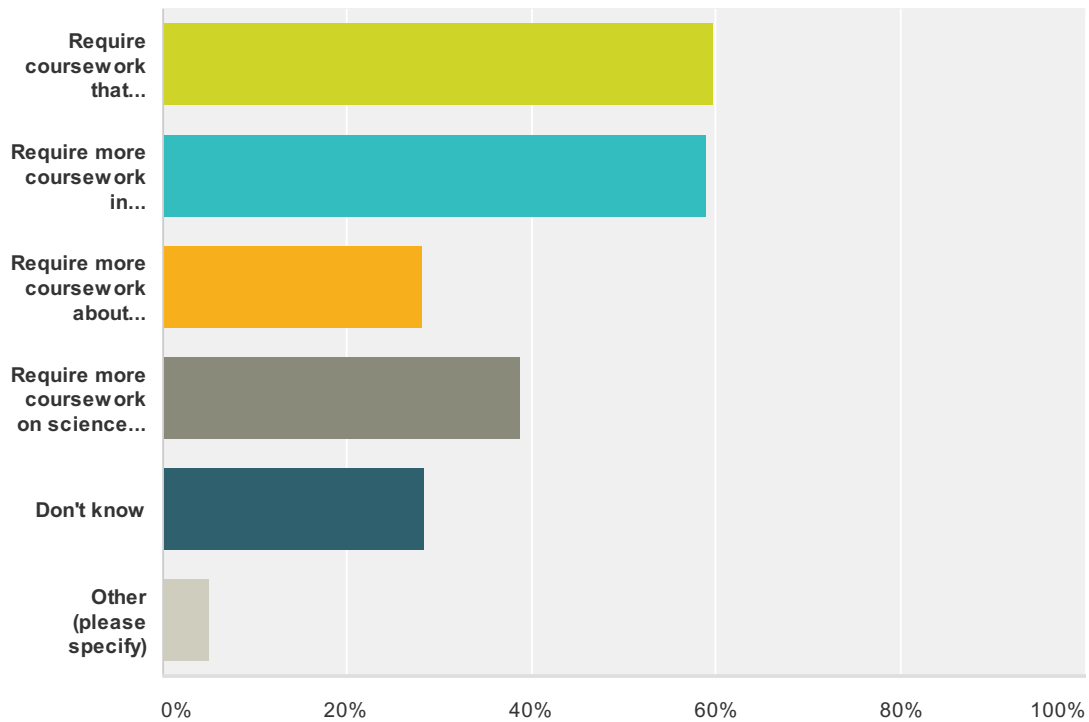
Answered: 416 Skipped: 117



Answer Choices	Responses	
Don't know	71.63%	298
Enter response here:	28.37%	118
<b>Total</b>		<b>416</b>

**Q61 What changes would be needed to \*elementary\* science education teacher preparation programs to prepare teachers to engage students in using NRC Science Framework science and engineering Practices to deepen understanding of specific Core ideas and Crosscutting Concepts? (select all that apply)**

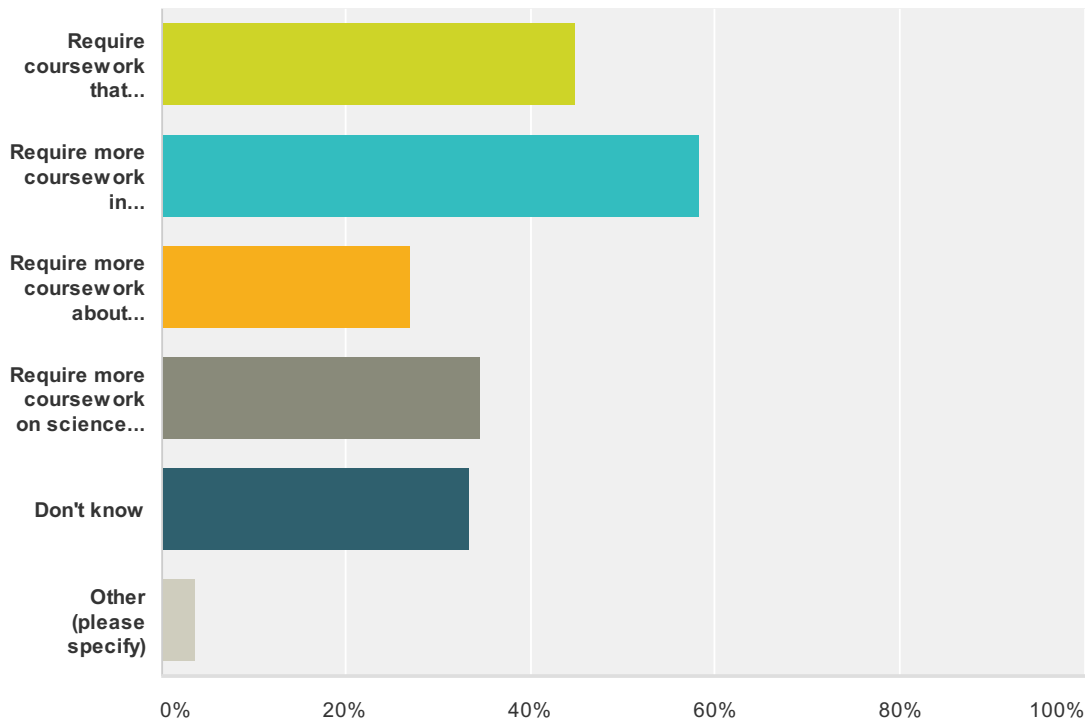
Answered: 416 Skipped: 117



Answer Choices	Responses	
Require coursework that combines science content with how students learn it	59.62%	248
Require more coursework in integration of science and engineering practices with core ideas	58.89%	245
Require more coursework about teaching science to diverse populations	28.13%	117
Require more coursework on science assessment and data interpretation	38.70%	161
Don't know	28.37%	118
Other (please specify)	5.05%	21
<b>Total Respondents: 416</b>		

**Q62 What changes would be needed to \*secondary\* science education teacher preparation programs to prepare teachers to engage students in using NRC Science Framework science and engineering Practices to deepen understanding of specific Core ideas and Crosscutting Concepts? (select all that apply)**

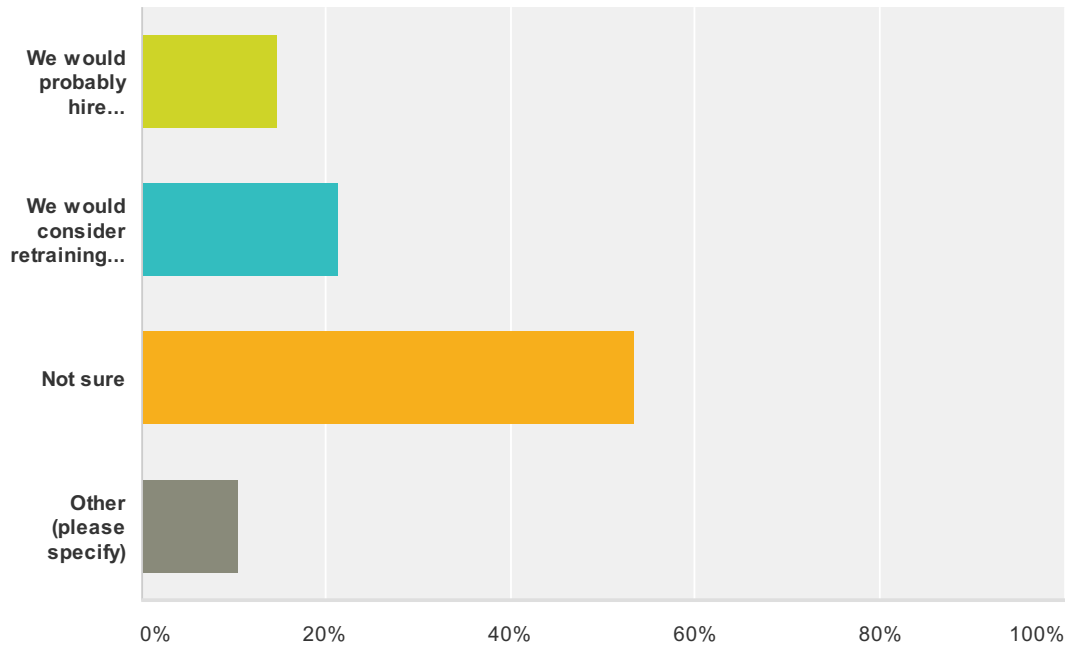
Answered: 416 Skipped: 117



Answer Choices	Responses	
Require coursework that combines science content with how students learn it	44.71%	186
Require more coursework in integration of science and engineering practices with core ideas	58.17%	242
Require more coursework about teaching science to diverse populations	26.92%	112
Require more coursework on science assessment and data interpretation	34.62%	144
Don't know	33.41%	139
Other (please specify)	3.61%	15
<b>Total Respondents: 416</b>		

**Q63 If State adoption of NGSS meant that all students would be required to take a high school Earth/Space Science course, how would this impact the staffing needs in your high school? (check all that apply)**

Answered: 416 Skipped: 117



Answer Choices	Responses	
We would probably hire additional teachers certified in Earth Science.	14.66%	61
We would consider retraining current staff to qualify them to teach NGSS Earth Science.	21.39%	89
Not sure	53.37%	222
Other (please specify)	10.58%	44
<b>Total</b>		<b>416</b>

**Q64 If \*middle school\* science courses were to follow an approach that integrates concepts from more than one science domain, what changes would you recommend to the requirements for science teacher certification?**

Answered: 416 Skipped: 117



**Q65 If \*high school\* science courses were to follow an approach that integrates concepts from more than one science domain, what changes would you recommend to the requirements for science teacher certification?**

Answered: 416 Skipped: 117

**Q66 In what ways might adopting the NGSS be beneficial to the teaching and learning of K-12 science in Connecticut?**

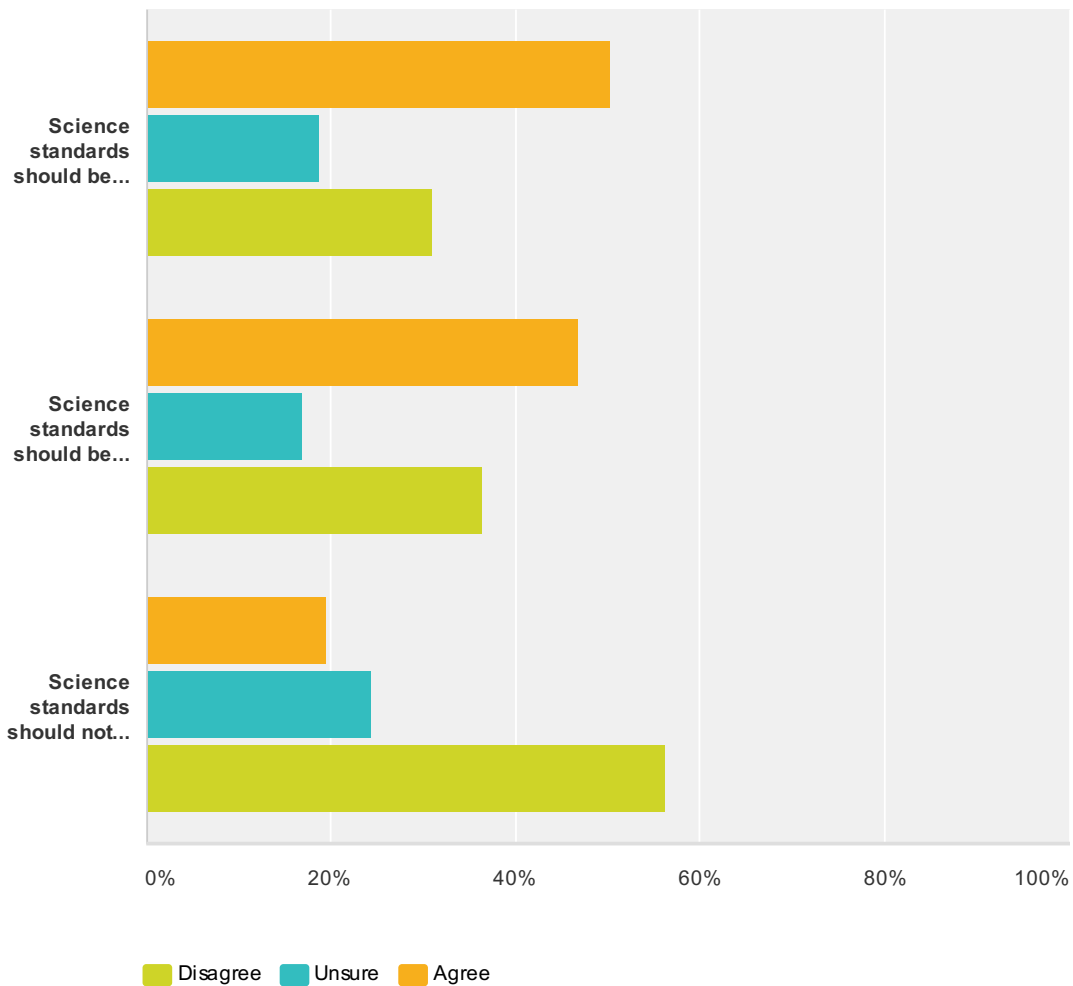
Answered: 404 Skipped: 129

**Q67 List major challenges that your district might face in transitioning to new science curriculum and instructional approaches aligned with NRC Framework and NGSS"**

Answered: 404 Skipped: 129

**Q68 Rate your agreement with the following statements about frequency and scope of state science assessments:**

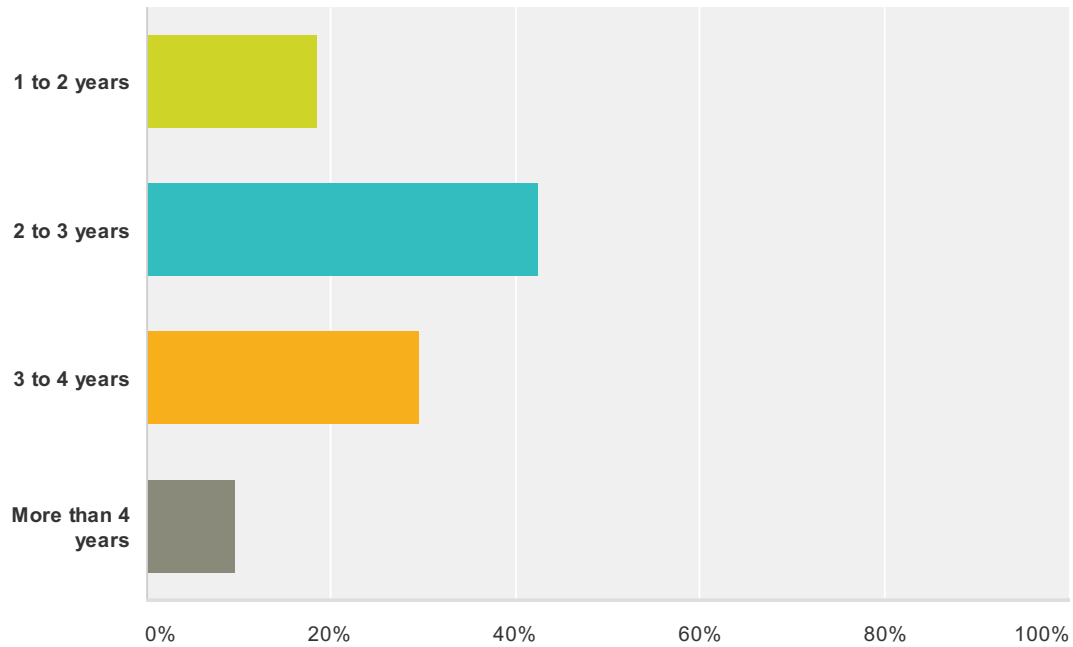
Answered: 404 Skipped: 129



	Disagree	Unsure	Agree	Total
Science standards should be assessed at the end of every grade, beginning in Gr. 3	30.94% 125	18.81% 76	50.25% 203	404
Science standards should be assessed cumulatively at the end of each grade band (K-5, 6-8 and 9-11)	36.39% 147	16.83% 68	46.78% 189	404
Science standards should not be assessed by the state	56.19% 227	24.26% 98	19.55% 79	404

**Q69 How much time do you think is needed for your school/district to focus on curriculum and instructional improvements prior to the administration of new state assessments based on NGSS?**

Answered: 404 Skipped: 129



Answer Choices	Responses
1 to 2 years	18.56% 75
2 to 3 years	42.33% 171
3 to 4 years	29.46% 119
More than 4 years	9.65% 39
<b>Total</b>	<b>404</b>