A Priority for California's Future:

Science for Students

Analysis of Public Opinion Research

STRENGTHENING **SCIENCE EDUCATION** IN CALIFORNIA

The Center for the Future of Teaching and Learning

Research Conducted by Belden Russonello & Stewart

With Support from the S. D. Bechtel, Jr. Foundation

Strengthening Science Education in California is an initiative that brings together educators, researchers, advocates and others to examine the status of science teaching and learning and to develop recommendations for improving science education in California. At the heart of this effort is the development of a comprehensive, data-driven portrait of science education coupled with strategic communications activities aimed at helping policymakers, educators, members of the philanthropic community, and others make informed, targeted decisions about how to strengthen science education policy and instructional practice. Partners in the Initiative include the Center for the Future of Teaching and Learning, the UC Berkeley Lawrence Hall of Science, SRI International, Belden Russonello & Stewart, Stone's Throw Communications and Inverness Research.

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I. Introduction

California's public schools have struggled since the passage of Proposition 13 in 1978, and today face enormous challenges to try to regain lost quality and standing as a national education leader. In light of the current economic crisis, competition for limited resources is fierce and the pressure is on to eliminate all but the basic "Three Rs" – especially in the lower grades – narrowing the curriculum and putting quality science education at risk.

In this difficult environment, the S.D. Bechtel, Jr. Foundation has funded Strengthening Science Education in California, an initiative not only to prevent the erosion of the teaching of science in California's schools, but indeed to enhance it.

The role of Belden Russonello & Stewart in this work is to document the public's awareness of and attitudes about the level of teaching and learning science and its importance. This information will provide policy makers, the media, and others with an understanding of how Californians value the teaching of science and what they would like to see done to improve it in their public schools. After reviewing the limited existing opinion data related to this issue, we designed and conducted a statewide survey and a series of focus groups, which are reported here.

The research finds widespread belief that to prepare for the future, we must teach all students science at all grade levels. To enable this, the California public wants a focus on giving teachers the training and the resources they need to bring science alive in and out of their classrooms.

The 2010 BRS science education survey and focus groups examine attitudes and beliefs about the quantity and quality of existing science education in California's schools; its importance in relation to seeking higher education, employment, and personal life skills; its value compared to other subject areas; and what the public and other key players need to know in order to increase the demand for better and more science in schools.

Our random sample survey of adults in California included 1,004 interviews conducted by telephone from April 7 to 22, 2010. The margin of sampling error for the survey is plus or minus 3.1 percentage points at the 95% level of confidence. For smaller subgroups of the survey, the margin of error will be higher. Cell phone and Spanish interviews were conducted to provide more complete coverage of the California population.

The focus groups were conducted in Los Angeles, Sacramento, and San Francisco from June 8 to 10, 2010 among parents of students in grades K through 12, voters who do not have children in school, and voters who work in science-related fields. The parent groups were segmented by race. Additionally, all participants were civically-engaged voters who have been exposed to at least one form of news media in the past week. A table detailing the focus group participants is appended to this report. Quotes from the groups are in shaded boxes throughout this report.

In reading the report, tables and graphs from the survey highlight selected findings and are expressed in percentages. The base for each table is all respondents (n=1,004) unless otherwise noted. Due to weighting, rounding, omission of "don't know," "refuse," or other responses, percentages may add to more or less than 100%. A questionnaire with response totals, detailed methodology, and crosstab tables are appended at the back of the report.

Strengthening Science Education in California is funded by the S. D. Bechtel, Jr. Foundation. Partners in the project include The Center for the Future of Teaching and Learning, the University of California, Berkeley's Lawrence Hall of Science, SRI International, Belden Russonello & Stewart, Stone's Throw Communications and Inverness Research.

II. Executive Summary

Science education as fundamental

Californians are worried about the quality of their schools generally, singling out improving education as a priority, but saying their current view of public schools is only mediocre.

Parents and the general public in California speak passionately about the contributions that science education makes in children's lives, by teaching critical thinking skills, opening up unforeseen possibilities, and exposing them to how the world around them works. Learning science is seen by Californians as important for individual development and for society and the economy as a whole.

The public identifies the teaching of science as one of the top priorities for public schools in the state, ranking it and computer skills second only to reading, writing, and math. Most see a growing need for students to have a good grounding in science, saying students today should receive more education in scientific subjects than they themselves received.

The great majority also believes that all students, regardless of their college or career intentions, should study science at the high school level. The belief in pushing all students to study science is strongest among individuals who earn the least and have lower levels of education themselves.

Starting early

Californians see early learning in science as foundational, enabling success in advanced scientific subjects in the upper grades, and they reject the argument that, in the early grades, learning should focus on reading, writing, and math to the exclusion of science.

As far as Californians are concerned, the earlier students are introduced to science the better, as young students are especially curious about the world. Science learning at an early age suggests engaging, hands-on experiences. A full eight in ten say that science teaching should start in elementary school, including half who believe in introducing it by second grade. However, while parents would like to see their children learning science early in their education, majorities say that schools are not devoting enough time to teaching science.

Little awareness of science teaching in the schools

While parents in California say the quality of science education their children have received is passable, they and the public at large have limited information about this particular area of public schools. Similarly, most of the parents in our focus groups *assume* that their child is receiving a quality science education, but many admit that they are unsure. Also, Californians are generally unaware of whether the state's budget woes have led to cut backs in the science curriculum.

Parents do say that they see room for improvement. A plurality of parents believes their children's science classrooms are inadequately furnished with equipment and resources. But again, many are not sure enough to offer an opinion. Also, a full third of Californians say they are unsure if teachers do a good job at helping students learn science, and over half of parents are unaware of the adequacy of training their own children's science teachers have received.

Teachers as the lynchpin

Californians believe the successful teaching of this important area of learning relies on teachers being well prepared and provided with the resources necessary to deliver meaningful content. Over and over in our focus groups, parents and non-parents said an educator's background and enthusiasm are key.

Regardless of how well informed they are, over eight in ten endorse specialized training for high school science teachers. And over half also say it should be a mandate for those who teach science in the lower grades, where teachers must cover many subject areas.

The training, the resources, the experience from Kindergarten to 12th grade

Californians are ready to support a number of improvements in science education – especially those that would help educators become well-versed in teaching science and provide them with good facilities and resources.

When they think about what should be included in science education, the public is most enthusiastic about components that give students hands-on experiences both inside and outside the classroom to see science in the physical world.

The significance of having well-trained science teachers with the needed resources at hand in the upper grades is most apparent to the public, but Californians also recognize the importance of investing in these same needs in the early grades to ensure later success and foster a love of learning.

In short

The research reveals that Californians already believe that science education is very important for *all* children at *all* grade levels, regardless of their higher education or career goals. Parents and the general public believe that students should begin learning science early in their education, because it exposes students to how the world works and teaches critical thinking skills.

While Californians greatly value science education, they have little detailed knowledge about science programs in California public schools. Parents assume that their children are receiving a quality science education, but many are unsure. They also say there is room for improvement.

Teachers are viewed as the key to a high quality science education. Californians believe that the successful teaching of science depends on well-prepared, well-trained, and enthusiastic educators. When talking about making improvements to science education, Californians say that more training, more resources, and better equipment will have the greatest impact.

III. Detailed Findings

A. The importance of science education

Californians are well aware of the importance of science education. After the "Three Rs" – reading, writing, and arithmetic – they say science is the most important subject for students to learn, and they believe that today's students should receive more science education than they themselves received.

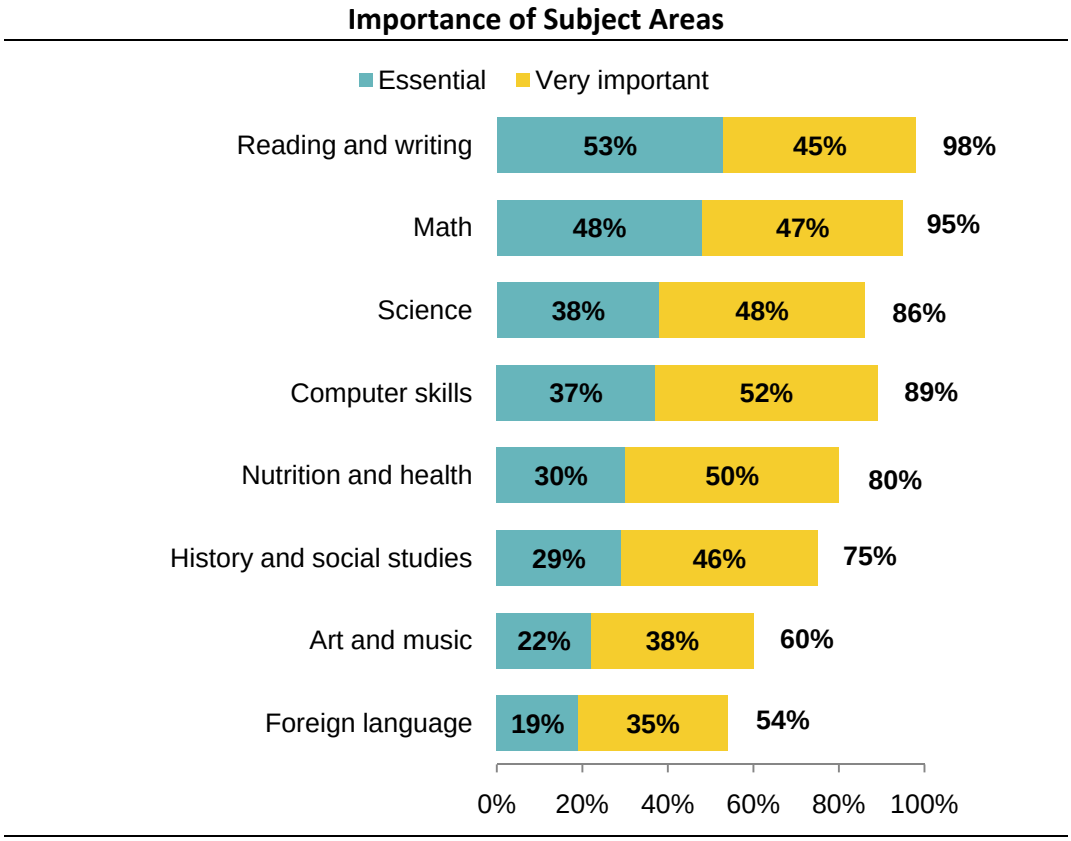
There is widespread agreement that science education should begin by first grade or earlier. Californians believe this early introduction provides the building blocks that are needed to enable students to succeed in science through high school and college.

The public also believes that all high school students should take biology, chemistry, and physics – regardless of whether they are college-bound or pursuing scientific work.

1. Four in ten say that science education is essential for California students

Unsurprisingly, Californians say that the most important subjects in which to have a strong background are reading and writing (53% say essential) and mathematics (48%). These subjects are almost universally viewed as highly important. However, science and computer skills follow closely behind with more than eight in ten calling them essential (38% science, 37% computer skills) or very important (48%, 52%). Science education outranks nutrition and health, history and social studies, art and music, and foreign language.

The Californians who are most likely to say that science is essential include whites (43% essential), those with high levels of education (51% college, 54% post graduates), those earning $100,000+ annually (50%), suburban residents (45%), liberals (43%), and residents of northern California (43%).



Please tell me how important you think it is for California public schools to give all students a strong background in each of the following areas: essential, very important, somewhat important, just a little bit, or not at all important? (RANDOMIZE) Q12. Reading and writing Q10. Math Q14. Science Q15. Computer skills Q17. Nutrition and health Q11. History and social studies Q16. Art and music Q13. Foreign language

Participants in the focus groups agree that science is highly important, talking about it as fundamental and the underpinning of a solid education. Some even say that science is equally important as reading, writing, and math.

> "Science is one of the basic fundamentals. You need to know how to read, you need to know how to write, and you need to know how things work, and that's science." – *White father, Sacramento*
>
> "[Science] is the basis for everything that you touch so I think science is just as important as math and reading, or maybe even more so because it develops you. You learn about [science], but it develops you and kind of guides you in your career." – *Asian mother, San Francisco*

"California should use more money for science resources, because science is a vital component to a complete education." – *Latina mother, Los Angeles*

"These other classes that we take, science and arts and things like that, I think that creates the whole child and that broadens their mind to more things and lets them see the world in different ways. Through science, it's just another way of learning and processing and I think it helps create the whole child." *White mother, Sacramento*

"[If science is presented] at an early age, it creates a passion and an excitement for learning more science." – *African-American mother, Los Angeles*

"[Science is important] to understand the way thinking works and critical thinking… It's very important to be skeptical of false evidence out there and to be able to judge good evidence from bad evidence, especially in the news today." – *Male scientist, San Francisco*

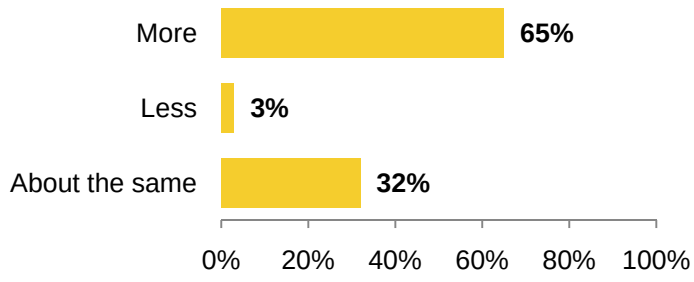
2. Majorities say students today should receive more science education than they themselves received

Most Californians are aware that science is becoming increasingly important in today's world, with two-thirds (65%) saying that today's students should receive more science education than they themselves received in school.

Those most likely to say that students should have *more* science education are older (81% 65+, 74% men 45+, 72% women 45+), African Americans (89%), Latinos (75%), and parents (71%).

Very few Californians (3%) believe that students should have *less* science education. However, roughly one-third (32%) say that students should receive the same amount of science education that they themselves received. Those most likely to feel this way are 18-34 years old (45%), white (43%), and those earning $100,000+ annually (39%) – groups that may have received higher levels of science education than have other groups.

Amount of Science Education Students Should Have Today



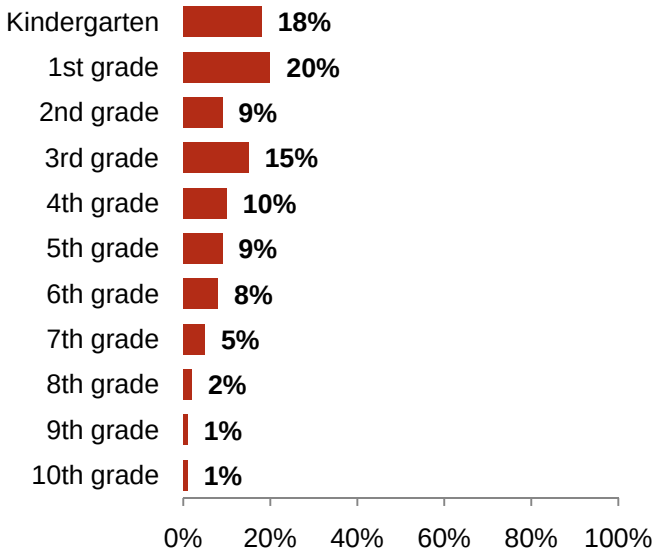
Q21. Do you think students today should be given more, less, or about the same amount of education in science that *you* received while in school?

3. Californians believe children should be introduced to science early

The survey reveals the widespread belief that science should be included in curricula from the earliest years. A majority of Californians want science learning to begin in elementary school, including nearly four in ten who would start it in Kindergarten (18%) or first grade (20%). Six in ten would have it initiated by the third grade. Only 17% approve of waiting until the sixth grade or later to introduce science.

The biggest proponents of starting science education in Kindergarten include women (24%), especially women under 45 (27%), those with high levels of education (26% college graduates, 25% post graduates), K-12 parents (25%), especially parents of elementary (27%) and middle (27%) school students, and residents of northern California (27%).

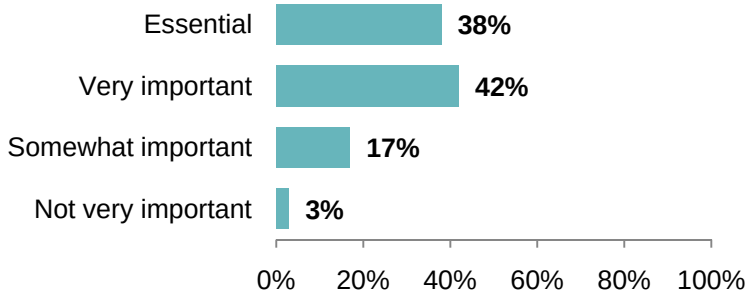
When Kids Should Learn Science



Q22. In what grade do you think schools should begin to teach science to students?

Californians also believe that teaching science in elementary school is important for future success in more advanced science classes in high school and college. Four in ten each say that science in elementary school is very important (42%) or essential (38%) to doing well in more advanced science classes.

Importance of Early Science Education

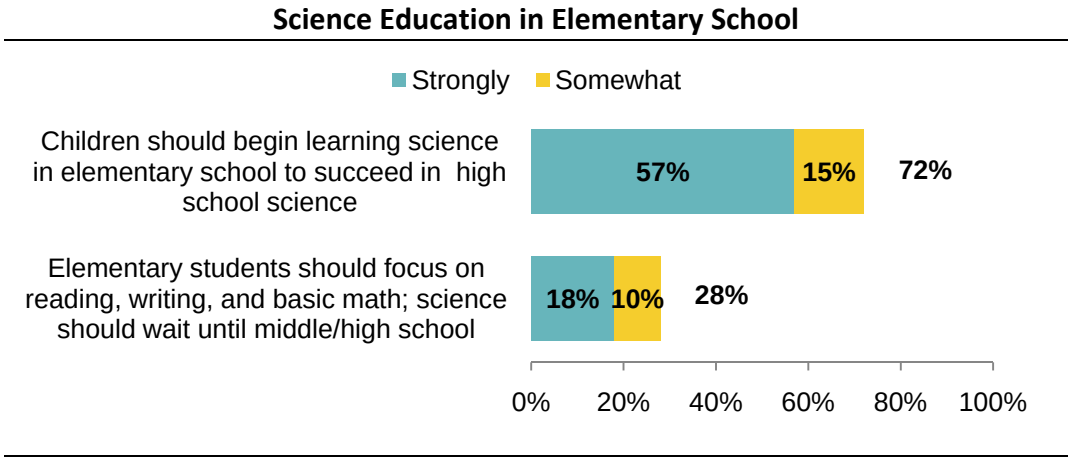


Q23. In your opinion, how important is beginning to learn about science in elementary school to doing well in more advanced science classes that students take in high school and college? Is it essential, very important, somewhat important, not very, or not at all important?

Views about the importance of early science education are reiterated in a survey question asking respondents to choose one point of view over the other. Seven in ten (72%) side with the view that children should begin learning science in elementary school in order for them to succeed in science in high school (57% feel this way strongly), whereas less than three in ten (28%) agree more with the opposite argument, which states that elementary school students should focus on reading, writing, and basic math and that science instruction should wait until middle or high school.

Those most likely to agree that learning science in elementary school helps students succeed in more advanced science classes are women (77%), especially women under 45 (78%), college graduates (77%), those earning $100,000+ annually (77%), and K-12 parents (77%), especially parents of high school students (81%).

Men under 45 are the most likely to agree that science education should wait until middle and high school (37%) and most likely to feel this way strongly (26%, versus 18% overall).



Q24. Thinking about learning science, which of these two points of view do you agree with more: (ROTATE) those who say children should begin learning science in elementary school in order for them to succeed in science in high school OR those who say that in elementary school students should be focusing on reading writing, and basic math, so most science should wait until middle and high school. (WAIT FOR RESPONSE) Do you feel that way strongly or somewhat?

The focus group participants addressed this question as well, disagreeing strongly with the premise that science can wait until students are taught reading, writing, and math. Some point out that science can and should be incorporated into math and reading instruction in early grades.

> "My kids are thinking about everything that they are seeing and they've got interesting, crazy ideas. I think it all comes from what they got when they were in pre-school, and on up in their education in science." – *White mother, Sacramento*
>
> "Science is like a real life scenario. You can touch it, you can see it. You need to involve reading, you need to involve math, but it helps you figure out the evolution of something." – *Asian mother, San Francisco*
>
> "It doesn't matter if you know how to read and write and all that stuff. Those are great things, but if you can't figure out a problem, it's just words and numbers in front of you." – *Latino father, Los Angeles*

Indeed, the focus groups reveal great enthusiasm for starting to learn science in early grades. Many parents and non-parents alike opine that teaching science when students are young provides an opportunity to get children engaged in science when they are still curious about how the world works. They say science can and should be more fun and hands-on rather than the more intense and academic science classes in upper grades.

"All children should learn more about science at an early age, so…it will be easier to learn when they get to high school." – *African-American mother, Los Angeles*

"I think that children have the ability to do the reasoning in [elementary] school and I think we need to foster it as soon as possible." – *Male non-parent, Sacramento*

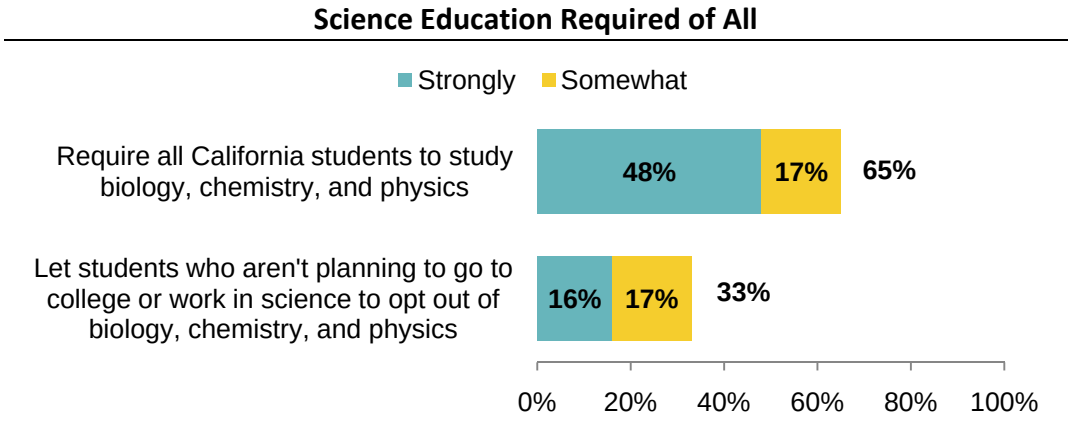
4. A majority of Californians say science should be required for *all* students

In order to dig deeper on the issue of the importance of science education, the survey asked Californians to choose between two sides: those who say it is better to require *all* high school students in California to study biology, chemistry, and physics, or those who say it is better to let students who are not planning on going to college or working in a science-related field to opt out of biology, chemistry, and physics classes. Again science education comes out on top, with two-thirds (65%) saying that these subjects should be required for all, including nearly half (48%) who feel that way strongly.

On the other hand, one-third (33%) believe that students who are not planning to go to college or work in a science-related field should be able to opt out of biology, chemistry, and physics. Those most likely to feel this way include whites (40%), those earning $100,000+ annually (42%), and residents of northern California (51%).

Those with the lowest levels of education (70% high school degree or less) and income (72% less than $25,000 annually) are significantly more likely than those with the highest levels of education (61% post graduates) and income (56% $100,000+ annually) to say that biology, chemistry, and physics should be required for all students.

Others who are enthusiastic about urging students to take these subjects include 35-44 year olds (75%), Latinos (75%), those with a high school degree or less (70%), K-12 parents (73%), especially parents of elementary school students (76%), and residents of southern California *other than* Los Angeles, Orange County, and San Diego (75%).



Q25. Which of these do you agree with more: (ROTATE) those who say it is better to require all high school students in California to study biology, chemistry and physics, OR those who say it is better to let students who are not planning on going on to college or working in science-related fields, to opt out of biology, chemistry and physics classes? (WAIT FOR RESPONSE) Do you feel that way strongly or somewhat?

The Californians in the focus groups offer many ideas about why science education is important. They want all students to take science classes at the high school level so they have a basic understanding of how the world works. They also do not believe that students at that age can make the decision that they do not want to pursue science in college or as a career. Indeed, many of the participants who are employed in a science-related field said they themselves were not interested in science until they were in college.

"Almost everything you do, everything almost daily is based on science." – *White father, Sacramento*

"Very few students in the public schools will focus their life or make their money out of the scientific profession or vocation, very few. So why is it important for everybody to know? It's the basis for understanding almost everything." – *Male non-parent, Sacramento*

"If [my son] is still undecided about what he wants to do in college, I would want him to actually touch everything in high school." – *Latino father, Los Angeles*

"My son was telling me the other day that he thinks that he wants to become a firefighter. He's going to have to have all sorts of different sciences for that and he'll have to take those in college. So if they get that base, starting probably when they are young, but on up into high school, then they will have a little bit of a handle on it when they get into the college level courses." – *White father, Sacramento*

"I think it's important to offer as many [science classes] as possible, because you don't know which student will be inspired by cutting open an eyeball in a lab or wiring a small electrical circuit…There will be some, I think, that will be inspired to say, 'Hey that was really interesting. I want to learn a little more about that.' And we need more scientists in this country." – *Male scientist, San Francisco*

B. Perceptions of the current state of science education in California

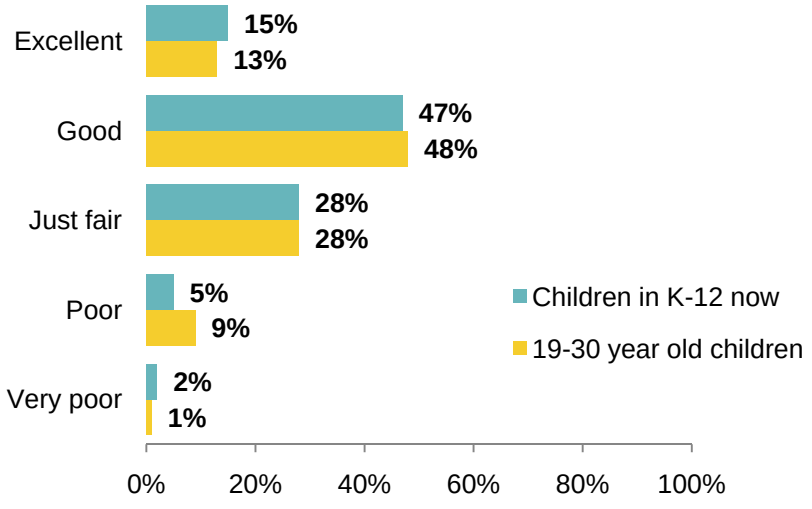
While parents in California say the quality of the science education their children have received is passable, they and the public in general appear to have limited information about science in California public schools.

1. Parents see their children as having good science education

When asked to assess the quality of science education in their children's schools, most parents give mildly positive reviews, though few go so far as to say that science education is excellent. There is very little difference between parents who currently have children in K-12 public schools (47% say good, 15% excellent) and parents whose children graduated within the last 10 years or so (48% say good, 13% excellent).

Those parents who are most likely to give positive reviews to their K-12 children's science education tend to live in upscale areas: those earning $100,000+ annually (70% excellent or good), suburban residents (71%), and residents of southern California *other than* Los Angeles, Orange County, and San Diego (74%).

Parent Assessment of Science Education Quality



Q18. (K12 PARENTS; n=250) Thinking about your own children currently in grades K through 12, would you rate the quality of science education your child or children have received so far as excellent, good, just fair, poor or very poor? Q19. (PARENTS OF 19-30 YEAR OLDS; n=236) Thinking about your own children between 19 and 30 years old, would you rate the quality of science education your child or children received in elementary through high school as excellent, good, just fair, poor or very poor?

In focus groups with parents, initially most assume their child's school is providing adequate science education, and some parents are impressed with the science their children are learning. However, many parents admit that they do not know much about the science programs at their child's school. Others, especially those with children at the elementary level, say they do not hear anything from their children or their children's teachers about science so they assume not much is done.

"I think it's pretty extraordinary for second grade to be so into natural science and the history of science. Just being open to these different kinds of sciences, the children get to experiment, see where they want to go in the world, and how many possibilities of careers are out there…So I thought that was pretty impressive and ignited a learning flame in [my daughter] to learn more." – *White mother, Sacramento*

"The interest my daughter has shown in [science]…means a lot to me. Her coming home and talking about certain things she did that day, and asking if we can do it at home is cool." – *Latino father, Los Angeles*

"I think a lot of it has to do with making the curriculum interesting for them to want to get involved in science." – *Latina mother, Los Angeles*

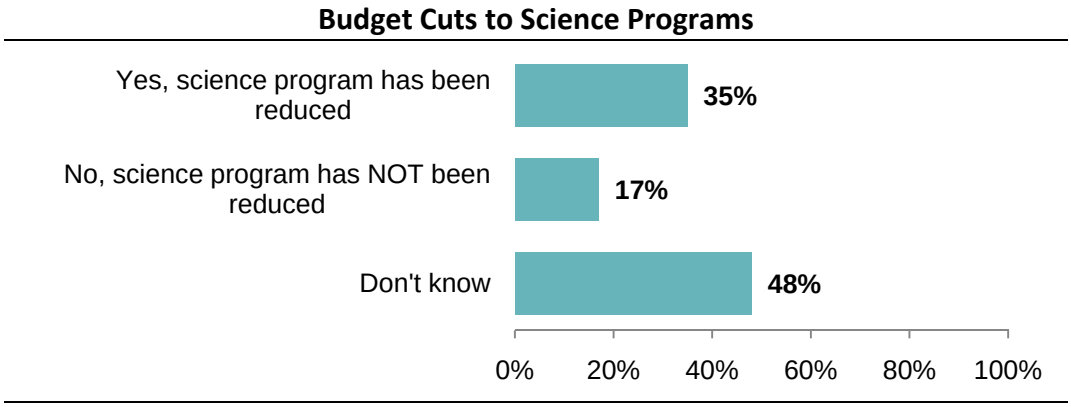
"I personally think [science education] could be stronger. I think it depends on the credentials of the teacher and what type of experience they come with, which helps to push the student further." – *African-American mother, Los Angeles*

"It's too little. [Science education at the elementary level] is just enough to get them exposed." – *African-American mother, Los Angeles*

2. Many parents unsure if science programs have been reduced due to budget cuts

Though most parents feel positively toward their children's science education, a majority (48%) do not know if the science program in their children's school has been reduced due to recent budget cuts. Just over one-third (35%) say that their children's science program *has* been reduced and 17% say it has not.

Women under 45 (44%) are the most likely to say that their children's science program has been reduced due to budget cuts, whereas parents with a high school diploma or less (56%) are the least likely to know if that is the case.



Q32. (K12 PARENTS; n=250) Has the science program in the school or schools your children attend been reduced because of the budget cuts over the last two years – or do you not know?

Some of the parents in our focus groups are aware of budget cuts to science programs. Several mention that activities, such as field trips, have been canceled or require parents to pay a fee. Parents in our groups in the Los Angeles area are particularly aware of budget cuts to their schools generally, and they assume those cuts are having an impact on science programs as well. Several participants mention that budget constraints can impact science programs especially because teaching science in a way that is engaging for students requires more resources such as field trips, lab equipment, and supplies for hands-on experimentation – demonstrating the understanding that science education needs more extra investment than other subjects.

"If you don't have any of the materials and equipment in science, you can read letters and numbers and figures…but you need to have something to experiment on. So if you don't have no materials, that's pretty whack. I mean what can you do without materials?" – *African-American father, Los Angeles*

"Definitely put more resources into the sciences for exposure purposes. Take the kids out of their own environment, go and feel, and taste, and smell, and become one with science…[They need to] take fieldtrips for more exposure." – *African-American mother, Los Angeles*

"In the high school they just don't have the money. My daughter's junior high teacher invested a lot of his own money and time for stuff, so it comes down to what the teacher is trying to do. One lab for 30 students, how is that teaching them anything?" – *Latina mother, Los Angeles*

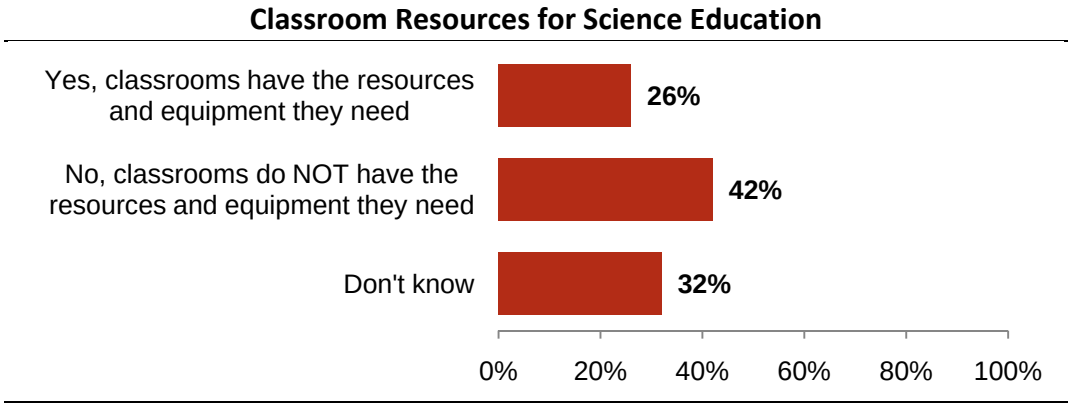
"At my daughter's school, every Monday morning I have an email from the teacher… that asks kids to bring supplies for science projects. When my son was in high school we lived in Topanga, totally different, they have money there from property taxes. He had marine biology. They walked down to the beach for their class. For my daughter…it's a totally different income bracket." – *Latina mother, Los Angeles*

3. Parents uncertain about adequate resources

A plurality (42%) of K-12 parents says that classrooms do *not* have the resources and equipment needed for science education, and another third (32%) are unsure.

Parents who are most likely to say that their children's classrooms do *not* have the resources and equipment they need for science are 18-34 years old (48%), whites (50%), college graduates (55%), and those earning $50-100,000 annually (51%).

Those least likely to know include fathers under 45 (41%), Latinos (42%), those with a high school degree or less (45%), and those earning lower incomes (46% less than $25,000 annually, 45% $25-50,000 annually).



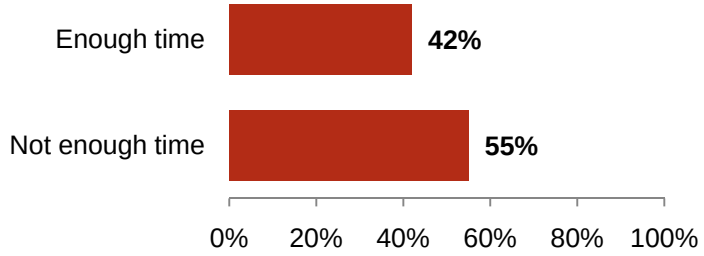
Q31. (K12 PARENTS; n=250) Do you think that your child's or children's classrooms have the resources and equipment they need for science – or do you not know?

4. Many parents think not enough time is spent on learning science

Even though parents may not have detailed knowledge about their children's science education, over half have the general impression that students should spend more time learning science. Fifty-five percent of K-12 parents say that not enough time is spent on their children's science education. However, a significant minority (42%) take the opposite view.

Parents who identify as Latino (63%) and Democratic (65%) are more likely to say that their children *do not* spend enough time learning science in school, whereas white parents are more likely to say that their children spend *do* spend enough time learning science in school (52%).

Parent Assessment of Time Spent on Science Education



Q20. (K12 PARENTS; n=250) Thinking about how much time your child or children spend learning science in school, would you say schools spend enough time on science, not enough, or too much time on science?

Most participants in the focus groups say they believe enough time is devoted to science in the upper grades, when students are required to take a certain number of science classes, and can take more as electives. However, they express less certainty about the amount of time being spent on science in elementary school. Many parents assume it is not much. Others say it depends on the teacher's own interest and background in science.

"I don't think time is the issue in middle school and high school. I think it's the quality of what they're receiving versus the quantity. But I think in elementary school it's the quantity…and quality." – *Asian mother, San Francisco*

"A lot of it has to do with that teacher's degree. Very few [teachers]…actually have degrees in science. So I think that's why it's very difficult for them to be able to carry on with the science… They have to have a stable background to be able to push the kids to get involved with science." – *Latina mother, Los Angeles*

"I can only base my understanding [of time spent on science] on anecdotal evidence from the young people that I've interacted with over the last ten years, and by and large, they have little or no knowledge of what's going on in the natural and physical world." – *Male non-parent, Sacramento*

C. Perceptions of the state of science teaching

Further evidence of the lack of clarity about science in California's public schools is revealed when we ask specifically about those who teach science. Generally, Californians give teachers good marks, but a full third are uncertain if those who teach science do a good job of helping students learn the subject matter. Over half of parents say they are not aware of the adequacy of the training of their own children's science teachers.

1. Most believe California teachers do a moderately good job of helping students learn science, and one-third have no opinion

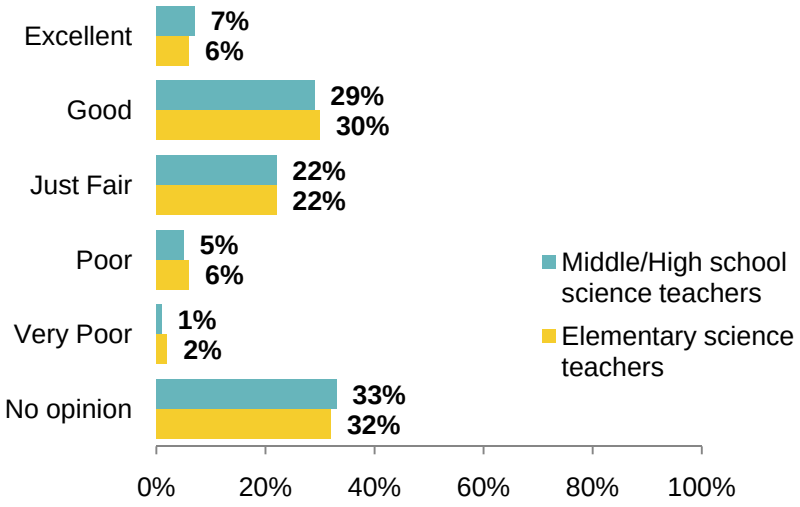
As with teachers overall, Californians hold mildly positive attitudes toward those who teach science. Most voters say that teachers do a good (29% middle and high school, 30% elementary) or just fair (22%, 22%) job helping students learn science. Very few give those who teach science either excellent (7% middle and high school, 6% elementary) or poor assessments (6%, 8%).

Again, a relatively large segment of Californians – one-third – do not know enough to offer an opinion. Thirty-three percent say they do not know about middle and high school science teachers, and 32% say the same about elementary teachers who teach science.

In asking the public to assess the quality of science teachers, the survey separates elementary from middle and high school teachers, as elementary school teachers tend to teach science in addition to other subjects. Californians, however, rate the quality of middle and high school science teachers and elementary teachers who teach science the same.

Those most likely to give a positive assessment to both middle and high school science teachers and elementary teachers who teach science are Latinos (42% middle/high, 46% elementary), those with a high school degree or less (42%, 44%), and parents of middle (45%, 45%) and high school (49%, 44%) students.

Quality of California Science Teachers



Q26. As far as you know, do the public middle and high school science teachers in California do an excellent, good, just fair, poor, or very poor job helping students learn about science – or do you not have a view on this? Q27. How about those teachers who teach science as part of their duties in *elementary* classrooms? As far as you know, do the elementary teachers in California do an excellent, good, just fair, poor or very poor job helping elementary students learn about science– or do you not have a view on this?

Similarly, most of the participants in our focus groups have a hard time rating those who teach science. They say that students' experiences with science education can vary greatly, depending on the preparedness and enthusiasm of their teacher. Participants are especially unsure about the quality of science teaching at the elementary level.

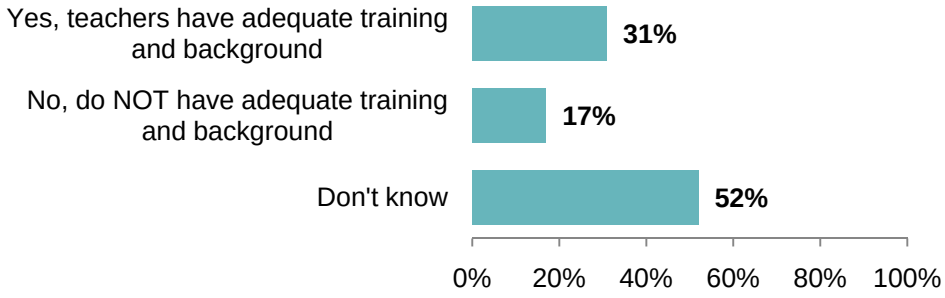
> "I'm not putting it all on the teacher. It's a community, it's a student, it's a joint effort between the student, the parent, and the teacher. However, in a science class, the teacher is the facilitator, so we have everybody else who is just on the team, here to learn."
> *– African-American mother, Los Angeles*
>
> "My son's teacher's main goal was reading and arts, so he didn't get a lot of science this year. The second grade teacher was more into science than fourth grade teacher." – *White father, Sacramento*

2. Majorities unsure about adequacy of science teachers' training and background

Half of parents (52%) do not know what kind of background their children's science teachers have. Among those who do offer an opinion, most (31%) say their children's science teachers have adequate training and background to teach science well. Less than two in ten (17%) say science teachers are not adequately prepared.

Parents with a high school diploma or less (63%) are the most likely to be unsure about the adequacy of teachers' science training. Republican parents (41%) are the most likely to say that their children's science teachers have adequate training.

Adequacy of Science Teacher Training and Background



Q30. (K12 PARENTS; n=250) Do you think that your child's or children's science teachers have adequate training and background to teach science well – or do you not know?

D. Improving science education

Three elements emerge from the survey and focus groups that the public views as most important for delivering a successful science curriculum in California's public schools. First, well-prepared teachers are clearly the most fundamental requirement. Californians are certain that teachers need the knowledge base and the confidence to teach scientific material effectively – and in the focus groups, participants were alarmed by information suggesting that many educators feel unprepared in this area. The types and levels of expertise required may vary from elementary to middle and high school, but all teachers with science responsibilities need to know what to do.

Yet teacher preparation alone is not the full answer. Teaching science effectively, Californians know, is distinct from many other disciplines in that it requires resources that enable students to participate with their hands as well as their brains. Working in labs at schools with up-to-date equipment, outings in nature, visits to businesses where employees are using their training in chemistry and biology, and many other experiences both in school and in the outside world are elements that Californians see as ways to engage students in learning science.

Thirdly, Californians believe there is a need to expose students to science at all grade levels. While they recognize that science learning will become deeper and more sophisticated in the upper grades and see it as a higher priority in high school than in earlier grades, most recognize it as an important building block from Kindergarten forward.

1. Better resources for classrooms and more teacher training seen as having the greatest impact

Of the six concepts outlined in a series of questions, Californians believe that more resources, better equipment, and more training for science teachers will have the most impact on improving science education. Seven in ten (71%) say that having more resources and better equipment in science classes will make a big difference and two-thirds (67%) say so about more training for science teachers.

More access to science resources and experiences *outside* the classroom is also viewed as making a big difference by six in ten Californians (61%). More time spent on science is seen as effective at the high school (63% big difference) and middle school (57%) levels.

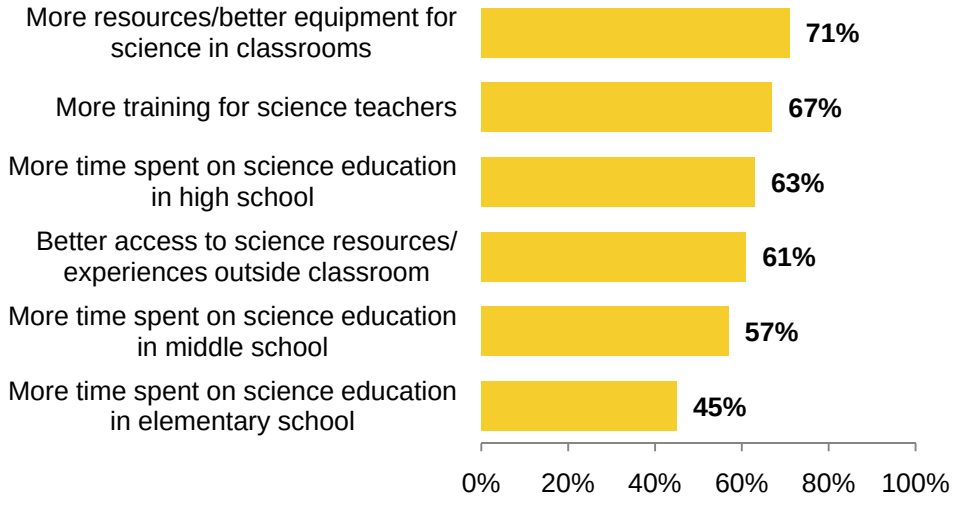
Californians also believe that science education in elementary school is very important; nearly half (45%) say more time on science education would make a big difference in the lower grades. It is only when it is stacked up against getting more resources, better equipment, and more training for science teachers that it appears less important.

Those most likely to say that *more resources and better equipment* would make a big difference in improving science education are women under 45 (77% big difference), African Americans (85%), Latinos (79%), those earning $25-50,000 annually (77%), Democrats (78%), parents of high school students (77%), and residents of southern California *other than* Los Angeles, Orange County, and San Diego (77%).

Those most likely to say that *more training for science teachers* would make a big difference in improving science education are 65 and older (74% big difference), African Americans (78%), and parents of high school students (74%).

Ideas for Improving Science Education in California

% saying "big difference"



Now I'm going to read you some ideas for improving science education in California schools. For each please tell me if you think it will make a big difference, some difference, or not much of a difference in improving science education in California. (RANDOMIZE) Q36. More resources and better equipment for science in classrooms Q38. More training for science teachers Q35. More time spent on science education in high school Q37. Better access to science resources and experiences outside the classroom Q34. More time spent on science education in middle school or junior high Q33. More time spent on science education in elementary school

In the focus groups the same issues – better training and support for teachers – rise to the top. The most worrisome problems relate to elementary teachers reporting that they do not feel adequately prepared to teach science and have had little ongoing training in the subject, and the fact that districts and teachers report that they do not have the materials necessary to adequately teach science.

"If the teachers are the source of science knowledge and they don't have [the knowledge], they're not going to be able to teach science. They're not going to be able to impart it to the students. It has to start with them." – *Male non-parent, Sacramento*

"When the people I've entrusted with my children come back and say, 'I am ill-equipped,' that's a huge problem. The tests will show that, but when the teachers themselves are admitting, 'Hey, I don't know what I'm doing here,' that's a big red flag." – *Latino father, Los Angeles*

2. Specific important components of science education reflect the public's priorities

Californians' attitudes toward several specific ideas for science education are similar to those in the above series on improving science education. The top components out of nine we presented include having science labs in all middle and high schools (82% say very important or essential) and requiring all middle and high school science teachers to have special training (80%). These findings are consistent with Californians' top ideas for improving science education: more resources and teacher training.

Attitudes toward these science education components also reveal a couple of trends. First, Californians see science as a more immediate necessity in the upper grades, as students prepare for college or employment – all three top components are geared toward middle and high school students. This does not mean that teaching science in elementary school is not important to Californians; majorities of residents believe it is important to teach science at every grade level (69%) and to expose elementary students to science experiences outside of the classroom, such as at zoos, aquariums, and science museums (71%). For Californians, early science education plants the seed for becoming interested in science and helps students develop critical thinking skills.

Secondly, Californians recognize that science class will be different in elementary school and the upper grades. For example, including labs in elementary school is viewed as one of the least important items tested (49% say very important or essential), but having science labs in middle and high school is viewed as the most important (82%) component for a good science education.

The public would also like to see technology be a part of science education in public schools. Nearly seven in ten (69%) call giving "students experience with scientific computer programs" a very important or essential part education.

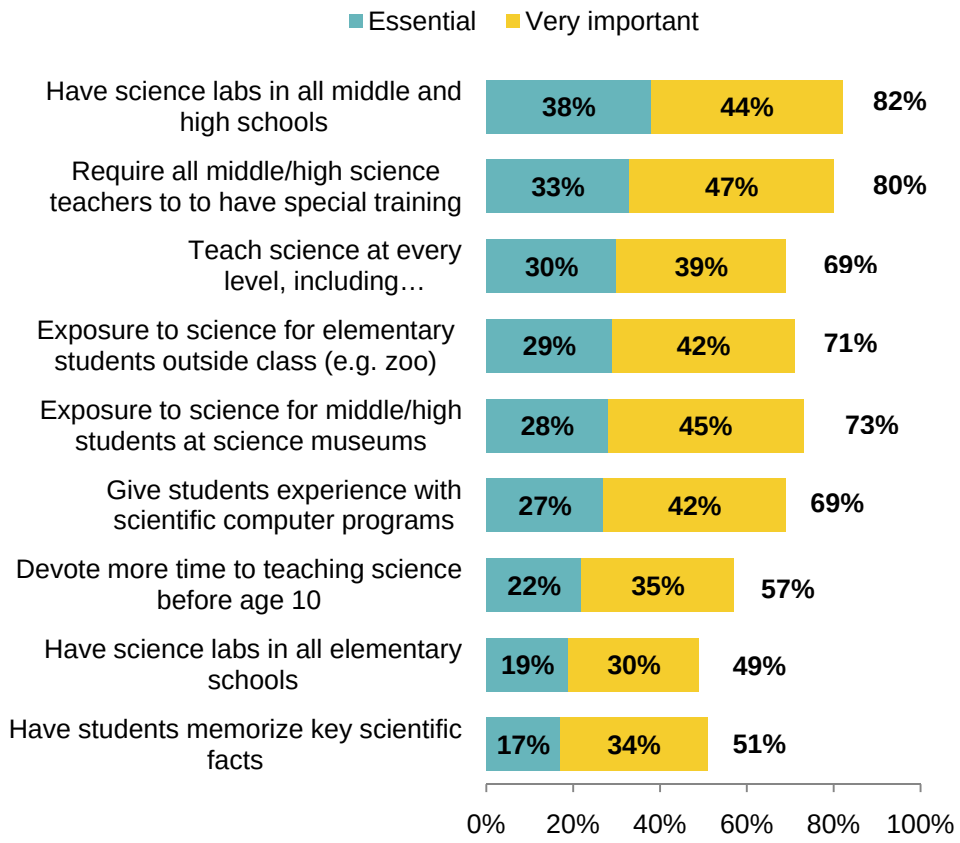
Making students memorize key scientific facts falls low on the list of components, with just over half (51%) saying it is very important or essential.

Those most likely to say that the top component – having science labs in all middle and high schools – is essential include women under 45 (46% essential), college graduates (47%), and parents of elementary school students (45%).

Californians who are most likely to say that teaching science at *every* grade level, including elementary, middle, and high school, is essential are women under 45 (38% essential), college graduates (38%), parents of elementary school students (38%), and residents of southern California *other than* Los Angeles, Orange County, and San Diego (40%).

Those most likely to say that exposing elementary students to science outside of the classroom is essential include women under 45 (34% essential), college graduates (32%), those earning $25-50,000 annually (33%), parents of elementary school students (35%), and residents of northern California (37%).

Importance of Science Education Components



Now I would like you to tell me, how important is it, in your own view, for public schools in California to include each of these components of science education. Would you say it is essential, very important, somewhat important, not very, or not at all important to: (RANDOMIZE) Q42. Have science labs in all *middle* and *high* schools Q40. Require all middle and high school teachers who teach science to have special training in science Q41. Teach science at *every* grade level including elementary, middle and high school Q46. Exposure for elementary students to science in settings outside school. This could include participating in science programs at zoos, aquariums, and science museums, or centers Q47. Exposure for middle and high school students to programs at science museums or centers and industries where scientists work Q45. Give students experience with scientific computer programs Q39. Begin devoting more time to teaching science to children before age 10 Q43. Have science labs in all *elementary* schools Q44. Have students memorize key scientific facts

Again, while some of the elementary-specific items appear lower on the priority list, the focus groups show that this is not due to a lack of enthusiasm for early science education among the public. Science is seen as a more immediate necessity in high school, as students prepare for college and the workplace, but becoming interested in science in the lower grades is seen as important for developing critical thinking skills and building interest in science for the upper grades. Thus teaching science at all grade levels ranks among the most influential ideas tested on the list.

"If we can get [children] interested and excited about [science] at a very early age, I think that's the key." – *White father, Sacramento*

"Everything we learn in school is basically to develop critical thinking and problem solving skills. That's it. I think science is the best vehicle for that." – *Latino father, Los Angeles*

"Science gives you a background in critical thinking and problem solving, and critical thinking and problem solving is not just limited to science. It's part of the arts." – *Male non-parent, Sacramento*

"I think it's important to offer more science…because if at least a little more was required, I think the benefits are that it can inspire curiosity and awe and it can also help teach critical thinking. It is important to know how to analyze a little bit of research or some statistic, and to think critically about statistics when you see them… it is sort of a foundation for getting through the rest of your life." – *Female scientist, San Francisco*

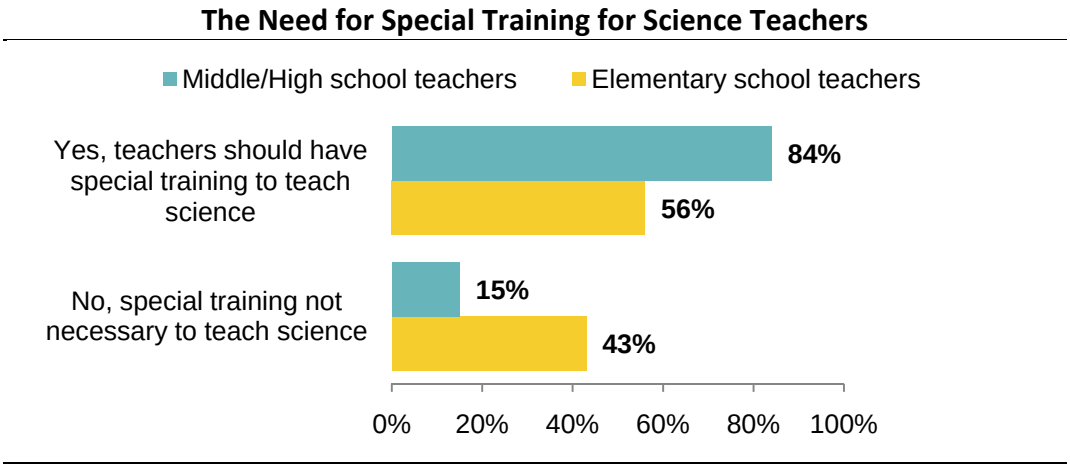
"Science teaches critical thinking, problem solving, discovery, and creativity skills that help kids grow into successful, thoughtful adults." – *Male scientist, San Francisco*

3. Majorities say science teachers should have extra preparation and special training, especially middle and high school teachers

We have seen that Californians put a high value on teacher preparation as a way to improve science education. Most Californians (84%) agree that middle and high school science teachers need extra preparation and special training to teach that subject. Looking specifically at elementary school teachers, a majority thinks they should have some kind of special training, although four in ten say it is not necessary.

Those most likely to say that middle and high school science teachers should have special training include individuals with post graduate work (92%), those earning $100,000+ annually (92%), and parents of middle (90%) and high (91%) school students.

On the other hand, those most likely to say that elementary school science teachers should have special training are older (67% 55-64, 70% 65+), African Americans (66%), Latinos (67%), and those earning less than $25,000 annually (62%).



Q28. In your opinion, should *middle and high school* science teachers have extra preparation or have special training in science in order to teach that subject, or is that not necessary? Q29. In your opinion, should *elementary* school teachers who teach science along with other subjects have extra preparation or have special training in science in order to teach it, or is that not necessary at the elementary level?

Participants in the focus groups have virtually no knowledge of California science teachers' training. However, when presented with facts about how little ongoing professional development elementary school teachers receive in science, they become very concerned. They note that new scientific knowledge is always evolving, and thus educators must keep up to date.

"A portion of science is technology, and technology is always changing and you need to stay on top of technology…Every profession needs to hone their skills." – *White father, Sacramento*

"You need a refresher, and you need to go to these workshops, and you need to find the new innovated things that are out there to spark the children's' interest and to keep current." – *White mother, Sacramento*

"[Science] is constantly changing. So what a teacher may have learned when they went to school, we could have learned something new because we have better technology. So they should be updated to that, to be able to teach it to our children as well." – *Latina mother, Los Angeles*

E. Why make science a higher priority

The focus groups and survey reported here make it clear that Californians regard learning about science to be an essential part of the quality education all students should receive, but that the public knows little about how well or how poorly the state's schools are delivering in this area.

The survey tested nine reasons to place a higher priority on science education in California's public schools. The top reasons from the survey reference economic and civic goals writ large. These include innovation, technology, and competing in the global marketplace, as well as helping students understand the world and current events.

Three-quarters (74%) of Californians believe that science should be a higher priority in California public schools because it keeps both America and California at the forefront of technology very or extremely convincing. Another seven in ten each (69%) are equally as persuaded that science helps young people compete in the global marketplace and become engaged citizens.

Over six in ten Californians find the ideas that making science a higher priority will give a child more opportunity to succeed in life (64%) and help attract more high-paying jobs and new industry to the state (62%) very or extremely convincing.

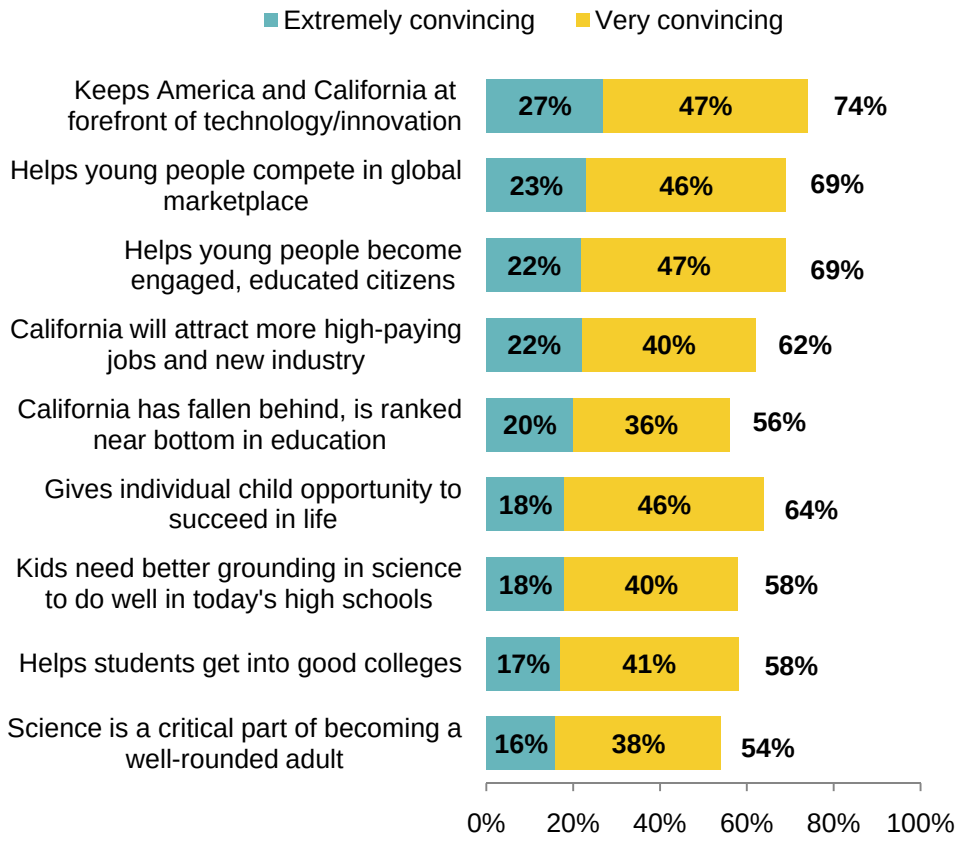
Less important in strengthening science are two reasons that emphasize immediate academic achievement, saying that students need a better grounding in science to do well in today's high school (58%) and to get into good colleges (58%). Highlighting California's low ranking in education also does little to prove that science education in California should be a priority (56%). Finally, the rationale that science is a critical part of becoming a well-rounded adult garners the least enthusiasm (54%).

Those most likely to say that keeping California and America at the forefront of technology is an extremely convincing reason to make science a higher priority in California schools are 55-64 years old (41%), post graduates (37%), and those earning more than $100,000 annually (35%).

Those most likely to be extremely convinced that California public schools should place a higher priority on science because it helps young people compete in the global marketplace are Asians (31%), post graduates (33%), and those earning more than $100,000 annually (30%).

Californians who are most likely to be extremely convinced by an argument that science should be a higher priority because it gives young people more understanding of the world and current events are 55-65 years old (33%), women over 45 years old (29%), and those earning less than $25,000 annually (29%).

Reasons for Science to be a Higher Priority in California Public Schools



Now I'm going to read you reasons why some people say that science should be a higher priority in California public schools. Please tell me if you personally think each one is extremely convincing, very, somewhat, not very, or not at all convincing as a reason to put more resources into science education in California public schools. (ROTATE) Q49b. (SPLIT SAMPLE B; n=473) Better science education would help keep America and California at the forefront of technology and innovation. Q51a. (SPLIT SAMPLE A; n=506) Better science education would help young people compete in a global marketplace. Q50b. (SPLIT SAMPLE B; n=473) Better science education would give young people more understanding of the world and many current events, helping them become engaged citizens and educated voters. Q49a. (SPLIT SAMPLE A; n=506) If more public school graduates have a solid background in science and technology, California will be able to attract more high paying jobs and new industry. Q51b. (SPLIT SAMPLE B; n=473) California has fallen behind other states and is currently ranked near the bottom of the nation in terms of science education. Q52a. (SPLIT SAMPLE A; n=506) Better science education would give each individual child more opportunity to succeed in life. Q53. Children in elementary school need to be getting a better grounding in scientific concepts if they are to do well in today's high schools. Q52b. (SPLIT SAMPLE B; n=473) Better science education will help students get into good colleges. Q50a. (SPLIT SAMPLE A; n=506) Understanding scientific concepts is a critical part of becoming a well-rounded individual

F. General attitudes about public education in California

Attitudes about science education, which have been the focus of this report, are part and parcel of views about education generally. While Californians clearly value high quality science education specifically, in the broader sense they place improving public education in their state above several other important objectives. The general quality of public schools competes for top billing with attracting good paying jobs and outranks the affordability of health care and reducing government spending and taxes.

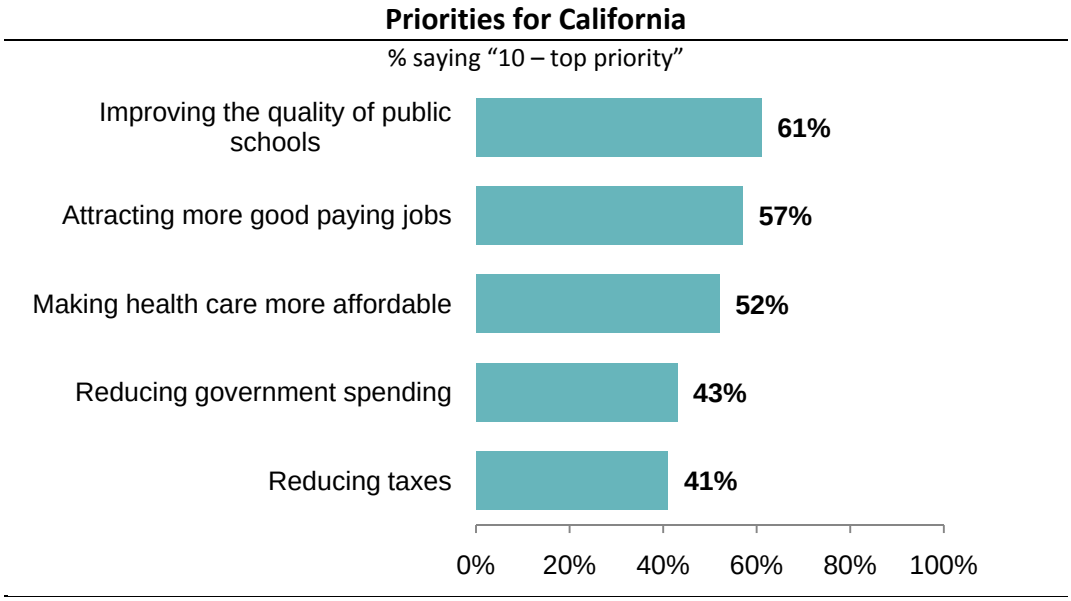
Although Californians place a high priority on quality public schools, they currently view schools across the state as mediocre, with well over half rating them as just fair or poor. Attitudes toward *local* public school, however, fare slightly better, as is typically the case in polling.

Educators, especially local teachers, receive considerably higher ratings than the schools overall.

1. Better public schools are a top demand of Californians

Improving the quality of public schools is a top concern among Californians, with 61% saying it should be a top priority. Attracting more good paying jobs to the state is also seen as a top priority by nearly six in ten Californians (57%), while making health care more affordable (52%) and reducing government spending (43%) and taxes (41%) rank as slightly less pressing concerns.

Those most likely to rank improving public school quality as a top priority include women under 45 (69%), African Americans (75%), Latinos (69%), rural residents (69%), Democrats (69%), and K-12 parents (67%).



I am going to read you a list of priorities for California. Please tell me how important each one is to you personally on a scale of one to ten where one means not a priority at all and ten means it is a top priority. You can choose any number between one and ten. (RANDOMIZE) Q2. Improving the quality of public schools Q4. Attracting more good paying jobs Q5. Making health care more affordable Q3. Reducing government spending Q1. Reducing taxes

2. Californians view public schools across the state as just fair in quality, but are more confident in local schools

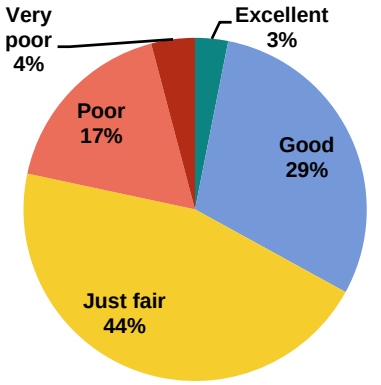
While Californians believe quality public schools are important, they give the state's public schools mediocre ratings, with a plurality (44%) saying they are just fair. On the plus side, positive evaluations (32% say excellent or good) outnumber negative ones (21% poor or very poor) by 11 percentage points.

The public feels more positively about their *local* public schools – over half (54%) say that the quality of their own local public schools is good (40%) or excellent (14%).

Those most likely to give California public schools a good or excellent rating are Latinos (38% excellent or good), those with a high school degree or less (45%), those earning lower incomes (46% less than $25,000 annually, 39% $25-50,000 annually), and Valley residents (42%).

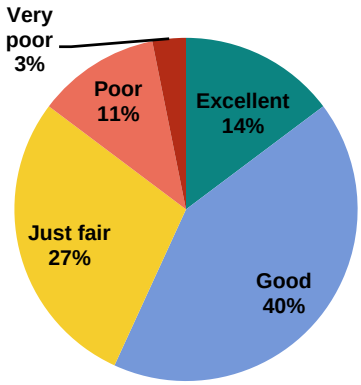
Rural residents are the most likely to give California public school poor ratings (33%). When it comes to *local* public schools, however, rural residents are among the most likely to rate them as excellent or good quality (64%). Others who are likely to praise the quality of their own local public schools include Asians (60% excellent or good), those earning $100,000+ annually (63%), suburban residents (66%), Republicans (60%), and parents of elementary school students (61%).

Quality of California Public Schools



Q7. How would you rate the quality of public schools in *California overall*? Would you say excellent, good, just fair, poor, or very poor?

Quality of Local Public Schools



Q6. How would you rate the quality of your *local* public schools? Would you say they are excellent, good, just fair, or very poor?

In the focus groups, some parents expressed dissatisfaction with their own local schools, particularly in the Los Angeles area, possibly reflecting the current rancor there. Others say that while their own local schools are doing a good job, they believe that schools statewide are worsening, in some cases due to budget cuts.

> "[School] has changed a lot compared to when I was going to school. It basically seems as though the teachers don't really care as much. And it's not only in my school. My other friends and co-workers say the same thing is going on in their schools." – *Latina mother, Los Angeles*
>
> "My son was supposed to go to one of the newer schools, and since they re-districted, he got sent to one of the older schools where they, quite obviously because of budgets and everything, cut back the teachers. There are more kids in the classrooms and there are no afterschool activities." – *Latina mother, Los Angeles*
>
> "They keep talking about cutbacks, cutbacks in education. If they keep cutting back, they're never going to be able to educate these kids properly." – *White father, Sacramento*

3. Public generally happy with teachers, especially in their local schools

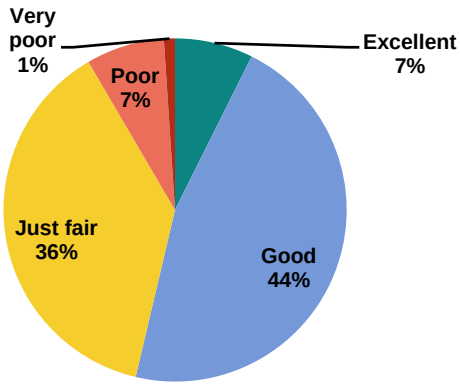
As seen throughout the report, Californians believe that teachers are integral in giving students a high quality science education, and they say that teachers do a fairly good job of helping students learn science. Similarly, teachers in general are viewed positively by Californians. Over half say that teachers statewide are good (44%) or excellent (7%), and only eight percent

hold negative impressions of California teachers. Again, we see more positive impressions of *local* teachers than teachers statewide (47% good, 15% excellent).

Those most likely to give California public school teachers a good rating are those with a high school degree or less (60% excellent or good), those earning less than $25,000 annually (60%), and Valley residents (63%).

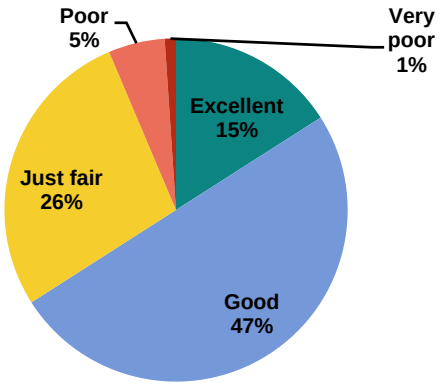
Californians who are most likely to give *local* teachers a good rating include 45-54 year olds (68% excellent or good), those with a high school degree or less (69%), those earning less than $25,000 annually (70%), K-12 parents (72%), especially parents of elementary school students (74%), and Valley residents (72%).

Quality of Teachers in California Public Schools



Q9. How would you rate the overall quality of *teachers* in California public schools: excellent, good, just fair, poor, or very poor?

Quality of Teachers in Local Public Schools



Q8. How would you rate the quality of *teachers* in your *local* public schools: excellent, good, just fair, or very poor?

Appendix A: Detailed Methodology

Belden Russonello & Stewart conducted research as part of Strengthening Science Education in California, funded by the S. D. Bechtel, Jr. Foundation, to examine Californians' awareness and attitudes toward science education in their schools. This section of the report details the methodology of the survey and focus groups.

Survey

The questionnaire used in this study was designed by BRS in close collaboration with the Center for Teaching and Learning and Stone's Throw Communications, which offered valuable insights and contributed much to the thinking that developed the survey questions. The questionnaire was also translated for Spanish-language interviewing.

The fieldwork was conducted by telephone using a computer-assisted telephone interviewing (CATI) system, April 7 to 22, 2010 by a team of professional, fully-trained and supervised telephone interviewers. BRS monitored the interviewing and data collection at all stages to ensure quality.

Sample

The universe for this study is all adults 18 and older in telephone-equipped households in California.

The sample was selected in two stages. In the first stage, the main sampling frame was a list of randomly created phone numbers (a technique known as random digit dial or RDD) for telephone exchanges covering all of California. This list was supplemented with lists of Latinos and Asians as determined by a surname match and additional sample from areas with high proportions of African Americans, to ensure that the survey included adequate representation of these groups. In addition to the RDD sample, cell phone sample was used to insure coverage of cell phone only households. These sample components were developed and provided by Survey Sampling International. Telephone numbers were selected at random from this frame.

The second stage was selection at the household level. In residences where working landlines were reached, the survey respondents were selected using a random probability method, i.e., interviewers requested to speak with the adult 18 years or older in the household who had the most recent birthday. When a cell phone was reached the person answering was interviewed providing they met the qualification for the survey (being an adult living in California). The difference in methodology for second stage selection between landlines and cell phones is due to the fact that a landline telephone is most often a household device and a cell phone is most often an individual device.

A total of 1,004 telephone interviews were completed – 201 by cell phone and 803 by landline. All sample surveys are subject to possible sampling error, *i.e.,* the results may differ from those which would be obtained if the entire population under study were interviewed. The margin of sampling error for a random survey of this size is plus or minus 3.1 percentage points at the

95% level of confidence. This means that in 95 out of 100 samples of this size, the results obtained in the sample would fall in a range of plus or minus 3.1 percentage points of what would have been obtained if every individual adult in California had been interviewed. The sampling error is larger for smaller groups within the sample. Other non-sampling error may also contribute to total survey error.

Data analysis

The data have been weighted by race and age to match the demographics to the proper proportion in the current population of California according to U.S. Census figures. The following table entitled "Sample Composition" shows the weighted and unweighted percentages. All tables and analysis in the text refer to the weighted data.

Reading this report

In reading the report, tables and graphs in the text highlight selected survey findings and are expressed in percentages. The base for each table is all respondents (n=1,004) unless otherwise noted. In reading these data, when the percent sign (%) appears at the top of a column, the numbers add vertically; when % appears at the left of a row, the numbers add horizontally. An asterisk (*) indicates less than 1%; a double hyphen (--) indicates zero. Due to weighting, rounding, omission of "don't know," "refuse," or other responses, percentages may add to more or less than 100%.

Description of banner points

Most of the banner points in the tables are self-evident; however, a few points should be noted.

Urbanicity: Respondents who report living in a "large city" or a "small city" are classified as urban. Respondents who report living in "a suburb of a city" or "a town" are classified as suburban. Respondents who report living in a "rural area" are classified as rural.

Region: The regions are made up of the following groupings of counties:

Northern Cal.	Bay Area	Valley	Los Angeles	Orange/San Diego	Rest of So. Cal.
Amador	Alameda	Alpine	Los Angeles	Orange	Imperial
Butte	Contra Costa	Calaveras		San Diego	Riverside
Colusa	Marin	Fresno			San Bernardino
Del Norte	Napa	Inyo			Santa Barbara
El Dorado	San Francisco	Kern			Ventura
Glenn	San Mateo	Kings			
Humboldt	Santa Clara	Madera			
Lake	Santa Cruz	Mariposa			
Lassen	Solano	Merced			
Mendocino	Sonoma	Mono			
Modoc		Monterey			
Nevada		San Benito			
Placer		San Joaquin			
Plumas		San Luis Obispo			
Sacramento		Stanislaus			
Shasta		Tulare			
Sierra		Tuolumne			
Siskiyou					
Sutter					
Tehama					
Trinity					
Yolo					
Yuba					

Sample Composition

	Unweighted N	Unweighted %	Weighted %
Total	**1004**	**100%**	**100%**
Men	492	49%	49%
Women	512	51	51
18-34	291	29%	33%
35-44	160	16	19
45-54	184	18	19
55-64	165	16	14
65+	201	20	15
Men <45	231	23%	26%
Men 45+	260	26	23
Women <45	220	22	26
Women 45+	290	29	25
White	495	49%	47%
Black	73	7	6
Latino	283	28	33
Asian/Pac. Islander	116	12	13
<HS/HS grad	305	30%	31%
Some college	298	30	30
College grad	228	23	23
Post-graduate	165	16	15
<$25,000	181	18%	18%
$25-50,000	222	22	22
$50-100,000	315	31	32
$100,000+	209	21	20
Urban	623	62%	62%
Suburban	289	29	30
Rural	86	9	8
Vote in 2008	770	77%	75%
Liberal	297	30%	30%
Moderate	311	31	31
Conservative	363	36	37
Democrat	364	36%	36%
Republican	218	22	22
Independent	247	25	24
Parent	709	71%	69%
K-12 Parent	250	25%	27%
Elementary	155	15%	17%
Middle School	86	9	9
High School	101	10	11
Northern CA	97	10%	9%
Bay Area	194	19	19
Valley	139	14	14
Los Angeles	272	27	27
Orange/San Diego	154	15	16
Rest of So Cal	148	15	15

Focus groups

BRS conducted six focus groups on science education in California June 8, 9 and 10, 2010 two per night in Los Angeles, Sacramento, and San Francisco. Four groups were held with parents of children attending a K-12 school. These groups were segmented by race to allow for a more candid discussion. We also conducted one group among those who do not currently have children in K-12 school and one among Californians who work in science-related fields.

Focus Group Composition Table

	Los Angeles		Sacramento		San Francisco	
	AA parents	Latino parents	White parents	Non-parents	Asian parents	Science fields
Men	3	4	5	5	4	3
Women	6	5	3	4	6	6
18-29 years old	1	1	--	--	--	--
30-39	6	4	2	2	2	4
40-49	2	3	4	1	7	3
50-59	--	--	2	2	1	--
60-69	--	1	--	4	--	2
White	--	--	8	7	--	6
Black	9	--	--	2	--	--
Latino	--	9	--	--	--	--
Asian	--	--	--	--	10	3
High school or less	4	1	--	--	--	--
Some college	4	5	5	--	--	--
4-year college	1	2	3	6	6	3
Post graduate work	--	1	--	3	4	6
Under $25K HH income	3	1	--	--	--	--
$25-$50K	2	6	3	2	--	--
$50-$75K	3	1	3	3	3	--
$75-$100K	1	--	1	2	1	4
$100K+	--	1	1	2	6	5
Very liberal	--	--	--	1	--	3
Somewhat liberal	3	4	--	5	2	4
Moderate	4	3	6	2	6	2
Somewhat conservative	1	2	1	1	2	--
Very conservative	1	--	1	--	--	--
Democrat	6	8	5	7	5	6
Republican	1	--	2	1	1	--
Independent	2	1	1	1	4	3
Children in elementary	6	5	4	--	7	2
Middle school	2	3	4	--	3	--
High school	6	4	3	--	3	--

Appendix B: Crosstab Tables

Priorities for California

I am going to read you a list of priorities for California. Please tell me how important each one is to you personally on a scale of one to ten where one means not a priority at all and ten means it is a top priority. You can choose any number between one and ten. (RANDOMIZE) Q1. Reducing taxes Q2. Improving the quality of public schools Q3. Reducing government spending Q4. Attracting more good paying jobs Q5. Making health care more affordable.

% saying "10"	**Improve public school quality**	**More good paying jobs**	**More affordable health care**	**Reduce govt. spending**	**Reduce taxes**
Total	**61%**	**57%**	**52%**	**43%**	**41%**
Men	54%	52%	47%	43%	40%
Women	67%	62%	57%	44%	42%
18-34	62%	55%	46%	29%	34%
35-44	60%	61%	53%	53%	47%
45-54	61%	60%	54%	49%	42%
55-64	58%	54%	61%	43%	40%
65+	61%	56%	55%	53%	48%
Men <45	54%	54%	45%	38%	38%
Men 45+	55%	50%	49%	48%	41%
Women <45	69%	61%	52%	38%	39%
Women 45+	65%	63%	63%	49%	45%
White	54%	50%	42%	46%	37%
Black	75%	69%	68%	38%	45%
Latino	69%	71%	69%	42%	47%
Asian/Pac. Islander	57%	41%	39%	37%	37%
<HS/HS grad	64%	68%	65%	44%	48%
Some college	68%	61%	57%	51%	45%
College grad	53%	47%	37%	40%	33%
Post-graduate	52%	41%	39%	32%	31%
<$25,000	64%	66%	66%	37%	39%
$25-50,000	68%	63%	62%	43%	42%
$50-100,000	63%	54%	45%	45%	42%
$100,000+	51%	47%	37%	47%	39%
Urban	62%	58%	54%	42%	40%
Suburban	57%	53%	48%	42%	39%
Rural	69%	66%	56%	55%	54%
Vote in 2008	62%	55%	50%	46%	42%
Liberal	64%	53%	59%	28%	31%
Moderate	59%	54%	50%	41%	34%
Conservative	61%	62%	48%	58%	53%
Democrat	69%	60%	64%	35%	36%
Republican	59%	58%	36%	60%	54%
Independent	56%	54%	49%	43%	35%
Parent	64%	60%	56%	48%	45%
K-12 Parent	67%	59%	56%	43%	45%
Elementary	67%	58%	54%	40%	44%
Middle School	69%	57%	54%	49%	43%
High School	68%	67%	60%	50%	53%
Northern CA	66%	61%	55%	51%	42%
Bay Area	61%	44%	47%	34%	32%
Valley	61%	58%	59%	42%	48%
Los Angeles	65%	60%	54%	42%	41%
Orange/San Diego	53%	55%	45%	47%	42%
Rest of So Cal	58%	66%	54%	50%	45%

Quality of Local Public Schools

Q6. Turning to education, how would you rate the quality of your *local* public schools? Would you say they are excellent, good, just fair, poor or very poor?

	Net good	Net poor	Excellent	Good	Fair	Poor	Very poor
Total	**54%**	**14**	**14%**	**40**	**27**	**11**	**3**
Men	53%	14	16%	38	28	11	3
Women	55%	16	12%	43	25	12	4
18-34	56%	11	13%	44	26	9	2
35-44	53%	15	13%	39	28	10	5
45-54	53%	18	15%	38	26	17	2
55-64	55%	17	20%	35	23	14	3
65+	51%	16	11%	40	30	9	7
Men <45	54%	13	16%	38	27	10	2
Men 45+	52%	15	16%	37	29	12	3
Women <45	55%	13	10%	46	27	9	4
Women 45+	54%	19	15%	39	24	15	5
White	56%	12	16%	40	25	10	3
Black	38%	27	7%	31	32	19	8
Latino	52%	18	14%	39	27	15	4
Asian/Pac. Islander	60%	11	13%	48	27	7	3
<HS/HS grad	57%	16	17%	40	25	13	3
Some college	52%	15	11%	40	29	12	3
College grad	52%	13	13%	39	28	10	3
Post-graduate	57%	13	14%	42	23	8	5
<$25,000	56%	13	18%	38	28	9	4
$25-50,000	52%	21	10%	41	22	17	3
$50-100,000	49%	14	12%	37	33	11	3
$100,000+	63%	13	19%	45	20	9	5
Urban	48%	17	11%	37	30	13	4
Suburban	66%	9	19%	46	21	6	3
Rural	64%	16	16%	47	18	15	2
Vote in 2008	53%	16	13%	40	27	11	4
Liberal	52%	14	13%	40	26	11	2
Moderate	59%	14	13%	45	23	11	3
Conservative	52%	17	16%	36	29	12	5
Democrat	52%	16	15%	37	27	14	3
Republican	60%	15	15%	45	24	9	6
Independent	52%	14	14%	38	27	11	3
Parent	56%	16	14%	41	26	11	4
K-12 Parent	59%	13	13%	45	28	9	4
Elementary	61%	9	13%	47	29	6	4
Middle School	53%	12	17%	36	34	5	7
High School	54%	18	14%	40	26	14	4
Northern CA	54%	11	11%	43	29	8	2
Bay Area	59%	16	18%	41	21	13	3
Valley	58%	14	15%	43	25	11	4
Los Angeles	47%	19	10%	38	31	15	5
Orange/San Diego	52%	12	17%	35	29	9	4
Rest of So Cal	59%	11	15%	44	23	9	2

Quality of California Public Schools

Q7. How would you rate the quality of public schools in *California overall*? Would you say excellent, good, just fair, poor, or very poor?

	Net good	Net poor	Excellent	Good	Fair	Poor	Very poor
Total	**32%**	**21**	**3%**	**29**	**44**	**17**	**4**
Men	34%	21	4%	30	43	17	4
Women	31%	22	2%	28	45	17	4
18-34	37%	18	4%	33	42	15	3
35-44	31%	24	2%	29	41	18	6
45-54	29%	24	2%	28	44	20	4
55-64	27%	23	2%	25	48	19	4
65+	33%	19	5%	27	48	15	4
Men <45	35%	19	4%	31	43	16	3
Men 45+	33%	22	3%	29	43	17	5
Women <45	34%	22	2%	32	39	16	6
Women 45+	27%	22	2%	24	50	18	3
White	28%	23	2%	26	45	19	4
Black	35%	26	2%	32	39	13	12
Latino	38%	21	5%	33	40	17	3
Asian/Pac. Islander	32%	14	2%	30	52	9	4
<HS/HS grad	45%	14	6%	38	39	11	3
Some college	27%	25	1%	26	45	21	4
College grad	29%	24	2%	27	44	19	5
Post-graduate	23%	23	2%	21	51	18	5
<$25,000	46%	17	8%	37	36	13	3
$25-50,000	39%	21	3%	36	37	15	6
$50-100,000	26%	23	2%	24	48	19	4
$100,000+	23%	24	1%	22	51	19	4
Urban	34%	20	4%	31	43	16	3
Suburban	31%	21	2%	28	45	16	5
Rural	23%	33	2%	21	44	27	6
Vote in 2008	29%	24	2%	27	44	20	5
Liberal	27%	22	4%	23	46	18	4
Moderate	32%	21	3%	30	46	15	5
Conservative	36%	22	3%	34	40	18	4
Democrat	32%	21	4%	28	44	16	5
Republican	35%	21	1%	33	43	17	4
Independent	29%	21	3%	26	47	15	6
Parent	31%	21	3%	29	45	16	5
K-12 Parent	33%	19	1%	32	45	14	5
Elementary	31%	18	1%	30	47	13	5
Middle School	29%	17	2%	27	51	13	4
High School	33%	24	1%	32	41	20	4
Northern CA	28%	26	4%	24	43	18	8
Bay Area	25%	23	1%	24	50	20	2
Valley	42%	15	3%	39	52	14	1
Los Angeles	32%	22	2%	30	44	15	6
Orange/San Diego	32%	24	4%	28	39	20	4
Rest of So Cal	35%	18	6%	30	42	15	3

Quality of Teachers in Local Public Schools

Q8. How would you rate the quality of *teachers* in your *local* public schools: excellent, good, just fair, poor or very poor?

	Net good	Net poor	Excellent	Good	Fair	Poor	Very poor
Total	**62%**	**6**	**15%**	**47**	**26**	**5**	**1**
Men	61%	6	17%	45	27	5	1
Women	62%	7	14%	49	25	5	1
18-34	62%	5	15%	47	26	4	1
35-44	63%	7	18%	45	25	7	1
45-54	68%	4	19%	49	23	4	1
55-64	60%	6	13%	47	29	4	2
65+	54%	11	9%	45	28	11	1
Men <45	62%	6	19%	43	28	5	1
Men 45+	61%	7	14%	47	26	7	*
Women <45	63%	6	13%	49	23	5	1
Women 45+	62%	7	15%	47	27	5	2
White	64%	5	18%	46	21	5	*
Black	44%	11	6%	39	41	9	2
Latino	64%	7	15%	49	27	6	2
Asian/Pac. Islander	57%	6	9%	48	34	5	2
<HS/HS grad	69%	9	20%	49	20	7	1
Some college	60%	8	13%	47	29	8	--
College grad	57%	3	13%	44	32	1	2
Post-graduate	59%	4	15%	45	25	3	1
<$25,000	70%	8	21%	49	18	6	2
$25-50,000	61%	7	16%	45	24	7	*
$50-100,000	57%	7	12%	45	31	6	1
$100,000+	68%	2	17%	51	25	1	1
Urban	60%	7	15%	45	28	6	1
Suburban	65%	4	17%	48	25	4	--
Rural	68%	7	15%	54	18	5	2
Vote in 2008	61%	6	14%	47	28	5	1
Liberal	57%	4	16%	41	28	3	1
Moderate	66%	7	18%	47	23	6	1
Conservative	63%	8	12%	50	27	6	2
Democrat	63%	5	15%	48	25	5	1
Republican	66%	8	15%	50	24	7	1
Independent	60%	7	17%	43	27	5	1
Parent	65%	7	15%	50	25	6	1
K-12 Parent	72%	6	16%	55	21	5	*
Elementary	74%	3	18%	56	21	3	--
Middle School	68%	10	17%	50	20	10	--
High School	68%	8	16%	52	23	7	1
Northern CA	64%	7	22%	42	23	6	*
Bay Area	63%	2	16%	47	24	2	1
Valley	72%	7	14%	58	18	7	--
Los Angeles	56%	11	14%	43	30	8	2
Orange/San Diego	56%	7	18%	38	31	5	2
Rest of So Cal	65%	1	11%	54	27	1	--

Quality of Teachers in California Public Schools

Q9. How would you rate the overall quality of *teachers* in California public schools: excellent, good, just fair, poor or very poor?

	Net good	Net poor	Excellent	Good	Fair	Poor	Very poor
Total	**51%**	**8**	**7%**	**44**	**36**	**7**	**1**
Men	51%	8	8%	43	36	7	*
Women	51%	8	6%	45	36	7	1
18-34	52%	9	9%	42	34	8	2
35-44	48%	9	7%	40	38	9	1
45-54	53%	6	5%	47	37	6	--
55-64	51%	5	6%	45	38	5	--
65+	53%	8	5%	47	34	7	1
Men <45	48%	9	10%	38	39	8	*
Men 45+	55%	6	5%	50	33	6	*
Women <45	52%	10	7%	46	32	8	2
Women 45+	50%	6	6%	44	40	6	--
White	50%	9	6%	44	33	8	1
Black	46%	9	6%	40	42	7	2
Latino	55%	7	10%	45	37	7	*
Asian/Pac. Islander	49%	6	5%	44	41	5	1
<HS/HS grad	60%	6	11%	49	31	5	*
Some college	49%	9	7%	42	37	8	1
College grad	44%	10	5%	39	41	8	2
Post-graduate	49%	8	3%	46	37	7	1
<$25,000	60%	6	12%	48	30	5	1
$25-50,000	53%	8	9%	44	35	7	1
$50-100,000	48%	9	5%	42	37	8	1
$100,000+	48%	8	4%	45	40	8	--
Urban	52%	7	8%	44	37	6	1
Suburban	50%	9	5%	45	35	8	*
Rural	49%	13	10%	39	33	8	5
Vote in 2008	50%	9	6%	45	37	8	1
Liberal	50%	5	8%	43	38	4	1
Moderate	51%	9	7%	44	36	9	1
Conservative	52%	9	6%	47	35	9	1
Democrat	54%	6	8%	46	35	5	1
Republican	54%	11	5%	49	31	10	*
Independent	48%	7	8%	40	41	5	2
Parent	53%	8	6%	47	35	7	1
K-12 Parent	54%	6	5%	49	36	5	1
Elementary	51%	4	5%	45	41	3	1
Middle School	52%	7	7%	45	34	7	--
High School	56%	8	5%	52	32	8	--
Northern CA	54%	10	11%	43	32	8	2
Bay Area	49%	6	5%	44	36	6	--
Valley	63%	8	6%	57	27	8	--
Los Angeles	55%	7	8%	47	35	6	1
Orange/San Diego	37%	10	8%	29	47	9	*
Rest of So Cal	50%	8	5%	45	38	7	1

Importance of Subject Areas

Please tell me how important you think it is for California public schools to give all students a strong background in each of the following areas: essential, very important, somewhat important, just a little bit, or not at all important? (RANDOMIZE) Q12. Reading and writing Q10. Math Q14. Science Q15. Computer skills.

% saying "essential"	**Reading and writing**	**Math**	**Science**	**Computer skills**
Total	**53%**	**48%**	**38%**	**37%**
Men	51%	47%	38%	38%
Women	55%	50%	38%	37%
18-34	56%	49%	39%	34%
35-44	57%	56%	38%	45%
45-54	53%	49%	35%	40%
55-64	50%	44%	36%	33%
65+	46%	40%	39%	36%
Men <45	53%	50%	37%	38%
Men 45+	49%	44%	39%	38%
Women <45	60%	54%	41%	38%
Women 45+	51%	45%	35%	36%
White	65%	59%	43%	44%
Black	44%	42%	34%	28%
Latino	40%	37%	31%	35%
Asian/Pac. Islander	47%	42%	36%	26%
<HS/HS grad	40%	34%	27%	32%
Some college	52%	47%	32%	37%
College grad	65%	59%	51%	43%
Post-graduate	68%	65%	54%	42%
<$25,000	35%	33%	27%	33%
$25-50,000	51%	46%	35%	38%
$50-100,000	58%	53%	41%	37%
$100,000+	69%	64%	50%	46%
Urban	49%	44%	35%	33%
Suburban	62%	58%	45%	46%
Rural	58%	50%	29%	39%
Vote in 2008	56%	52%	41%	40%
Liberal	59%	53%	43%	39%
Moderate	57%	52%	39%	40%
Conservative	47%	42%	33%	34%
Democrat	55%	48%	39%	38%
Republican	57%	54%	39%	40%
Independent	52%	49%	38%	37%
Parent	51%	46%	38%	38%
K-12 Parent	52%	49%	38%	38%
Elementary	52%	50%	37%	38%
Middle School	48%	46%	30%	29%
High School	46%	41%	31%	35%
Northern CA	56%	50%	43%	33%
Bay Area	61%	54%	37%	38%
Valley	44%	38%	27%	32%
Los Angeles	51%	47%	39%	38%
Orange/San Diego	58%	54%	40%	42%
Rest of So Cal	49%	45%	39%	39%

Importance of Subject Areas (cont.)

Please tell me how important you think it is for California public schools to give all students a strong background in each of the following areas: essential, very important, somewhat important, just a little bit, or not at all important? (RANDOMIZE) Q17. Nutrition and health Q11. History and social studies Q16. Art and music Q13. Foreign language.

% saying "essential"	**Nutrition and health**	**History and social studies**	**Art and music**	**Foreign language**
Total	**30%**	**29%**	**22%**	**19%**
Men	27%	26%	21%	20%
Women	33%	31%	23%	18%
18-34	35%	30%	25%	22%
35-44	28%	31%	26%	20%
45-54	28%	26%	19%	17%
55-64	25%	32%	15%	15%
65+	30%	25%	20%	18%
Men <45	25%	25%	22%	19%
Men 45+	29%	27%	18%	21%
Women <45	40%	35%	29%	23%
Women 45+	26%	27%	18%	13%
White	33%	32%	23%	18%
Black	29%	24%	21%	15%
Latino	27%	27%	22%	21%
Asian/Pac. Islander	29%	21%	19%	19%
<HS/HS grad	26%	25%	20%	18%
Some college	31%	26%	19%	16%
College grad	39%	36%	30%	25%
Post-graduate	23%	32%	20%	20%
<$25,000	28%	25%	18%	18%
$25-50,000	33%	31%	26%	21%
$50-100,000	32%	29%	24%	17%
$100,000+	28%	31%	21%	19%
Urban	28%	27%	18%	18%
Suburban	36%	33%	28%	22%
Rural	27%	28%	28%	17%
Vote in 2008	30%	31%	23%	19%
Liberal	32%	30%	27%	25%
Moderate	30%	27%	22%	19%
Conservative	29%	29%	19%	15%
Democrat	29%	28%	22%	20%
Republican	35%	35%	21%	15%
Independent	27%	29%	25%	20%
Parent	28%	30%	23%	18%
K-12 Parent	29%	33%	30%	19%
Elementary	29%	33%	31%	16%
Middle School	24%	31%	23%	14%
High School	23%	29%	25%	21%
Northern CA	28%	33%	27%	14%
Bay Area	30%	28%	22%	17%
Valley	25%	19%	13%	16%
Los Angeles	31%	27%	22%	20%
Orange/San Diego	31%	32%	25%	22%
Rest of So Cal	33%	37%	24%	22%

Rating the Quality of Science Education: Parents with K-12 Children

Q18. (IF K12 PARENT: D3a, D3b, or D3c=YES; N=250) Thinking about your own children currently in grades K through 12, would you rate the quality of science education your child or children have received so far as excellent, good, just fair, poor or very poor?

	Net good	Net poor	Excellent	Good	Fair	Poor	Very poor
Total	**62%**	**7**	**15%**	**47**	**28**	**5**	**2**
Men	57%	7	18%	39	33	4	3
Women	65%	7	12%	53	24	7	*
18-34	63%	8	15%	49	23	7	1
35-44	61%	6	12%	49	29	2	4
45-54	58%	9	19%	39	32	9	--
Men <45	59%	7	16%	43	30	2	5
Women <45	64%	7	11%	54	24	7	1
White	59%	9	14%	45	28	6	2
Latino	60%	7	12%	48	30	6	1
<HS/HS grad	64%	3	14%	50	31	2	1
Some college	53%	13	11%	42	30	10	4
College grad	65%	7	18%	47	22	6	1
$25-50,000	61%	11	15%	46	26	9	2
$50-100,000	56%	3	13%	43	38	2	1
$100,000+	70%	9	18%	52	18	7	2
Urban	57%	7	15%	42	32	5	2
Suburban	71%	5	16%	55	22	3	2
Vote in 2008	60%	8	14%	46	29	6	2
Liberal	63%	8	12%	50	26	7	1
Moderate	61%	4	16%	46	32	3	2
Conservative	61%	9	17%	44	27	6	2
Democrat	58%	8	13%	45	31	7	2
Republican	63%	6	14%	49	25	6	--
Independent	60%	8	16%	44	30	8	--
Parent	62%	7	15%	47	28	5	2
K-12 Parent	62%	7	15%	47	28	5	2
Elementary	59%	10	12%	46	26	7	3
Middle School	56%	5	16%	40	36	4	2
High School	62%	6	18%	44	31	5	1
Los Angeles	61%	8	19%	41	28	7	1

Rating the Quality of Science Education: Parents with Older Children

Q19. (IF PARENT OF 19-30 YEAR OLDS: D2b=YES; N=236) Thinking about your own children between 19 and 30 years old, would you rate the quality of science education your child or children received in elementary through high school as excellent, good, just fair, poor or very poor?

	Net good	Net poor	Excellent	Good	Fair	Poor	Very poor
Total	**61%**	**10**	**13%**	**48**	**28**	**9**	**1**
Men	61%	12	11%	50	25	10	2
Women	60%	8	14%	46	30	8	--
45-54	63%	7	12%	50	29	6	1
Men 45+	64%	11	12%	52	23	10	1
Women 45+	61%	6	15%	47	33	6	--
White	62%	7	13%	49	28	7	1
Latino	57%	12	13%	45	29	10	1
<HS/HS grad	64%	10	15%	49	26	7	3
Some college	56%	8	7%	49	34	7	1
$50-100,000	56%	12	8%	48	31	12	--
$100,000+	63%	16	16%	47	20	14	2
Urban	59%	10	11%	48	29	8	2
Vote in 2008	62%	11	12%	50	26	10	1
Liberal	63%	12	17%	46	22	12	--
Moderate	54%	8	9%	45	36	8	--
Conservative	64%	10	12%	51	25	7	2
Democrat	62%	9	17%	46	28	8	1
Republican	66%	13	11%	55	22	11	1
Parent	61%	10	13%	48	28	9	1
K-12 Parent	66%	4	12%	55	24	2	2
Los Angeles	59%	16	12%	47	23	15	1

Parent Assessment of Time Spent on Science Education

Q20. (IF PARENT K12: D3a, D3b, or D3c=YES; N=250) Thinking about how much time your child or children spend learning science in school, would you say schools spend enough time on science, not enough, or too much time on science?

	Enough	Not enough
Total	**42%**	**55**
Men	37%	61
Women	46%	51
18-34	44%	54
35-44	41%	59
45-54	41%	53
Men <45	42%	58
Women <45	43%	56
White	52%	48
Latino	32%	63
<HS/HS grad	40%	57
Some college	46%	54
College grad	43%	53
$25-50,000	38%	59
$50-100,000	37%	61
$100,000+	46%	50
Urban	39%	60
Suburban	46%	50
Vote in 2008	41%	56
Liberal	43%	53
Moderate	40%	58
Conservative	42%	56
Democrat	33%	65
Republican	49%	48
Independent	42%	56
Parent	42%	55
K-12 Parent	42%	55
Elementary	39%	58
Middle School	38%	60
High School	44%	56
Los Angeles	41%	52

Amount of Science Education Today Compared to Respondents' Experience

Q21. Do you think students today should be given more, less, or about the same amount of education in science that *you* received while in school?

	More	About the same
Total	**65%**	**32**
Men	65%	32
Women	65%	32
18-34	51%	45
35-44	69%	27
45-54	71%	26
55-64	66%	30
65+	81%	18
Men <45	56%	39
Men 45+	74%	24
Women <45	58%	38
Women 45+	72%	25
White	54%	43
Black	89%	8
Latino	75%	22
Asian/Pac. Islander	66%	30
<HS/HS grad	69%	27
Some college	63%	33
College grad	63%	35
Post-graduate	62%	34
<$25,000	69%	27
$25-50,000	66%	31
$50-100,000	64%	32
$100,000+	59%	39
Urban	65%	31
Suburban	64%	34
Rural	60%	34
Vote in 2008	67%	31
Liberal	67%	32
Moderate	66%	28
Conservative	61%	35
Democrat	67%	29
Republican	62%	36
Independent	63%	33
Parent	71%	26
K-12 Parent	66%	31
Elementary	67%	30
Middle School	63%	35
High School	67%	31
Northern CA	66%	31
Bay Area	59%	34
Valley	64%	33
Los Angeles	68%	29
Orange/San Diego	66%	31
Rest of So Cal	65%	34

When Should Science Be Introduced

Q22. In what grade do you think schools should begin to teach science to students?

	Kindergarten	1st-2nd	3rd-4th	5th-6th	7th-12th
Total	**18%**	**29**	**25**	**17**	**10**
Men	13%	29	25	20	12
Women	24%	29	25	14	8
18-34	20%	27	23	20	10
35-44	21%	35	21	15	7
45-54	18%	29	32	11	10
55-64	19%	32	21	18	10
65+	10%	25	31	20	13
Men <45	14%	28	23	21	13
Men 45+	10%	30	28	20	11
Women <45	27%	31	21	15	5
Women 45+	20%	28	29	13	10
White	23%	31	23	13	9
Black	25%	26	22	18	9
Latino	13%	27	27	20	12
Asian/Pac. Islander	11%	29	29	21	9
<HS/HS grad	11%	25	25	23	15
Some college	17%	27	29	16	10
College grad	26%	35	19	13	6
Post-graduate	25%	34	25	13	3
<$25,000	16%	23	26	16	17
$25-50,000	15%	33	25	18	8
$50-100,000	17%	29	24	19	10
$100,000+	23%	33	29	11	4
Urban	16%	30	24	18	10
Suburban	22%	27	27	15	8
Rural	24%	27	24	12	12
Vote in 2008	20%	30	24	16	8
Liberal	21%	33	22	13	10
Moderate	20%	28	25	18	8
Conservative	15%	26	28	20	10
Democrat	19%	29	25	16	11
Republican	20%	32	25	14	9
Independent	16%	28	28	18	8
Parent	20%	29	26	14	9
K-12 Parent	25%	32	25	10	6
Elementary	27%	34	25	7	5
Middle School	27%	25	28	9	8
High School	21%	33	26	14	6
Northern CA	27%	19	32	15	7
Bay Area	23%	29	24	15	9
Valley	13%	24	32	20	10
Los Angeles	14%	32	24	18	11
Orange/San Diego	19%	30	17	18	14
Rest of So Cal	19%	34	26	14	6

Importance of Early Science Education to High School Success

Q23. In your opinion, how important is beginning to learn about science in elementary school to doing well in more advanced science classes that students take in high school and college? Is it essential, very important, somewhat important, not very, or not at all important?

	Essential	Very important	Somewhat important	Not very/not at all important
Total	**38%**	**42**	**17**	**3**
Men	35%	43	18	4
Women	41%	40	15	3
18-34	34%	43	18	5
35-44	40%	42	15	3
45-54	38%	39	19	3
55-64	46%	36	16	2
65+	39%	47	12	2
Men <45	31%	43	21	4
Men 45+	39%	43	15	3
Women <45	42%	41	13	4
Women 45+	41%	39	17	2
White	39%	40	18	3
Black	39%	44	13	4
Latino	38%	45	14	3
Asian/Pac. Islander	35%	39	23	3
<HS/HS grad	30%	47	18	4
Some college	40%	39	17	3
College grad	43%	42	13	3
Post-graduate	44%	34	19	3
<$25,000	32%	44	20	4
$25-50,000	40%	43	12	5
$50-100,000	37%	43	19	2
$100,000+	45%	36	15	4
Urban	35%	43	18	4
Suburban	45%	38	15	3
Rural	35%	45	17	3
Vote in 2008	41%	42	15	2
Liberal	41%	42	15	2
Moderate	38%	38	19	5
Conservative	36%	45	16	3
Democrat	42%	39	15	4
Republican	41%	45	14	1
Independent	31%	47	18	4
Parent	41%	42	15	2
K-12 Parent	39%	42	17	2
Elementary	38%	44	16	2
Middle School	33%	47	18	2
High School	35%	47	15	3
Northern CA	40%	43	16	1
Bay Area	37%	38	20	4
Valley	33%	44	21	2
Los Angeles	37%	41	18	4
Orange/San Diego	43%	41	12	4
Rest of So Cal	40%	45	11	3

Begin Science Education or Focus on "Three Rs" in Elementary School

Q24. Thinking about learning science, which of these two points of view do you agree with more: (ROTATE) those who say children should begin learning science in elementary school in order for them to succeed in science in high school OR those who say that in elementary school students should be focusing on reading writing, and basic math, so most science should wait until middle and high school. (WAIT FOR RESPONSE) Do you feel that way strongly or somewhat?

	Net should	Net should wait	Strongly should	Somewhat should	Somewhat should wait	Strongly should wait
Total	**72%**	**28**	**57%**	**15**	**10**	**18**
Men	66%	33	51%	15	11	23
Women	77%	22	63%	14	9	13
18-34	68%	32	49%	20	12	19
35-44	74%	25	61%	13	7	18
45-54	73%	26	59%	14	9	16
55-64	71%	29	63%	8	10	19
65+	75%	25	62%	13	10	14
Men <45	63%	37	46%	17	11	26
Men 45+	70%	30	56%	13	10	19
Women <45	78%	22	60%	18	10	12
Women 45+	76%	23	65%	11	9	14
White	75%	24	58%	18	10	14
Black	73%	27	66%	7	15	12
Latino	69%	30	55%	14	10	20
Asian/Pac. Islander	64%	36	53%	11	9	27
<HS/HS grad	66%	34	54%	12	14	20
Some college	72%	27	54%	18	10	17
College grad	77%	22	62%	15	6	17
Post-graduate	75%	25	60%	14	9	16
<$25,000	69%	31	57%	12	10	20
$25-50,000	72%	28	58%	14	10	18
$50-100,000	71%	28	55%	17	10	18
$100,000+	77%	22	59%	19	8	14
Urban	70%	30	55%	15	11	19
Suburban	75%	24	59%	17	8	16
Rural	71%	28	61%	9	14	14
Vote in 2008	74%	25	59%	15	10	15
Liberal	76%	24	62%	13	7	17
Moderate	72%	28	56%	16	9	19
Conservative	69%	31	54%	14	14	17
Democrat	72%	27	60%	12	10	17
Republican	73%	26	56%	17	11	15
Independent	71%	29	53%	18	10	18
Parent	75%	24	63%	13	9	15
K-12 Parent	77%	21	61%	16	9	12
Elementary	76%	22	61%	16	9	12
Middle School	74%	23	58%	16	10	13
High School	81%	18	66%	15	8	11
Northern CA	72%	26	59%	14	11	15
Bay Area	74%	26	61%	13	8	18
Valley	65%	33	49%	17	14	19
Los Angeles	69%	30	55%	14	10	21
Orange/San Diego	74%	25	59%	16	9	16
Rest of So Cal	76%	24	60%	16	10	13

Requiring Biology, Chemistry and Physics in High School

Q25. Which of these do you agree with more: (ROTATE) those who say it is better to require all high school students in California to study biology, chemistry and physics, OR those who say it is better to let students who are not planning on going on to college or working in science-related fields, to opt out of biology, chemistry and physics classes? (WAIT FOR RESPONSE) Do you feel that way strongly or somewhat?

	Net require	Net allow to opt out	Strongly require	Somewhat require	Somewhat opt out	Strongly opt out
Total	**65%**	**33**	**48%**	**17**	**17**	**16**
Men	66%	33	49%	17	16	17
Women	65%	34	48%	17	19	15
18-34	65%	34	43%	22	19	15
35-44	75%	24	58%	17	14	10
45-54	62%	37	49%	13	13	24
55-64	58%	37	49%	9	20	17
65+	66%	34	47%	19	20	14
Men <45	68%	31	47%	21	16	15
Men 45+	63%	35	51%	12	16	19
Women <45	69%	30	50%	19	19	12
Women 45+	61%	37	46%	15	19	18
White	59%	40	39%	20	22	19
Black	68%	31	61%	8	16	15
Latino	75%	23	60%	15	11	12
Asian/Pac. Islander	65%	34	48%	18	18	15
<HS/HS grad	70%	30	49%	20	17	13
Some college	63%	35	49%	15	18	17
College grad	66%	33	48%	18	17	16
Post-graduate	61%	38	46%	14	18	20
<$25,000	72%	28	54%	18	15	12
$25-50,000	66%	32	52%	14	18	14
$50-100,000	67%	32	47%	20	17	15
$100,000+	56%	42	39%	17	21	22
Urban	66%	33	49%	16	17	16
Suburban	66%	33	47%	19	17	15
Rural	62%	38	43%	19	23	16
Vote in 2008	66%	33	49%	17	17	16
Liberal	65%	34	47%	18	18	16
Moderate	68%	31	49%	19	15	16
Conservative	65%	35	50%	15	19	16
Democrat	66%	33	49%	16	19	15
Republican	65%	34	50%	16	17	17
Independent	68%	31	49%	19	16	15
Parent	68%	31	53%	15	16	15
K-12 Parent	73%	27	58%	14	14	13
Elementary	76%	23	60%	16	12	11
Middle School	76%	24	67%	9	11	13
High School	71%	29	55%	15	15	15
Northern CA	48%	51	36%	13	27	24
Bay Area	64%	35	46%	19	18	17
Valley	66%	33	43%	23	16	17
Los Angeles	68%	30	55%	13	16	14
Orange/San Diego	63%	34	46%	18	16	18
Rest of So Cal	75%	25	56%	19	15	9

Job Rating for California Middle and High School Science Teachers

Q26. As far as you know, do the public middle and high school science teachers in California do an excellent, good, just fair, poor, or very poor job helping students learn about science – or do you not have a view on this?

	Excellent/Good	Fair	Poor/Very Poor	No opinion
Total	**36%**	**22**	**6**	**33**
Men	38%	22	7	32
Women	36%	22	6	34
18-34	39%	23	6	31
35-44	34%	19	5	40
45-54	40%	25	5	28
55-64	36%	21	11	30
65+	34%	22	6	37
Men <45	37%	20	5	37
Men 45+	39%	25	8	27
Women <45	37%	23	6	32
Women 45+	35%	21	6	35
White	35%	21	5	38
Black	27%	18	19	33
Latino	42%	23	5	27
Asian/Pac. Islander	36%	28	7	27
<HS/HS grad	42%	16	5	35
Some college	36%	21	7	33
College grad	35%	27	7	29
Post-graduate	29%	30	6	32
<$25,000	37%	19	7	36
$25-50,000	41%	21	4	34
$50-100,000	36%	21	7	33
$100,000+	37%	25	8	29
Urban	37%	23	6	32
Suburban	39%	22	5	32
Rural	31%	16	14	37
Vote in 2008	35%	22	7	34
Liberal	33%	22	8	34
Moderate	41%	19	5	34
Conservative	36%	25	6	31
Democrat	40%	20	7	32
Republican	37%	24	6	29
Independent	38%	18	7	35
Parent	37%	21	7	33
K-12 Parent	39%	20	5	34
Elementary	30%	17	6	44
Middle School	45%	23	3	29
High School	49%	26	4	20
Northern CA	30%	18	10	41
Bay Area	31%	21	7	38
Valley	44%	20	4	29
Los Angeles	40%	23	6	30
Orange/San Diego	31%	28	7	33
Rest of So Cal	41%	21	5	30

Job Rating for California Elementary School Science Teachers

Q27. How about those teachers who teach science as part of their duties in *elementary* classrooms? As far as you know, do the elementary teachers in California do an excellent, good, just fair, poor or very poor job helping elementary students learn about science– or do you not have a view on this?

	Excellent/Good	Fair	Poor/Very Poor	No Opinion
Total	**36%**	**22**	**8**	**32**
Men	33%	22	9	34
Women	40%	21	7	29
18-34	35%	21	8	35
35-44	35%	24	6	33
45-54	40%	27	8	22
55-64	37%	17	10	32
65+	38%	20	8	33
Men <45	29%	23	7	39
Men 45+	37%	22	11	29
Women <45	40%	21	7	30
Women 45+	40%	22	7	28
White	31%	23	9	34
Black	35%	21	9	36
Latino	46%	21	7	25
Asian/Pac. Islander	35%	23	8	34
<HS/HS grad	44%	17	6	30
Some college	42%	21	8	28
College grad	27%	27	13	32
Post-graduate	25%	27	7	38
<$25,000	48%	16	8	28
$25-50,000	38%	21	6	34
$50-100,000	32%	21	10	33
$100,000+	34%	31	9	25
Urban	36%	22	8	32
Suburban	35%	23	6	33
Rural	44%	14	15	24
Vote in 2008	35%	23	9	31
Liberal	34%	21	9	34
Moderate	35%	22	7	33
Conservative	42%	22	8	28
Democrat	41%	23	7	28
Republican	37%	22	8	30
Independent	33%	21	10	33
Parent	41%	23	8	26
K-12 Parent	44%	28	4	22
Elementary	43%	29	3	23
Middle School	45%	29	4	20
High School	44%	28	5	21
Northern CA	42%	21	12	24
Bay Area	31%	24	7	36
Valley	43%	19	5	33
Los Angeles	40%	20	8	30
Orange/San Diego	30%	23	10	35
Rest of So Cal	35%	25	9	29

Extra Preparation for Middle and High School Science Teachers

Q28. In your opinion, should *middle and high school* science teachers have extra preparation or have special training in science in order to teach that subject, or is that not necessary?

	Yes	No
Total	**84%**	**15**
Men	83%	16
Women	85%	14
18-34	78%	20
35-44	85%	14
45-54	89%	9
55-64	88%	12
65+	84%	15
Men <45	78%	20
Men 45+	88%	11
Women <45	83%	16
Women 45+	87%	12
White	84%	14
Black	89%	9
Latino	83%	17
Asian/Pac. Islander	83%	16
<HS/HS grad	80%	18
Some college	85%	14
College grad	83%	15
Post-graduate	92%	7
<$25,000	74%	23
$25-50,000	85%	15
$50-100,000	84%	15
$100,000+	92%	8
Urban	85%	14
Suburban	83%	14
Rural	78%	21
Vote in 2008	86%	13
Liberal	85%	14
Moderate	86%	14
Conservative	82%	17
Democrat	87%	12
Republican	82%	17
Independent	83%	16
Parent	86%	12
K-12 Parent	88%	10
Elementary	87%	10
Middle School	90%	9
High School	91%	7
Northern CA	87%	10
Bay Area	84%	14
Valley	78%	20
Los Angeles	84%	15
Orange/San Diego	87%	11
Rest of So Cal	83%	17

Extra Preparation for Elementary School Science Teachers

Q29. In your opinion, should *elementary* school teachers who teach science along with other subjects have extra preparation or have special training in science in order to teach it, or is that not necessary at the elementary level?

	Yes	No
Total	**56%**	**43**
Men	54%	45
Women	57%	42
18-34	46%	52
35-44	49%	51
45-54	58%	41
55-64	67%	32
65+	70%	29
Men <45	45%	54
Men 45+	65%	34
Women <45	50%	49
Women 45+	64%	35
White	46%	53
Black	66%	32
Latino	67%	32
Asian/Pac. Islander	55%	43
<HS/HS grad	58%	39
Some college	56%	44
College grad	52%	47
Post-graduate	56%	44
<$25,000	62%	35
$25-50,000	61%	38
$50-100,000	50%	49
$100,000+	53%	47
Urban	57%	42
Suburban	54%	44
Rural	50%	48
Vote in 2008	56%	43
Liberal	60%	39
Moderate	54%	45
Conservative	54%	45
Democrat	57%	42
Republican	52%	48
Independent	56%	43
Parent	60%	39
K-12 Parent	53%	46
Elementary	50%	48
Middle School	53%	46
High School	53%	46
Northern CA	56%	41
Bay Area	57%	43
Valley	53%	46
Los Angeles	59%	41
Orange/San Diego	56%	41
Rest of So Cal	50%	49

Parent Assessment of Teachers' Science Training and Background

Q30. (IF K12 PARENT, N=250) Do you think that your child's or children's science teachers have adequate training and background to teach science well – or do you not know?

	Yes	No	DK/REF
Total	**31%**	**17**	**52**
Men	32%	13	55
Women	31%	20	50
18-34	20%	24	56
35-44	35%	14	51
45-54	32%	14	54
Men <45	27%	16	56
Women <45	30%	20	51
White	33%	22	45
Latino	33%	9	58
<HS/HS grad	27%	10	63
Some college	29%	22	49
College grad	34%	21	45
$25-50,000	18%	24	58
$50-100,000	34%	21	46
$100,000+	29%	14	48
Urban	30%	17	54
Suburban	32%	12	57
Vote in 2008	33%	19	48
Liberal	25%	23	52
Moderate	33%	16	51
Conservative	35%	12	53
Democrat	27%	22	51
Republican	41%	4	55
Independent	21%	27	52
Parent	31%	17	52
K-12 Parent	31%	17	52
Elementary	28%	18	53
Middle School	32%	13	55
High School	34%	13	52
Los Angeles	35%	13	52

Parent Assessment of Resources and Equipment for Science Education

Q31. (IF K12 PARENT, N=250) Do you think that your child's or children's classrooms have the resources and equipment they need for science – or do you not know?

	Yes	No	DK/REF
Total	**26%**	**42**	**32**
Men	25%	40	35
Women	27%	43	31
18-34	19%	48	34
35-44	22%	43	34
45-54	28%	38	34
Men <45	15%	44	41
Women <45	25%	46	29
White	25%	50	25
Latino	19%	40	42
<HS/HS grad	20%	35	45
Some college	24%	44	32
College grad	26%	55	19
$25-50,000	18%	37	45
$50-100,000	22%	51	27
$100,000+	39%	43	18
Urban	26%	36	37
Suburban	25%	49	26
Vote in 2008	27%	45	28
Liberal	20%	40	40
Moderate	28%	40	32
Conservative	29%	43	28
Democrat	26%	45	29
Republican	31%	35	33
Independent	13%	48	39
Parent	26%	42	32
K-12 Parent	26%	42	32
Elementary	22%	42	36
Middle School	28%	38	35
High School	30%	39	31
Los Angeles	33%	38	30

Parent Awareness of Cuts to Science Programs

Q32. (IF K12 PARENT, N=250) Has the science program in the school or schools your children attend been reduced because of the budget cuts over the last two years – or do you not know?

	Yes	No	DK/REF
Total	**35%**	**17**	**48**
Men	31%	17	52
Women	39%	16	45
18-34	33%	13	55
35-44	41%	14	44
45-54	33%	21	46
Men <45	30%	15	55
Women <45	44%	13	43
White	36%	21	43
Latino	37%	11	52
<HS/HS grad	32%	12	56
Some college	38%	15	47
College grad	38%	14	48
$25-50,000	37%	21	43
$50-100,000	34%	16	50
$100,000+	45%	23	32
Urban	37%	16	47
Suburban	35%	15	50
Vote in 2008	38%	18	43
Liberal	44%	13	44
Moderate	32%	24	44
Conservative	32%	14	53
Democrat	33%	19	48
Republican	39%	12	49
Independent	34%	23	43
Parent	35%	17	48
K-12 Parent	35%	17	48
Elementary	36%	15	49
Middle School	34%	15	52
High School	39%	15	46
Los Angeles	23%	13	64

Ideas for Improving Science Education in California

Now I'm going to read you some ideas for improving science education in California schools. For each please tell me if you think it will make a big difference, some difference, or not much of a difference in improving science education in California. (RANDOMIZE) Q36. More resources and better equipment for science in classrooms Q38. More training for science teachers Q35. More time spent on science education in high school.

% saying "big difference"	**More resources, better equipment**	**More training for teachers**	**More time in high school**
Total	**71%**	**67%**	**63%**
Men	68%	66%	67%
Women	74%	67%	60%
18-34	73%	61%	58%
35-44	74%	71%	69%
45-54	72%	66%	61%
55-64	68%	66%	68%
65+	65%	74%	64%
Men <45	70%	62%	65%
Men 45+	65%	71%	69%
Women <45	77%	68%	60%
Women 45+	72%	66%	59%
White	66%	63%	65%
Black	85%	78%	76%
Latino	79%	70%	61%
Asian/Pac. Islander	62%	65%	60%
<HS/HS grad	73%	65%	63%
Some college	73%	67%	61%
College grad	71%	68%	63%
Post-graduate	62%	68%	68%
<$25,000	75%	65%	64%
$25-50,000	77%	65%	62%
$50-100,000	68%	68%	64%
$100,000+	65%	68%	64%
Urban	74%	67%	62%
Suburban	67%	69%	67%
Rural	63%	56%	59%
Vote in 2008	71%	67%	64%
Liberal	76%	67%	64%
Moderate	71%	67%	64%
Conservative	66%	67%	62%
Democrat	78%	68%	62%
Republican	66%	67%	63%
Independent	66%	64%	64%
Parent	71%	69%	64%
K-12 Parent	76%	70%	62%
Elementary	74%	70%	65%
Middle School	73%	68%	56%
High School	77%	74%	61%
Northern CA	66%	66%	58%
Bay Area	62%	64%	56%
Valley	71%	61%	56%
Los Angeles	76%	69%	65%
Orange/San Diego	72%	70%	70%
Rest of So Cal	77%	68%	70%

Ideas for Improving Science Education in California (cont.)

Now I'm going to read you some ideas for improving science education in California schools. For each please tell me if you think it will make a big difference, some difference, or not much of a difference in improving science education in California. (RANDOMIZE) Q37. Better access to science resources and experiences outside the classroom Q34. More time spent on science education in middle school or junior high Q33. More time spent on science education in elementary school.

% saying "big difference"	**Access outside of classroom**	**More time in middle school**	**More time in elem. school**
Total	**61%**	**57%**	**45%**
Men	61%	58%	49%
Women	62%	56%	42%
18-34	58%	50%	41%
35-44	77%	68%	53%
45-54	65%	54%	45%
55-64	54%	62%	46%
65+	54%	56%	46%
Men <45	61%	55%	46%
Men 45+	60%	61%	51%
Women <45	68%	59%	44%
Women 45+	57%	54%	40%
White	58%	52%	40%
Black	73%	67%	63%
Latino	65%	61%	50%
Asian/Pac. Islander	57%	58%	44%
<HS/HS grad	57%	55%	46%
Some college	66%	56%	44%
College grad	64%	56%	44%
Post-graduate	56%	65%	48%
<$25,000	61%	62%	51%
$25-50,000	62%	55%	44%
$50-100,000	64%	57%	41%
$100,000+	57%	60%	48%
Urban	60%	58%	47%
Suburban	66%	58%	44%
Rural	52%	46%	37%
Vote in 2008	62%	59%	47%
Liberal	62%	57%	49%
Moderate	63%	58%	44%
Conservative	60%	56%	42%
Democrat	61%	56%	48%
Republican	66%	59%	41%
Independent	60%	54%	42%
Parent	63%	59%	48%
K-12 Parent	67%	59%	50%
Elementary	66%	57%	48%
Middle School	60%	59%	50%
High School	67%	58%	54%
Northern CA	57%	55%	38%
Bay Area	57%	58%	45%
Valley	60%	49%	40%
Los Angeles	66%	60%	48%
Orange/San Diego	60%	60%	43%
Rest of So Cal	63%	55%	51%

Importance of Science Education Components

Now I would like you to tell me, how important is it, in your own view, for public schools in California to include each of these components of science education. Would you say it is essential, very important, somewhat important, not very, or not at all important to: (RANDOMIZE) Q42. Have science labs in all *middle* and *high* schools Q40. Require all middle and high school teachers who teach science to have special training in science Q41. Teach science at *every* grade level including elementary, middle and high school Q46. Exposure for elementary students to science in settings outside school. This could include participating in science Q47. Exposure for middle and high school students to programs at science museums or centers and industries.

% saying "essential"	**Labs in middle & high school**	**Special sci. training**	**Teach sci. at every grade**	**Sci. outside elem. school**	**Exposure to museums**
Total	**38%**	**33%**	**30%**	**29%**	**28%**
Men	35%	32%	27%	30%	27%
Women	41%	34%	33%	29%	29%
18-34	39%	30%	32%	29%	26%
35-44	42%	33%	32%	33%	33%
45-54	39%	35%	30%	32%	26%
55-64	32%	37%	29%	28%	30%
65+	36%	33%	22%	24%	22%
Men <45	35%	28%	25%	27%	26%
Men 45+	35%	36%	28%	33%	27%
Women <45	46%	35%	38%	34%	32%
Women 45+	37%	33%	28%	24%	25%
White	39%	34%	33%	28%	28%
Black	41%	37%	29%	35%	34%
Latino	37%	32%	28%	31%	28%
Asian/Pac. Islander	41%	33%	25%	28%	24%
<HS/HS grad	33%	30%	24%	29%	28%
Some college	39%	35%	31%	31%	27%
College grad	47%	36%	38%	32%	31%
Post-graduate	35%	33%	27%	22%	25%
<$25,000	35%	30%	27%	31%	28%
$25-50,000	39%	32%	30%	33%	28%
$50-100,000	43%	36%	32%	31%	29%
$100,000+	36%	32%	29%	24%	25%
Urban	37%	32%	29%	30%	26%
Suburban	42%	38%	31%	30%	31%
Rural	37%	26%	35%	28%	32%
Vote in 2008	40%	35%	32%	30%	28%
Liberal	40%	33%	31%	29%	29%
Moderate	39%	31%	30%	29%	28%
Conservative	38%	34%	29%	29%	26%
Democrat	40%	33%	33%	30%	29%
Republican	46%	36%	30%	28%	29%
Independent	36%	32%	28%	31%	26%
Parent	41%	36%	32%	32%	30%
K-12 Parent	43%	37%	35%	33%	34%
Elementary	45%	40%	38%	35%	40%
Middle School	39%	34%	30%	30%	33%
High School	42%	34%	31%	29%	24%
Northern CA	39%	33%	30%	37%	26%
Bay Area	36%	27%	28%	27%	24%
Valley	28%	30%	25%	29%	29%
Los Angeles	41%	35%	28%	28%	26%
Orange/San Diego	42%	38%	30%	29%	29%
Rest of So Cal	42%	36%	40%	32%	32%

Importance of Science Education Components (cont.)

Now I would like you to tell me, how important is it, in your own view, for public schools in California to include each of these components of science education. Would you say it is essential, very important, somewhat important, not very, or not at all important to: (RANDOMIZE) Q45. Give students experience with scientific computer programs Q39. Begin devoting more time to teaching science to children before age 10 Q43. Have science labs in all *elementary* schools Q44. Have students memorize key scientific facts.

% saying "essential"	**Experience with comp. programs**	**More time before age 10**	**Sci. labs in elem. school**	**Memorize key scientific facts**
Total	**27%**	**22%**	**19%**	**17%**
Men	29%	20%	21%	18%
Women	26%	23%	17%	16%
18-34	25%	21%	17%	16%
35-44	27%	26%	20%	17%
45-54	29%	20%	23%	23%
55-64	30%	20%	15%	13%
65+	27%	20%	21%	15%
Men <45	26%	19%	18%	17%
Men 45+	32%	21%	23%	19%
Women <45	26%	27%	18%	15%
Women 45+	26%	19%	17%	16%
White	27%	21%	15%	14%
Black	27%	27%	28%	24%
Latino	30%	23%	24%	19%
Asian/Pac. Islander	21%	17%	17%	19%
<HS/HS grad	28%	21%	21%	18%
Some college	30%	22%	18%	18%
College grad	28%	24%	21%	18%
Post-graduate	22%	19%	13%	9%
<$25,000	32%	18%	18%	17%
$25-50,000	27%	24%	24%	22%
$50-100,000	26%	24%	19%	16%
$100,000+	27%	20%	12%	13%
Urban	27%	20%	20%	18%
Suburban	28%	23%	18%	16%
Rural	29%	25%	18%	15%
Vote in 2008	28%	23%	19%	18%
Liberal	30%	25%	19%	14%
Moderate	26%	20%	18%	19%
Conservative	26%	21%	20%	18%
Democrat	30%	25%	20%	19%
Republican	26%	23%	21%	18%
Independent	23%	18%	16%	13%
Parent	30%	23%	21%	18%
K-12 Parent	29%	25%	24%	19%
Elementary	32%	29%	27%	20%
Middle School	24%	19%	25%	22%
High School	23%	16%	20%	16%
Northern CA	26%	26%	20%	18%
Bay Area	23%	22%	18%	12%
Valley	26%	16%	13%	15%
Los Angeles	27%	20%	20%	20%
Orange/San Diego	28%	19%	23%	15%
Rest of So Cal	35%	30%	20%	22%

Awareness of High School Science Requirement

Q48. As far as you know, are high school graduates *required* to have taken at least three years of science in high school to be admitted to a public university in California, or not, or are you not sure?

	Net yes, required	Net no, not required	Not sure/DK
Total	**40%**	**1**	**59**
Men	41%	1	58
Women	39%	1	61
18-34	50%	1	50
35-44	37%	--	63
45-54	40%	--	60
55-64	37%	2	61
65+	27%	3	70
Men <45	46%	--	54
Men 45+	35%	3	62
Women <45	44%	1	56
Women 45+	34%	*	65
White	42%	1	57
Black	36%	1	63
Latino	36%	1	63
Asian/Pac. Islander	46%	--	54
<HS/HS grad	28%	1	71
Some college	40%	*	59
College grad	50%	1	48
Post-graduate	49%	1	50
<$25,000	34%	1	65
$25-50,000	34%	*	65
$50-100,000	44%	*	56
$100,000+	48%	1	51
Urban	40%	1	59
Suburban	41%	*	59
Rural	37%	--	63
Vote in 2008	41%	1	58
Liberal	37%	1	62
Moderate	47%	1	52
Conservative	38%	1	61
Democrat	36%	1	63
Republican	47%	1	52
Independent	44%	*	56
Parent	36%	1	63
K-12 Parent	37%	--	63
Elementary	33%	--	67
Middle School	39%	--	61
High School	44%	--	56
Northern CA	35%	--	65
Bay Area	42%	1	57
Valley	40%	1	59
Los Angeles	40%	1	59
Orange/San Diego	46%	2	52
Rest of So Cal	34%	--	66

Reasons for Science to be a Higher Priority in California Public Schools

Now I'm going to read you reasons why some people say that science should be a higher priority in California public schools. Please tell me if you personally think each one is extremely convincing, very, somewhat, not very, or not at all convincing as a reason to put more resources into science education in California public schools. (ROTATE) Q49b. (SPLIT SAMPLE, N=473) Better science education would help keep America and California at the forefront of technology and innovation. Q51a. (SPLIT SAMPLE, N=506) Better science education would help young people compete in a global marketplace. Q49a. (SPLIT SAMPLE, N=506) If more public school graduates have a solid background in science and technology, California will be able to attract more high paying jobs and new industry.

% saying "extremely"	**Keep California at forefront of technology**	**Compete in global marketplace**	**Attract high paying jobs and new industry**
Total	**27%**	**23%**	**22%**
Men	28%	25%	19%
Women	26%	20%	24%
18-34	22%	17%	16%
35-44	28%	28%	30%
45-54	30%	28%	19%
55-64	41%	25%	24%
65+	22%	19%	28%
Men <45	24%	26%	17%
Men 45+	32%	24%	22%
Women <45	23%	16%	25%
Women 45+	30%	24%	24%
White	27%	24%	19%
Latino	26%	15%	23%
Asian/Pac. Islander	28%	n/a	n/a
<HS/HS grad	20%	14%	22%
Some college	27%	23%	20%
College grad	29%	28%	24%
Post-graduate	37%	33%	22%
<$25,000	25%	21%	23%
$25-50,000	18%	17%	23%
$50-100,000	27%	25%	24%
$100,000+	35%	30%	18%
Urban	26%	22%	22%
Suburban	32%	24%	22%
Vote in 2008	30%	26%	22%
Liberal	26%	26%	22%
Moderate	31%	21%	24%
Conservative	25%	22%	21%
Democrat	32%	24%	21%
Republican	29%	24%	20%
Independent	20%	25%	24%
Parent	28%	23%	25%
K-12 Parent	26%	23%	26%
Elementary	27%	22%	24%
Bay Area	25%	27%	22%
Valley	26%	25%	18%
Los Angeles	33%	21%	22%
Orange/San Diego	26%	21%	32%
Rest of So Cal	21%	19%	23%

Reasons for Science to be a Higher Priority in California Public Schools (cont.)

Now I'm going to read you reasons why some people say that science should be a higher priority in California public schools. Please tell me if you personally think each one is extremely convincing, very, somewhat, not very, or not at all convincing as a reason to put more resources into science education in California public schools. (ROTATE) Q50b. (SPLIT SAMPLE, N=473) Better science education would give young people more understanding of the world and many current events, helping them become engaged citizens and educated voters. Q51b. (SPLIT SAMPLE, N=473) California has fallen behind other states and is currently ranked near the bottom of the nation in terms of science education. Q52a. (SPLIT SAMPLE, N=506) Better science education would give each individual child more opportunity to succeed in life.

% saying "extremely"	**Engaged citizens and educated voters**	**California has fallen behind other states**	**Opportunity for success for individual children**
Total	**22%**	**20%**	**18%**
Men	20%	18%	18%
Women	23%	22%	18%
18-34	18%	11%	16%
35-44	19%	28%	19%
45-54	26%	22%	17%
55-64	33%	32%	22%
65+	17%	16%	22%
Men <45	18%	15%	18%
Men 45+	22%	21%	19%
Women <45	19%	19%	16%
Women 45+	29%	26%	21%
White	19%	20%	15%
Latino	25%	23%	19%
Asian/Pac. Islander	25%	15%	n/a
<HS/Hs grad	19%	13%	18%
Some college	23%	23%	11%
College grad	24%	20%	28%
Post-graduate	20%	28%	16%
<$25,000	29%	20%	18%
$25-50,000	22%	18%	23%
$50-100,000	18%	18%	16%
$100,000+	20%	28%	16%
Urban	22%	18%	19%
Suburban	22%	22%	14%
Vote in 2008	23%	20%	20%
Liberal	26%	21%	23%
Moderate	21%	17%	22%
Conservative	19%	21%	13%
Democrat	25%	24%	19%
Republican	23%	21%	19%
Independent	18%	17%	20%
Parent	22%	23%	19%
K-12 Parent	18%	19%	18%
Elementary	20%	15%	19%
Bay Area	22%	18%	20%
Valley	20%	21%	19%
Los Angeles	23%	20%	16%
Orange/San Diego	17%	17%	22%
Rest of So Cal	26%	27%	22%

Reasons for Science to be a Higher Priority in California Public Schools (cont.)

Now I'm going to read you reasons why some people say that science should be a higher priority in California public schools. Please tell me if you personally think each one is extremely convincing, very, somewhat, not very, or not at all convincing as a reason to put more resources into science education in California public schools. (ROTATE) Q53. Children in elementary school need to be getting a better grounding in scientific concepts if they are to do well in today's high schools. Q52b. (SPLIT SAMPLE, N=473) Better science education will help students get into good colleges. Q50a. (SPLIT SAMPLE, N=506) Understanding scientific concepts is a critical part of becoming a well-rounded individual.

% saying "extremely"	**Grounding in scientific concepts to do well**	**Help students get into good colleges**	**Critical part of becoming well-rounded**
Total	**18%**	**17%**	**16%**
Men	14%	16%	15%
Women	22%	19%	17%
18-34	16%	14%	15%
35-44	17%	18%	12%
45-54	19%	22%	16%
55-64	24%	25%	19%
65+	17%	12%	21%
Men <45	12%	14%	14%
Men 45+	17%	19%	17%
Women <45	21%	17%	14%
Women 45+	23%	20%	19%
White	15%	13%	17%
Black	21%	n/a	n/a
Latino	21%	25%	14%
Asian/Pac. Islander	19%	15%	n/a
<HS/HS grad	17%	18%	13%
Some college	17%	19%	11%
College grad	22%	15%	24%
Post-graduate	18%	17%	21%
<$25,000	21%	25%	16%
$25-50,000	15%	14%	14%
$50-100,000	18%	16%	17%
$100,000+	17%	14%	16%
Urban	18%	18%	15%
Suburban	18%	16%	14%
Rural	22%	n/a	n/a
Vote in 2008	19%	20%	17%
Liberal	20%	18%	19%
Moderate	19%	14%	16%
Conservative	16%	20%	15%
Democrat	22%	18%	19%
Republican	18%	25%	12%
Independent	13%	11%	17%
Parent	20%	20%	18%
K-12 Parent	21%	19%	16%
Elementary	23%	23%	19%
Middle School	24%	n/a	n/a
High School	17%	n/a	n/a
Northern CA	12%	n/a	n/a
Bay Area	13%	10%	18%
Valley	23%	25%	15%
Los Angeles	15%	17%	14%
Orange/San Diego	22%	20%	12%
Rest of So Cal	24%	17%	25%

Appendix C: Questionnaire with Response Totals

BELDEN RUSSONELLO & STEWART

RESEARCH AND COMMUNICATIONS

California Science Education Survey 2010

Interviewing conducted April 7 to 22, 2010
N = 1,004 California adults
Data are weighted by race and age.
Margin of sampling error is ±3.1 percentage points.
Percents may add to 99% or 101% due to rounding.
* indicates less than 1%, -- indicates zero.

Hello, my name is ___ and I am an interviewer with BRS – an opinion research firm. We are conducting a public opinion survey and your telephone number was selected at random. We are not selling anything. May I please speak to the person 18 years old or older in your household who had a birthday most recently? **(IF NECESSARY, ARRANGE FOR A CALL BACK AND RECORD DATE AND TIME. REPEAT INTRO AS NECESSARY)**

D1. Are you a parent?	Yes	69%
	No	31%

D2a. (IF D1=YES) Do you have any children 18 or younger?	Yes	35%
D2b. (IF D1=YES) Do you have any children between 19 and 30 years old who attended any of their elementary through high school years in California?	Yes	24%
D3a. (IF D2a=YES) Do you have any children in high school?	Yes	11%
D3b. How about children in middle school or junior high?	Yes	9%
D3c. How about in Kindergarten and elementary school?	Yes	17%
D3d. Do you have any children who are still too young for Kindergarten and elementary school?	Yes	15%

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I am going to read you a list of priorities for California. Please tell me how important each one is to you personally on a scale of one to ten where one means not a priority at all and ten means it is a top priority. You can choose any number between one and ten. (RANDOMIZE)

	1	2	3	4	5	6	7	8	9	10	DK/ REF
Q1. Reducing taxes	4%	2	3	3	14	5	10	11	6	41	*
Q2. Improving the quality of public schools	3%	1	1	1	5	3	6	10	10	61	*
Q3. Reducing government spending	4%	2	3	2	13	5	8	13	6	43	1
Q4. Attracting more good paying jobs	1%	1	*	1	5	2	8	15	10	57	*
Q5. Making health care more affordable	3%	1	2	2	8	2	8	13	9	52	*

Q6. Turning to education, how would you rate the quality of your *local* public schools? Would you say they are excellent, good, just fair, poor or very poor?	Excellent	14%
	Good	40
	Just fair	27
	Poor	11
	Very poor	3
	DK/REF	5

Q7. How would you rate the quality of public schools in *California overall*? Would you say excellent, good, just fair, poor, or very poor?	Excellent	3%
	Good	29
	Just fair	44
	Poor	17
	Very poor	4
	DK/REF	3

Q8. How would you rate the quality of *teachers* in your *local* public schools: excellent, good, just fair, poor or very poor?	Excellent	15%
	Good	47
	Just fair	26
	Poor	5
	Very poor	1
	DK/REF	6

Q9. How would you rate the overall quality of *teachers* in California public schools: excellent, good, just fair, poor or very poor?	Excellent	7%
	Good	44
	Just fair	36
	Poor	7
	Very poor	1
	DK/REF	5

Please tell me how important you think it is for California public schools to give all students a strong background in each of the following areas: essential, very important, somewhat important, just a little bit, or not at all important? (RANDOMIZE)

	Essential	Very impt.	Smwht impt.	Just a little	Not at all	DK/ REF
Q10. Math	48%	47	4	1	*	*
Q11. History and social studies	29%	46	23	2	1	*
Q12. Reading and writing	53%	45	2	*	*	*
Q13. Foreign language	19%	35	36	6	4	*
Q14. Science	38%	48	13	1	*	*
Q15. Computer skills	37%	52	9	1	*	*
Q16. Art and music	22%	38	31	7	2	*
Q17. Nutrition and health	30%	50	16	2	1	*

Now I have a few questions about how *science* is taught in school.

Q18. (K12 PARENTS; n=250) Thinking about your own children currently in grades K through 12, would you rate the quality of science education your child or children have received so far as excellent, good, just fair, poor or very poor?	Excellent	15%
	Good	47
	Just fair	28
	Poor	5
	Very poor	2
	DK/REF	3

Q19. (PARENTS OF 19-30 YEAR OLDS; n=236) Thinking about your own children between 19 and 30 years old, would you rate the quality of science education your child or children received in elementary through high school as excellent, good, just fair, poor or very poor?	Excellent	13%
	Good	48
	Just fair	28
	Poor	9
	Very poor	1
	DK/REF	2

Q20. (K12 PARENTS; n=250) Thinking about how much time your child or children spend learning science in school, would you say schools spend enough time on science, not enough, or too much time on science?	Enough time	42%
	Not enough time	55
	Too much time	*
	DK/REF	2
Q21. Do you think students today should be given more, less, or about the same amount of education in science that *you* received while in school?	More	65%
	Less	3
	About the same amount	32
	DK/REF	1
Q22. In what grade do you think schools should begin to teach science to students?	Kindergarten	18%
	First	20
	Second	9
	Third	15
	Fourth	10
	Fifth	9
	Sixth	8
	Seventh	5
	Eighth	2
	Ninth	1
	Tenth	1
	Eleventh	*
	Twelfth	*
	None	*
	DK/REF	7
Q23. In your opinion, how important is beginning to learn about science in elementary school to doing well in more advanced science classes that students take in high school and college? Is it essential, very important, somewhat important, not very, or not at all important?	Essential	38%
	Very important	42
	Somewhat important	17
	Not very important	3
	Not at all important	*
	DK/REF	*

Q24. Thinking about learning science, which of these two points of view do you agree with more: (ROTATE) those who say children should begin learning science in elementary school in order for them to succeed in science in high school OR those who say that in elementary school students should be focusing on reading writing, and basic math, so most science should wait until middle and high school. (WAIT FOR RESPONSE) Do you feel that way strongly or somewhat?	Strongly should learn science in elementary school	57%
	Somewhat should learn science in elementary school	15
	Somewhat science should wait until middle/high school	10
	Strongly science should wait until middle/high school	18
	DK/REF	1

Q25. Which of these do you agree with more: (ROTATE) those who say it is better to require all high school students in California to study biology, chemistry and physics, OR those who say it is better to let students who are not planning on going on to college or working in science-related fields, to opt out of biology, chemistry and physics classes? (WAIT FOR RESPONSE) Do you feel that way strongly or somewhat?	Strongly require biology, chemistry, and physics	48%
	Somewhat require biology, chemistry, and physics	17
	Somewhat allow students to opt out of biology, etc.	17
	Strongly allow students to opt out of biology, etc.	16
	DK/REF	1

Now I have a few questions about science *teachers*.

Q26. As far as you know, do the public middle and high school science teachers in California do an excellent, good, just fair, poor, or very poor job helping students learn about science – or do you not have a view on this?	Excellent	7%
	Good	29
	Just fair	22
	Poor	5
	Very poor	1
	No opinion	33
	DK/REF	2

Q27. How about those teachers who teach science as part of their duties in *elementary* classrooms? As far as you know, do the elementary teachers in California do an excellent, good, just fair, poor or very poor job helping elementary students learn about science– or do you not have a view on this?	Excellent	6%
	Good	30
	Just fair	22
	Poor	6
	Very poor	2
	No opinion	32
	DK/REF	2

Q28. In your opinion, should *middle and high school* science teachers have extra preparation or have special training in science in order to teach that subject, or is that not necessary?	Yes, extra preparation or special training	84%
	No, not necessary	15
	DK/REF	1
Q29. In your opinion, should *elementary* school teachers who teach science along with other subjects have extra preparation or have special training in science in order to teach it, or is that not necessary at the elementary level?	Yes, extra preparation or special training	56%
	No, not necessary	43
	DK/REF	1
Q30. (K12 PARENTS; n=250) Do you think that your child's or children's science teachers have adequate training and background to teach science well – or do you not know?	Yes, have adequate training and background	31%
	No, do not have adequate training and background	17
	DK/REF	52
Q31. (K12 PARENTS; n=250) Do you think that your child's or children's classrooms have the resources and equipment they need for science – or do you not know?	Yes, have resources and equipment they need	26%
	No, do not have resources and equipment they need	42
	DK/REF	32
Q32. (K12 PARENTS; n=250) Has the science program in the school or schools your children attend been reduced because of the budget cuts over the last two years – or do you not know?	Yes	35%
	No	17
	DK/REF	48

Now I'm going to read you some ideas for improving science education in California schools. For each please tell me if you think it will make a big difference, some difference, or not much of a difference in improving science education in California. (RANDOMIZE)

	Big difference	Some difference	Not much difference	DK/REF
Q33. More time spent on science education in elementary school	45%	39	15	1
Q34. More time spent on science education in middle school or junior high	57%	35	7	1
Q35. More time spent on science education in high school	63%	27	9	1
Q36. More resources and better equipment for science in classrooms	71%	23	6	1
Q37. Better access to science resources and experiences outside the classroom	61%	31	6	1
Q38. More training for science teachers	67%	25	8	1

Now I would like you to tell me, how important is it, in your own view, for public schools in California to include each of these components of science education. Would you say it is essential, very important, somewhat important, not very, or not at all important to: (RANDOMIZE)

	Essential	Very impt.	Smwht impt.	Just a little	Not at all	DK/ REF
Q39. Begin devoting more time to teaching science to children before age 10	22%	35	30	10	3	*
Q40. Require all middle and high school teachers who teach science to have special training in science	33%	47	17	2	1	*
Q41. Teach science at *every* grade level including elementary, middle and high school	30%	39	22	7	2	*
Q42. Have science labs in all *middle* and *high* schools	38%	44	15	2	1	*
Q43. Have science labs in all *elementary* schools	19%	30	31	15	5	*
Q44. Have students memorize key scientific facts	17%	34	35	12	2	*
Q45. Give students experience with scientific computer programs	27%	42	25	5	1	*

(cont.)
Now I would like you to tell me, how important is it, in your own view, for public schools in California to include each of these components of science education. Would you say it is essential, very important, somewhat important, not very, or not at all important to: (RANDOMIZE)

	Essential	Very impt.	Smwht impt.	Just a little	Not at all	DK/ REF
Q46. Exposure for elementary students to science in settings outside school. This could include participating in science programs at zoos, aquariums, and science museums, or centers	29%	42	25	3	1	*
Q47. Exposure for middle and high school students to programs at science museums or centers and industries where scientists work	28%	45	23	4	1	*

Q48. As far as you know, are high school graduates *required* to have taken at least three years of science in high school to be admitted to a public university in California, or not, or are you not sure?

Definitely required to have taken three years of science	30%
Probably required to have taken 3 years of science not required	10
Probably can be admitted if good students, no science	*
Definitely can be admitted if good students, no science	1
Not sure/DK	59

Now I'm going to read you reasons why some people say that science should be a higher priority in California public schools. Please tell me if you personally think each one is extremely convincing, very, somewhat, not very, or not at all convincing as a reason to put more resources into science education in California public schools. (ROTATE)

	Extremely	Very	Smwht	Not very	Not at all	DK/ REF
Q49a. (SPLIT SAMPLE A; n=506) If more public school graduates have a solid background in science and technology, California will be able to attract more high paying jobs and new industry.	22%	40	26	8	4	*
Q49b. (SPLIT SAMPLE B; n=473) Better science education would help keep America and California at the forefront of technology and innovation.	27%	47	20	3	1	*

(cont.)
Now I'm going to read you reasons why some people say that science should be a higher priority in California public schools. Please tell me if you personally think each one is extremely convincing, very, somewhat, not very, or not at all convincing as a reason to put more resources into science education in California public schools. (ROTATE)

	Extremely	Very	Smwht	Not very	Not at all	DK/ REF
Q50a. (SPLIT SAMPLE A; n=506) Understanding scientific concepts is a critical part of becoming a well-rounded individual.	16%	38	32	9	5	*
Q50b. (SPLIT SAMPLE B; n=473) Better science education would give young people more understanding of the world and many current events, helping them become engaged citizens and educated voters.	22%	47	20	7	3	--
Q51a. (SPLIT SAMPLE A; n=506) Better science education would help young people compete in a global marketplace.	23%	46	23	5	4	*
Q51b. (SPLIT SAMPLE B; n=473) California has fallen behind other states and is currently ranked near the bottom of the nation in terms of science education.	20%	36	21	12	5	4
Q52a. (SPLIT SAMPLE A; n=506) Better science education would give each individual child more opportunity to succeed in life.	18%	46	24	9	2	*
Q52b. (SPLIT SAMPLE B; n=473) Better science education will help students get into good colleges.	17%	41	28	7	3	1
Q53. Children in elementary school need to be getting a better grounding in scientific concepts if they are to do well in today's high schools.	18%	40	30	8	3	1

To wrap up, I have a few questions to classify your responses.

D4. Does your child or do your children attend a private religious or parochial school, a private independent school, a public charter school, or a regular public school? (MULTIPLE RESPONSES ACCEPTED)

Private religious or parochial school	2%
Private independent school	1
Public charter school	2
Regular public school	23
Non K-12Parents	*73%*

D5. Are you or is anyone else in your household an educator such as a teacher, a professor, a school counselor, or principal?	Yes	17%
	No	83
	DK/REF	*
D6. What was the last grade of school you completed?	Less than high school	8%
	High school graduate	23
	Some college/technical/2 yr.	30
	College grad/BA or BS/4 yr.	23
	Post-grad work/JD/MBA/ Ph.D/Masters	15
	DK/REF	1
D7. Which of the following best describes the place where you live: a large city, a small city, a suburb of a city, a town, or a rural area?	Large city	35%
	Small city	26
	Suburb	20
	Town	10
	Rural area	8
	DK/REF	*
D8. Did you have a chance to vote in the 2008 presidential election?	Yes	75%
	No	25
	DK/REF	*
D9. In terms of your political outlook, do you usually think of yourself as: [READ LIST; REVERSE ORDER]	Very conservative	15%
	Somewhat conservative	22
	Middle of the road	31
	Somewhat liberal	20
	Very liberal	10
	DK/REF	--
D10. Do you consider yourself to be [ROTATE: a Democrat, a Republican], an independent, or something else?	Democrat	36%
	Republican	22
	Independent	24
	Something else (specify)	9
	DK/REF	8

D11. In what year were you born? D11a. [IF QD11=DON'T KNOW/REFUSED] Are you between:	18-34 35-44 45-54 55-64 65+ DK/REF	33% 19 19 14 15 *
D12. Are you of Hispanic or Latino descent? [IF YES, SKIP TO D14] D13. (IF D12=2,8,9) Would you say you are white, black or African American, Asian or Pacific Islander, or something else?	White Black/African American Hispanic/Latino Asian/Pacific Islander Something else (specify) DK/REF	47% 6 33 13 1 1
D14. Stop me when I come to the category in which your total HOUSEHOLD income fell before taxes last year. Your best estimate is fine.	Less than $25,000 $25,000 up to $50,000 $50,000 up to $75,000 $75,000 up to $100,000 $100,000 or more DK/REF	18% 22 20 13 20 7
D15. GENDER	Men Women	49% 51
REGION	Northern CA Bay Area Valley Los Angeles Orange/San Diego Rest of So Cal	9% 19 14 27 16 15

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