

Speak Up 2015  
State Data  
Science Teachers

State: IN

Results based on 363 survey(s).

*Note: Survey responses are based upon the number of individuals that responded to the specific question.*

**1 What is your primary job assignment this year?**

Response	# of Responses	% of Responses	National %
Classroom Teacher	346	96%	91%
Department Head/Chair	9	2%	3%
Instructional Coach	1	0%	1%
Curriculum Specialist	0	0%	1%
Special Education Teacher	0	0%	1%
Other	5	1%	2%

**2 What grade(s) do you primarily teach?**

Response	# of Responses	% of Responses	National %
Preschool	0	0%	0%
Kindergarten - Grade 1 - Grade 2	3	1%	0%
Grade 3 - Grade 4 - Grade 5	2	1%	8%
Grade 6 - Grade 7 - Grade 8	140	39%	38%
Grade 9 - Grade 10 - Grade 11 - Grade 12	210	58%	52%
Ungraded	0	0%	0%
All grades	4	1%	2%

**3 What are your primary subjects you are teaching this year?**

Response	# of Responses	% of Responses	National %
Physical Science	150	42%	47%
Earth and Space Science	75	21%	26%
Life Science	177	49%	48%
Engineering, Technology, and Application of Science	30	8%	11%
General Science	101	28%	24%
Integrated Science	36	10%	9%

**4 How would you rate your technology skills?**

Response	# of Responses	% of Responses	National %
Advanced - My skills are more advanced than most adults I know	155	43%	44%
Average - My skills are similar to those of the adults I know	190	53%	54%
Beginner - I'm just learning to use technology tools	14	4%	2%

**5 Which of these mobile devices do you have for your own use? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Cell phone without Internet	42	12%	11%
Smartphone with Internet (e.g. iPhone, Samsung Galaxy)	314	87%	89%
Laptop	307	85%	87%
2-in-1 laptop (a laptop that can turn into a tablet)	33	9%	16%
Web-based laptop (e.g. Chromebook)	57	16%	13%

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Tablet (e.g. iPad)	242	67%	65%
Digital reader (e.g. Kindle, Nook)	111	31%	31%
Smartwatch (e.g. Apple watch, Android Wear)	18	5%	5%

**6 Which of these best represents your classroom format this school year?**

Response	# of Responses	% of Responses	National %
Traditional class - the teacher provides instruction to a class of students in a physical classroom on a regular schedule	227	67%	72%
Blended learning class - a formalized structure where the teacher provides instruction part of the time in a physical classroom with a class of students, and part of the time the students follow an online curriculum at their own pace at home or at a school	91	27%	19%
Flipped class – the teacher assigns online videos of lessons, labs, and lectures for students to watch as homework, and then the in-school class period is used for doing projects, in-depth discussions, remediation, and individualized schoolwork help	6	2%	4%
Virtual class – the teacher provides instruction to students who are all online	0	0%	1%
Other	13	4%	5%

**7 Which of these activities do you do regularly using technology for professional tasks? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Create investigations for my students using digital tools or scientific instrumentation	197	59%	59%
Create videos of my lectures or lessons for students to watch	60	18%	18%
Customize digital content I find online to meet my class needs	223	67%	64%
Engage in online professional communities (e.g. ISTE, ITEEA, NSTA, NCTE)	126	38%	35%
Facilitate student collaborative projects using online tools	168	51%	50%
Learn how to do something from an online video	251	76%	71%
Maintain a class blog or class discussion board	50	15%	17%
Poll students in class using mobile devices or clickers	96	29%	31%
Post class information to a school portal	219	66%	59%
Read articles and books on a digital reader or tablet	154	46%	46%
Text with colleagues	181	54%	60%
Text with parents of students	94	28%	35%
Text with students	64	19%	23%
Update my social networking profile (e.g. Facebook, LinkedIn)	104	31%	29%
Use an education oriented social networking site with my students (e.g. Edmodo)	86	26%	27%
Use an online curriculum with my students	92	28%	30%
Use digital games and quizzes for formative assessment	202	61%	54%
Use Google Apps for Education	177	53%	49%
Use mobile apps for professional tasks	113	34%	33%

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8 Use Twitter as an informal professional development tool 66 20% 14%

**8 Thinking about your instructional practice today, how are you most likely to use digital tools, content, or resources to facilitate student learning? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Create cues, questions, or advanced organizers	215	65%	62%
Create physical models or use images to represent knowledge	191	58%	61%
Create tools or structures for comparing, classifying, and ordering information	173	52%	52%
Encourage student self-monitoring of learning	209	63%	62%
Examine student performance trends to enhance instructional plans and differentiate instruction	187	57%	56%
Facilitate interaction and collaboration between students, and between students and experts on authentic real world problems	120	36%	38%
Implement practice and remediation learning experiences such as with homework	166	50%	47%
Note taking and synthesis of information	204	62%	58%
Provide feedback to students	201	61%	60%
Set student objectives	124	38%	37%
Support student creation of media and content	137	41%	42%
Track relationship between effort and achievement	77	23%	23%
Other	9	3%	2%

**9 How important is the effective implementation of instructional technology to students' success?**

Response	# of Responses	% of Responses	National %
Not Important	11	3%	2%
Somewhat Important	57	17%	17%
Important	152	46%	42%
Extremely Important	107	32%	38%
No Opinion	4	1%	1%

**10 What challenges do you face teaching science today? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Difficult to find high-quality digital resources to support instruction	125	38%	38%
District policies that limit what I can teach	35	11%	14%
Insufficient class time to cover subjects in depth	172	53%	59%
Insufficient time for lab preparation or implementation	197	60%	61%
Internet access is too slow or unreliable in my classroom	123	38%	38%
Lack of administrative support	22	7%	9%
Lack of cohesive science curriculum plan	41	13%	16%
Lack of funding for lab or class materials	147	45%	49%
Lack of parental interest in science	72	22%	21%
Lack of student interest in science	119	36%	28%
Lack of technology support	74	23%	29%

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Need professional development on how to integrate digital tools and resources into my curriculum	117	36%	33%
Need professional development on how to use scientific instrumentation or devices	67	20%	22%
Not all students and families have computer and Internet access at home	219	67%	67%
Not enough computers for students to use at school	117	36%	47%
Pressure to conform to prescribed curriculum or standards	92	28%	29%
School filters or firewalls block websites I need	104	32%	33%
Students lack foundational knowledge in science concepts	181	55%	49%

**11 Are you teaching in a class where your students have access to at least one mobile device (e.g. tablet, laptop, Chromebook) to use regularly within instruction? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Yes, most students are using their own devices or we have devices for students who don't have them	45	14%	24%
Yes, our school assigns devices to students for their use at school	41	13%	12%
Yes, our school assigns devices to students to use at school and at home	130	40%	18%
Yes, I can check out devices to use in my class as needed	45	14%	28%
No, my students do not regularly have access to mobile devices in my classroom	102	32%	33%

**12 What types of digital content are you currently using in your classroom? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Augmented or virtual reality environments	46	14%	12%
Animations	197	61%	59%
Digital content subscription (e.g. Discovery Education)	77	24%	39%
Game-based environments and online apps	127	39%	36%
Google Apps for Education	155	48%	44%
Online curriculum	92	29%	30%
Online databases (e.g. census data, education statistics)	55	17%	19%
Online e-book or periodical subscriptions	23	7%	12%
Online textbooks	121	38%	39%
Presentation tools (PowerPoint, Prezi)	276	86%	82%
Real-time data (e.g. population, weather, NASA, Google Earth, GIS etc.)	109	34%	36%
Remote labs (e.g. ilabcentral.org)	29	9%	8%
Simulations	188	58%	56%
Software/apps to help students develop skills (e.g. reading, writing, math, foreign language)	38	12%	13%
Teaching aids such as lesson plans, interventions, assessment software	105	33%	38%
Tutorials	108	34%	31%
Videos that I create myself	42	13%	14%

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Videos that I find online as needed (e.g. Kahn Academy, YouTube, NASA)	265	82%	80%
Virtual field trips	29	9%	14%
Virtual labs	146	45%	44%
Other	18	6%	4%

**13 Which of these factors would you consider most important when evaluating the quality of digital content to use within instruction? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Adjusts to multiple reading levels	156	49%	54%
Compiled on a list by our State Department of Education or Ministry of Education	35	11%	10%
Content was evaluated by a librarian or media specialist	10	3%	7%
Content was highly ranked on Google search	33	10%	11%
Includes embedded online assessments	122	38%	40%
Includes professional development	87	27%	26%
Integration into district learning management system or student information system	78	24%	18%
Materials are created by practicing teachers	171	54%	55%
Mobile app version of the content	56	18%	19%
Multiple language versions available	38	12%	18%
No commercial advertisements within the content	138	43%	49%
Recommended by education membership associations and organizations	94	29%	29%
Recommended on education blogs and websites	68	21%	21%
Referred by a colleague	143	45%	45%
Research-based	170	53%	52%
Source is a content expert organization (e.g. National Science Foundation, universities)	156	49%	45%
Source is an online curriculum company or organization	32	10%	9%
Student achievement with the materials	132	41%	38%
Teacher evaluation of the materials	131	41%	40%
Teachers can modify it to meet classroom needs	255	80%	75%
Textbook publisher recommendations	19	6%	7%
User experience	85	27%	27%
Other	8	2%	2%

**14 What digital tools or instrumentation do you use regularly in your classroom to advance inquiry-based learning?**

Response	# of Responses	% of Responses	National %
Bioimaging equipment	8	3%	3%
Data loggers that display real time data	75	33%	27%
Digital microscopes	23	10%	12%
Digital probes or sensors to collect data	79	35%	34%
Electronic microscopes	44	19%	19%
Electronic scales	145	64%	56%

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Electronic weather stations	13	6%	7%
GPS products	17	7%	9%
Graphing calculators	48	21%	30%
Robotics	13	6%	8%
Remote lab equipment (e.g. shake tables, telescopes)	17	7%	10%
Software to analyze and present data	83	36%	35%
Other	20	9%	9%

**15 What would you need to more efficiently and effectively integrate digital content, tools, and resources into daily instruction in your classroom? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Classroom set of laptops, tablets, or Chromebooks for student use	149	47%	60%
Confidence that my students have access to consistent and safe Internet outside of school	183	58%	51%
Curated set of resources organized by grade level and content area	81	26%	27%
Funds to support the purchase or license of digital resources or apps	163	52%	53%
In school coaching on how to find and use high quality digital resources	135	43%	35%
Information about classroom management strategies using digital resources	101	32%	25%
Internet access that is consistent, reliable, and can support high bandwidth digital resources	147	47%	46%
List of recommended resources approved by my district	48	15%	23%
Online tools that help me organize and keep track of digital resources I am using	88	28%	27%
Planning time to work with my colleagues	214	68%	63%
Professional development	166	53%	49%
Rubrics to help evaluate quality and appropriateness of digital resources	53	17%	22%
Teacher evaluations of how certain digital resources performed in their classroom	71	23%	26%
Technology support available when I need it	137	44%	42%
Training for my students on online safety and digital citizenship	109	35%	26%
Virtual coaching and mentoring in high impact lesson development for deeper learning	51	16%	16%
Other	14	4%	4%

**16 Which of these student learning experiences are most effective in improving students' engagement and achievement in science? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Conducting real research on topics that students are interested in	236	76%	74%
Creating presentations of scientific findings	145	47%	47%

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Having access to an online science tutor	55	18%	20%
Having experts visit classrooms to speak with students	106	34%	39%
Learning from a teacher who is excited about science	262	84%	81%
Learning from a teacher who is well trained in science	219	71%	71%
Learning from a teacher who has worked in a scientific field before becoming a teacher	62	20%	23%
Learning from other students who are excited about science	167	54%	54%
Participating in science competitions	55	18%	26%
Playing digital or online games about science topics	120	39%	40%
Reading the science textbook	57	18%	19%
Taking an online class in science	7	2%	7%
Taking field trips to places where science happens	197	64%	64%
Through interdisciplinary projects that combine science, history, art, etc.	118	38%	38%
Using a class blog or discussion board to share ideas with classmates	34	11%	12%
Using lab tools and devices to conduct scientific investigations and experiments	213	69%	65%
Using mobile devices in class to look up information as needed	117	38%	41%
Using online databases to do research projects	62	20%	25%
Watching animations, videos, or movies about science topics	206	66%	67%
Working with online simulations that demonstrate science concepts	193	62%	61%
Working with other students on science projects	173	56%	50%
Other	5	2%	2%

**17 How likely is it that you will implement the new Next Generation Science Standards in your classroom this school year?**

Response	# of Responses	% of Responses	National %
Very unlikely	53	17%	16%
Somewhat unlikely	42	14%	9%
Neither likely nor unlikely	96	31%	19%
Somewhat likely	69	22%	20%
Very likely	28	9%	16%
Already doing this	21	7%	19%

**18 Imagine you are designing a dream school for today's students. Which of these tools or strategies do you think holds the greatest potential for increasing student achievement and success? (Check all that apply)**

Response	# of Responses	% of Responses	National %
3D printers	94	31%	34%
Chromebook for every student	128	42%	45%
Cloud based productivity tools (e.g. Google Apps for Education)	157	51%	48%
Digital reader (e.g. Kindle, Nook)	23	7%	13%
Google hangouts or other online group messaging in class	58	19%	19%
Interactive whiteboards	143	47%	46%

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Internet access anywhere at school	211	69%	68%
Laptop for every student	171	56%	60%
Learning management systems (e.g. Blackboard)	125	41%	34%
Mobile apps for learning	116	38%	40%
Mobile device accessories (e.g. attachable keyboards, covers)	58	19%	18%
Online or digital educational games	132	43%	42%
Online or virtual classes	80	26%	31%
Online tests and assessments	158	52%	51%
Online textbooks	160	52%	53%
Online tools that help organize schoolwork and provide access to important information (e.g. take notes, organize, and view assignments)	138	45%	46%
Online tutors	85	28%	31%
Online videos and movies	170	56%	54%
School mobile app	62	20%	21%
Social media tools for students to connect and work with others (e.g. blogs, wikis, social networking sites)	64	21%	21%
Subscriptions to digital content such as databases, e-books, journals, and online resources	96	31%	32%
Tablet for every student	65	21%	29%
Text messaging	25	8%	13%
Tools to help students create media projects (e.g. video, audio)	143	47%	44%
Other	18	6%	5%

**19 As a result of integrating technology within my instruction, my students are... (Check all that apply)**

Response	# of Responses	% of Responses	National %
Applying knowledge to practical problems	139	48%	52%
Better able to understand abstract concepts	135	47%	53%
Collaborating with other students more	155	54%	55%
Communicating with me more often	143	50%	46%
Creating models and testing their assumptions	55	19%	24%
Demonstrating higher proficiency on standardized tests	40	14%	19%
Developing creativity skills	124	43%	46%
Developing critical thinking and problem solving skills	138	48%	52%
Gaining a better understanding of the class material	163	57%	58%
Learning that failure is an opportunity to learn	93	32%	35%
Learning in a way that fits their individual learning styles	116	40%	43%
More deeply exploring their ideas	83	29%	34%
More likely to complete homework assignments	86	30%	28%
More motivated to learn	118	41%	46%
Participating more in discussions or group activities	71	25%	31%
Spending more time mastering a skill or learning something	55	19%	23%
Taking ownership for their learning	107	37%	41%
Using time at home for extended learning	60	21%	25%

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**20 As a result of how I have integrated technology within my instruction, I am now... (Check all that apply)**

Response	# of Responses	% of Responses	National %
Able to give my students more personalized attention	103	35%	35%
Better able to differentiate instruction	140	48%	54%
Better organized	130	45%	48%
Creating a stronger connection with the parents of my students	63	22%	26%
Creating more interactive lessons	161	55%	58%
Creating more relevant lessons	109	37%	48%
Facilitating greater collaboration between students	91	31%	35%
Facilitating opportunities for my students to become self-directed learners	114	39%	43%
Facilitating student centered learning	112	38%	45%
Managing my class more effectively	98	34%	35%
More aware of what my students are learning and who needs help	96	33%	33%
More connected to my students	83	29%	28%
More interested in learning about new classroom models and technology tools	84	29%	30%
More productive	80	27%	30%
Self-directing my own professional development more	71	24%	24%
Spending more time with individual students to help them understand the content	80	27%	24%
Other	16	5%	3%

**21 In the past year, which of these things have you done on your own (not district directed or part of a formalized professional development class) to improve your teaching effectiveness? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Attended a face-to-face conference	122	42%	46%
Earned a micro-credential or digital badge to demonstrate proficiency in a topic or pedagogy	15	5%	7%
Found information on the Internet to help me prepare/deliver a lesson	245	84%	81%
Participated in a massive open online course (MOOC)	25	9%	8%
Participated in a Twitter chat or other social media facilitated discussion	50	17%	14%
Participated in a webinar or online conference	84	29%	30%
Pinned classroom/lesson plan ideas to Pinterest	96	33%	32%
Posted a question on social media about something I want to learn about	50	17%	15%
Sought help from other teachers through my social networking site	76	26%	25%

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Subscribed and contributed to blogs, listservs, or discussion forums from education organizations or experts (e.g. MindShift, eSchoolNews)	49	17%	17%
Took a face-to-face class at a college or university	30	10%	14%
Took a self-paced tutorial on a subject	53	18%	20%
Took an online course	46	16%	23%
Used a mobile application to help me with organization	83	29%	30%
Used Twitter or other social media to follow education experts or other teachers	69	24%	19%
Watched Ted Talks or videos about a topic I was interested in	168	58%	58%
Other	14	5%	4%

**22 Which of these topics are on your wish list for professional development from your school or district this year? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Creating videos of my lessons and lectures for students to watch	73	26%	28%
Developing and/or facilitating an online course	29	10%	16%
Identifying and evaluating high quality standards based digital content to use within instruction	76	27%	30%
Identifying mobile apps to use in the classroom with students	73	26%	29%
Implementing a "flipped classroom" model	70	25%	27%
Implementing a blended learning model in my classroom	93	33%	35%
Implementing Next Generation Science Standards	80	28%	41%
Integrating digital content components into a comprehensive curriculum	93	33%	29%
Learning how to leverage digital tools to support student investigations	94	33%	29%
Understanding student data privacy requirements and strategies	22	8%	7%
Using education games within instruction	122	43%	41%
Using mobile devices (smartphones, tablets, laptops) within instruction	105	37%	37%
Using social media to keep parents informed	46	16%	14%
Using social media with students	43	15%	12%
Using technology to differentiate instruction	172	61%	56%
Using technology tools for formative assessment	143	51%	45%
Using technology with special education or English language learning students	65	23%	25%
Other	10	4%	3%

**23 Which of these types of professional development formats do you think are most effective to help teachers learn how to integrate technology within instruction in their classroom? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Blended learning or flipped learning type courses	96	33%	36%
Earning micro credentials or digital badges	19	7%	7%

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EdCamps (an informal, teacher-only collaborative learning event)	53	18%	20%
Face to face conferences with expert presenters	121	42%	44%
Implementing Next Generation Science Standards with fidelity	36	13%	21%
In school peer coaching and mentoring	156	54%	48%
In-service school or district training days	157	55%	45%
Observations of other teachers	149	52%	49%
Online courses	42	15%	22%
Online professional learning communities	46	16%	18%
Online tutorials	90	31%	34%
Online videos	107	37%	36%
Online webinars or virtual conferences	57	20%	19%
School based professional learning communities	89	31%	29%
Summer institutes	67	23%	34%
Teacher led trainings	154	54%	47%
Training provided by students	23	8%	8%
Twitter and other social media vehicles	9	3%	4%
University courses	30	10%	15%
Virtual coaching and mentoring	27	9%	10%
Watching Ted Talks or other online videos	62	22%	22%

**25 Are you involved as a teacher, advisor, or coordinator with any of these student programs at your school? (Check all that apply)**

Response	# of Responses	% of Responses	National %
Apprenticeship Programs	3	1%	2%
AVID (Advancement Via Individual Determination)	1	0%	7%
Computer programming club (coding)	5	2%	3%
Future Teacher Academy	2	1%	1%
IB (International Baccalaureate)	9	3%	3%
JROTC (Junior Reserve Officer Training Corps)	1	0%	0%
Model United Nations or Model Congress	1	0%	0%
School Video Production Team	0	0%	1%
STEM (Science, Technology, Engineering, and Mathematics) Academy	28	11%	19%
Student Government	11	4%	4%
Student Tech Support Team	1	0%	2%
Talent Search	2	1%	1%
Visual and Performing Arts Academy	2	1%	1%
None of the above	217	82%	69%

**26 Gender**

Response	# of Responses	% of Responses	National %
Female	165	56%	61%
Male	110	37%	31%
Decline to state	22	7%	8%

**27 Highest level of educational attainment (Check all that apply)**

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Response	# of Responses	% of Responses	National %
Bachelor's degree in education	73	25%	20%
Bachelor's degree in a STEM field	77	26%	23%
Bachelor's degree (not education, not STEM)	7	2%	8%
Master's degree in education	146	49%	46%
Master's degree in a STEM field	32	11%	12%
Master's degree (not education, not STEM)	19	6%	7%
Doctorate degree (Ed.D., Ph.D.)	4	1%	3%

**28 What certificates or credentials have you earned?**

Response	# of Responses	% of Responses	National %
Teaching certificate - elementary/multiple subject	143	51%	48%
Teaching certificate - single subject	143	51%	52%
National Board Certification	4	1%	4%
Early childhood development certificate	2	1%	2%
Paraprofessional certificate	1	0%	1%
Special education certificate	4	1%	4%
ESL/ELL certificate	0	0%	10%
Administrative certificate	17	6%	7%
Other	27	10%	13%

**29 At the end of this school year, how many years of teaching experience will you have?**

Response	# of Responses	% of Responses	National %
This is my first year	11	4%	3%
1 to 3	34	11%	9%
4 to 10	67	23%	26%
11 to 15	56	19%	20%
16+	128	43%	42%

**30 Prior to starting your teaching career, how many years of experience did you have in another STEM career field (if any)?**

Response	# of Responses	% of Responses	National %
No prior STEM career field experience	210	70%	62%
1 to 3 years	44	15%	17%
4 to 10 years	28	9%	13%
11 to 15 years	11	4%	4%
16+ years	5	2%	4%

**31 Race or Cultural Identity**

Response	# of Responses	% of Responses	National %
American Indian/Alaskan Native	3	1%	2%
Asian	2	1%	2%
Black/African-American	4	1%	4%
Caucasian/White (non-Hispanic)	249	84%	70%
Hispanic/Latino	3	1%	8%
Native Hawaiian/Other Pacific Islander	0	0%	1%

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Decline to state	35	12%	14%
Other	2	1%	1%

**32 Are you a member of the National Science Teachers Association or a state chapter of NSTA?**

Response	# of Responses	% of Responses	National %
Yes	95	32%	33%
No	180	61%	60%
Not sure	22	7%	6%