STATS IN BRIEF

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Instructional Time for Third- and Eighth-Graders in Public and Private Schools: School Year 2011–12

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Statistics in Brief publications present descriptive data in tabular formats to provide useful information to a broad audience, including members of the general public. They address topical issues and questions. They do not investigate more complex hypotheses, account for inter-relationships among variables, or support causal inferences. We encourage readers who are interested in more complex questions and in-depth analysis to explore other NCES resources, including publications, online data tools, and public- and restricted-use datasets. See nces.ed.gov and references noted in the body of this document for more information.

The amount of time students

spend in learning environments, as well as the amount of time that students are exposed to instruction in particular subjects, have been topics of debate and concern in education policy and practitioner circles (McMurrer 2008; National Academy of Education 2009). Indeed, an early but foundational review of literature on instructional time highlighted its importance for student learning (Berliner 1990). Differences in the use of time, however, make instructional time difficult to study. For instance, allocated time—or the time that schools or teachers schedule for instruction in particular subjects—is distinct from the time that students spend actively engaged with and learning from instructional materials (Berliner 1990). Despite the difficulties in studying instructional time in its varied forms, researchers have agreed that it is important to study the amount of time that students in different grades have been exposed to particular subjects (Coates 2003; Lanahan, Princiotta, and Enyeart 2006; Long 2014; Morton and Dalton 2007; Perie, Baker, and Bobbitt 1997).

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Institute of Education Sciences

The National Center for Education Statistics (NCES) has published a number of reports documenting the amount of time that students have received instruction in various subjects. For instance, a 1997 report that included an analysis of data from the 1987–88, 1990–91, and 1993–94 school years found that both public and private school students in grades 1 through 4 spent the majority of their time on core subjects (English/reading/language arts, mathematics, social studies, and science) and that students spent the most time on English, followed by mathematics. This report also indicated that students in grade 4 spent a smaller percentage of time on English and a larger percentage of time on social studies and science, compared to students in grade 1 (Perie, Baker, and Bobbitt 1997). A second and more recent report focused on the amount of time that first-graders spent in various instructional activities (Lanahan, Princiotta, and Enyeart 2006). This study found that about 60 percent of first-graders in public schools spent 90 minutes or more on English instruction each day. A third report focused on students in grades 1 through 4 included analyses from five survey years of the Schools and Staffing Survey (SASS) beginning with 1987–88 and ending with 2003–04. Findings revealed that, in each survey year, students spent more time on English than on mathematics, social studies, or science (Morton and Dalton 2007).

Using more recent data and similar measures, this Statistics in Brief builds on prior reports to provide an updated look at time spent on instruction in various subjects. Specifically, the brief presents information on the amount of time that students in grades 3 and 8 spent on different subjects in 2011–12 and compares how, if at all, this time varied by subject and school sector. Additionally, as noted above, previous findings indicate that the amount of time spent on specific subjects varies across grade level (Perie, Baker, and Bobbitt 1997). This brief extends the discussion of grade-level variation in the amount of time spent on four core subjects (English, mathematics, social studies, and science) to grades 3 and 8. Focusing on grades 3 and 8 is warranted for a number of reasons. First, research on human development has outlined the importance of middle childhood and early adolescence (i.e., the years between ages 6 and 14; Eccles 1999). Second, similar to previous publications (Hafner, Ingels, Schneider, and Stevenson 1990; May, Perez-Johnson, Haimson, Sattar, and Gleason 2009), this report acknowledges that grades 3 and 8 are typically accompanied by important academic milestones. Grade 3, for instance, is the year in which students begin to take state accountability assessments required by federal law (May, Perez-Johnson, Haimson, Sattar, and Gleason 2009). In grade 8, students

are preparing for the transition to secondary education (Hafner, Ingels, Schneider, and Stevenson 1990). This report provides additional evidence for research and policy discussions on instructional time across various subjects for students in U.S. public and private schools.

DATA AND METHODS

The data for this brief come from the NCES 2011–12 SASS Public and Private School Principal data files. The public and private school principal questionnaires asked principals whether their schools enrolled students in grades 3 and 8 and, if they did, to provide information on the length of a typical full week of school for students in these grades.[1] Principals who reported enrollment in these grades were also asked to provide information on the number of minutes that students spent on certain subjects.[2]

Principals who reported grade 3 enrollment were asked about the following subjects:[3]

- English, reading, or language arts;[4]
- arithmetic or mathematics;[5]
- social studies or history;[6]
- science;
- physical education;
- music;
- art; and
- recess.

Principals who reported grade 8 enrollment were asked about the following subjects:

- English, reading, or language arts;
- arithmetic or mathematics;
- social studies or history; and
- science.

The brief presents information on weekly time on each subject in two ways: (a) the average amount of time (in hours) that students spent on each subject in a typical week; and (b) the average percentage of time in a typical week that students spent on each subject. Time spent is based on principal reports of scheduled instruction time for each subject. For more details on question wording used in the collection of these data, please see the **Methodology and Technical Notes** section at the end of the brief. Estimates are presented separately for public and private schools.

All differences reported in the text are statistically significant at the $p < .05$ level to ensure that they are larger than might be expected due to sampling variation. No adjustments were made for multiple comparisons. For more information about *p* values, as well as about the data sources, measures, and methods used in this brief, please see the **Methodology and Technical Notes** at the end of the report.

[1] Please note that all estimates in this report pertain to a typical week of school as opposed to a typical day of school. Principals did not provide information about a typical day of school.
[2] This brief uses the term "subjects" to describe students' activities, even those that are not strictly academic subjects (i.e., recess).
[3] Principals who reported grade 3 enrollment were also asked about foreign language (not English as a second language [ESL]). For public schools, these estimates do not meet reporting requirements.
[4] In the text of the brief, use of the term "English" refers to instruction in English, reading, or language arts.
[5] In the text of the brief, use of the term "mathematics" refers to instruction in arithmetic or mathematics.
[6] In this brief, use of the term "social studies" refers to instruction in social studies or history.

STUDY QUESTIONS

1 On average, how many hours were there in a typical full week of school for third- and eighth-graders in the 2011–12 school year?

2 On average, how much time did third- and eighth-graders spend on different subjects in a typical full week in the 2011–12 school year?

3 Did the average amount of time that students spent on different subjects vary between the third and eighth grades in the 2011–12 school year?

KEY FINDINGS

Based on reporting by school principals, in school year 2011–12:

- In public schools, a typical full week of school was 33.0 hours long for third-graders and 33.8 hours long for eighth-graders.
- In private schools, a typical full week of school was 33.1 hours long for third-graders and 33.5 hours long for eighth-graders.
- On average, third-graders in both public and private schools spent a greater amount and a larger percentage of time on instruction in English, followed by mathematics, than on any other subject.
- On average, eighth-graders in both public and private schools spent a greater amount and a larger percentage of time on instruction in English than on any other subject.
- Third-graders in public schools spent more time—in terms of both the amount and the percentage of time—on English than did eighth-graders. Meanwhile, third-graders in public schools spent less time on social studies and science than did eighth-graders. No statistically significant differences were found in the amount or percentage of time that third-graders and eighth-graders in private schools spent on English, mathematics, social studies, or science.

1 On average, how many hours were there in a typical full week of school for third- and eighth-graders in the 2011–12 school year?

Public Schools

On average, in 2011–12, the length of a typical full week of school was between 33 and 34 hours for third- and eighth-graders in public schools, at 33.0 hours long for third-graders and 33.8 hours long for eighth-graders (figure 1).

Private Schools

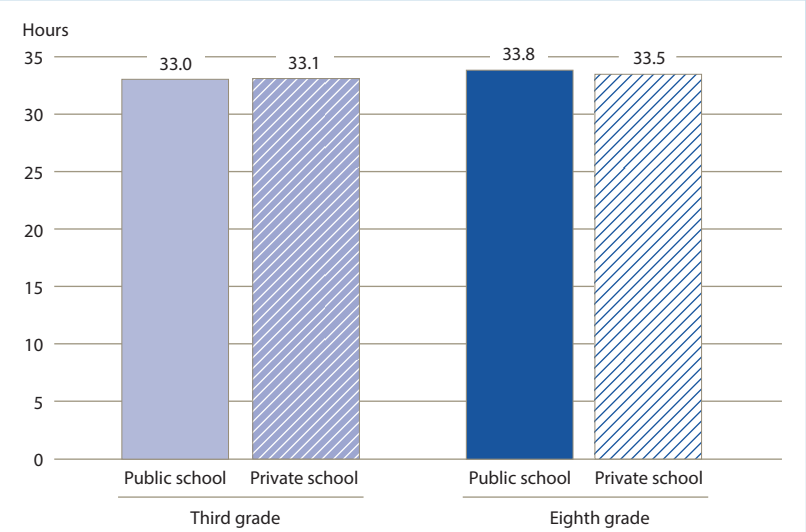
In private schools, on average, the length of a typical full week of school in 2011–12 was also between 33 and 34 hours for third- and eighth-graders. In this case, a typical week was 33.1 hours long for third-graders and 33.5 hours long for eighth-graders (figure 1).

Comparison of Public and Private Schools

There were no measurable differences in the amount of time in a typical full week of school for public and private school students in third or eighth grade.

FIGURE 1.

Average number of hours in a typical full week of school for third- and eighth-graders in public and private schools, by grade: 2011–12



NOTE: The amount of allocated time was reported by the school principal.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.

2 On average, how much time did third- and eighth-graders spend on different subjects in a typical full week in the 2011–12 school year?

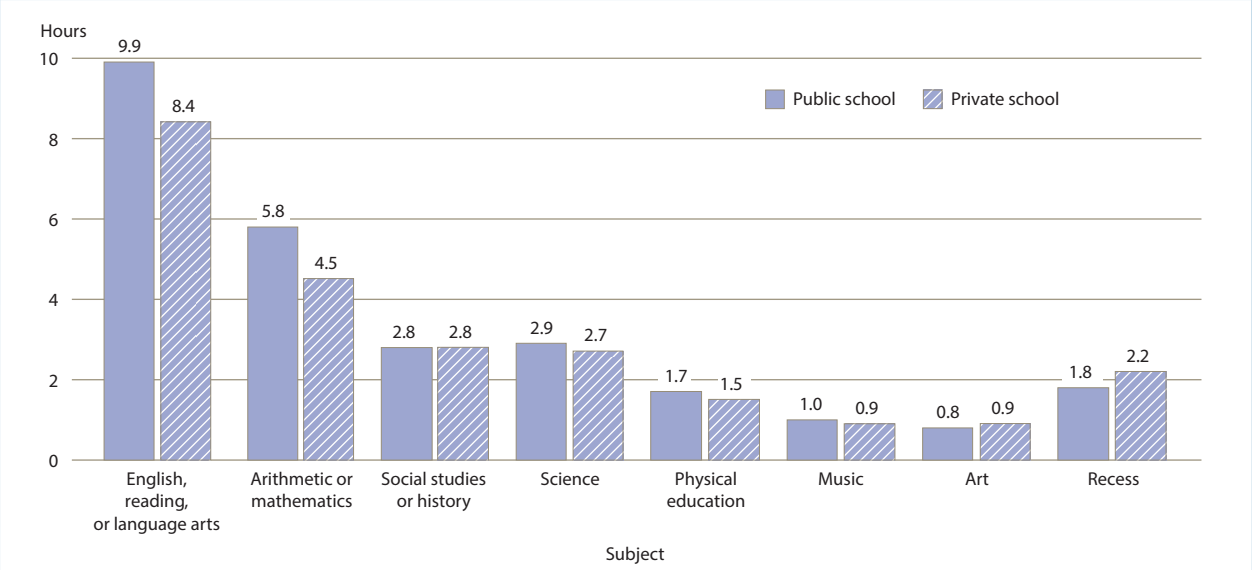
Third Grade

Public schools

For a typical week in 2011–12, third-graders in public schools spent more time, on average, on instruction in English (9.9 hours and 30.2 percent of time), followed by instruction in mathematics (5.8 hours and 17.6 percent of time), than on all other subjects (figures 2 and 3). While no measurable differences existed between the amount or percentage of time that third graders spent on instruction in social studies and science, the students did spend more time on social studies (2.8 hours and 8.6 percent of instructional time) and science (2.9 hours and 8.8 percent of instructional time) compared to physical education, music, art, or recess. Similarly, although the amount and percentage of time that students spent on physical education and recess did not differ, they spent a greater amount and percentage of time on physical education and recess than on music or art.

FIGURE 2.

Average number of hours per week that third-graders spent on various subjects, by school type: 2011–12



NOTE: The amount of allocated time was reported by the school principal.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.

Private schools

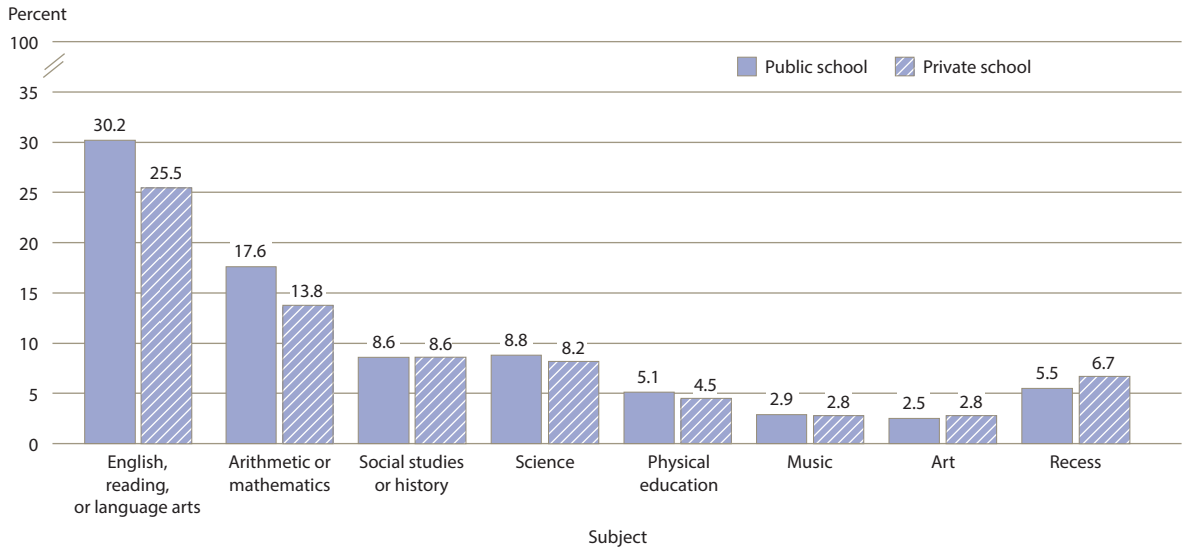
Like their peers in public schools, third-graders in private schools spent more time in a typical week on instruction in English (8.4 hours and 25.5 percent of time), followed by mathematics (4.5 hours and 13.8 percent of time), than on the other subjects (figures 2 and 3). While the time that third-graders spent on instruction in social studies (2.8 hours and 8.6 percent of time) per week was not measurably different from the time spent on instruction in science (2.7 hours and 8.2 percent of time), they spent more time on social studies and on science than they did on physical education, music, and art and more time on recess than on music or art.[7]

Comparison of public and private schools

Generally, the time that third-graders in public schools spent on various subjects—both in terms of number of hours and percentage of time—did not differ from the time that third-graders in private schools spent on those subjects. The only exception to this pattern was in mathematics, for which public school students spent a larger number of hours and greater percentage of time, compared to private school students.[8]

FIGURE 3.

Average percentage of time per week that third-graders spent on various subjects, by school type: 2011–12



NOTE: The amount of allocated time was reported by the school principal.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.

[7] The amount and percentage of time that third-graders in private schools spent on social studies did not measurably differ from the amount and percentage of time that they spent on recess; similarly, the amount and percentage of time that third-graders in private schools spent on science did not measurably differ from the amount and percentage of time that they spent on recess.

[8] Despite apparent differences between public and private schools in third-graders' time spent on instruction in English, the difference was not statistically significant.

Eighth Grade

Public schools

On average, in 2011–12, eighth-graders in public schools spent more time in a typical full week on instruction in English (6.5 hours and 19.4 percent of time) than on any other subject reported (figures 4 and 5). There were no measurable differences in the time they spent on instruction in mathematics, social studies, or science.

Private schools

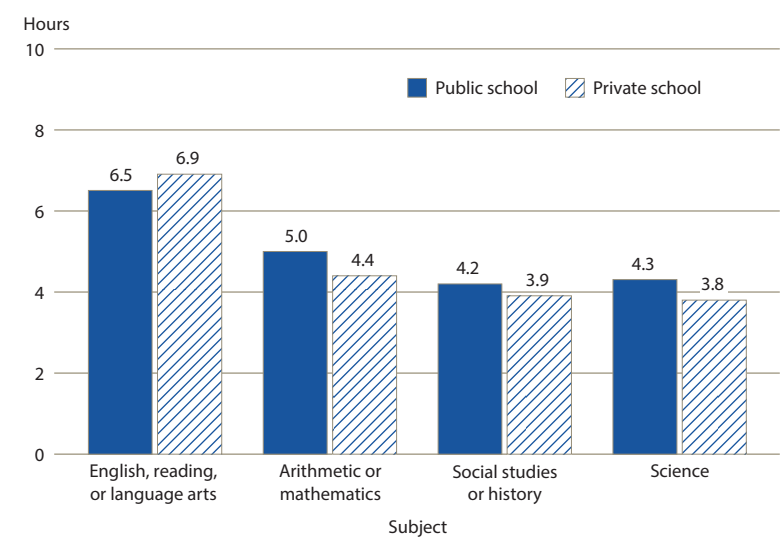
On average, in 2011–12, eighth-graders in private schools spent more time per week on instruction in English (6.9 hours and 21.2 percent of time) than on any other subject. There were no measurable differences in the amount or percentage of time that they spent on instruction in mathematics, social studies, and science.

Comparison of public and private schools

There were no measurable differences in the number of hours or percentage of time that public and private school eighth-graders spent on various subjects.

FIGURE 4.

Average number of hours per week that eighth-graders spent on various subjects, by school type: 2011–12

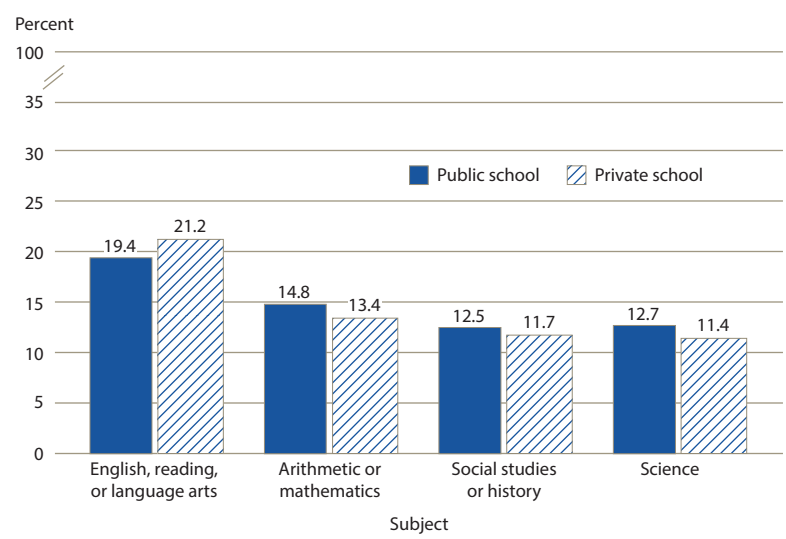


NOTE: The amount of allocated time was reported by the school principal.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.

FIGURE 5.

Average percentage of time per week that eighth-graders spent on various subjects, by school type: 2011–12



NOTE: The amount of allocated time was reported by the school principal.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.

3 Did the average amount of time that students spent on different subjects vary between the third and eighth grades in the 2011–12 school year?

Public Schools

Generally, the amount of time that students in public schools spent on English, social studies, and science differed between the third and eighth grades, whereas the amount of time spent on mathematics did not (figures 6 and 7).

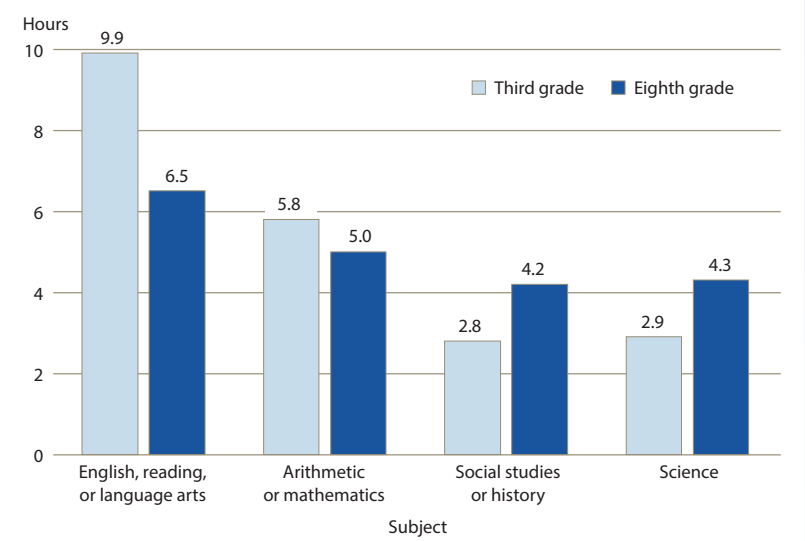
On average, in 2011–12, third-graders spent more time in a typical week on English than did eighth-graders (9.9 hours for third-graders vs. 6.5 hours for eighth-graders). In terms of the percentage of time, third-graders spent 30.2 percent of their time per week on English, compared to 19.4 percent for eighth-graders.

The opposite was true for social studies and science; on average, in 2011–12, third-graders spent less time per week on these subjects than did eighth-graders. In social studies, third-graders spent 2.8 hours per week on social studies, compared to 4.2 hours for eighth-graders. In terms of the percentage of time, third-graders spent 8.6 percent of their time in a typical week on social studies, compared to 12.5 percent of time for eighth-graders.

In science, on average, third-graders spent 2.9 hours per week, whereas eighth-graders spent 4.3 hours per week. Similarly, third-graders spent a smaller percentage of their time (8.8 percent) on science than did eighth-graders (12.7 percent).

FIGURE 6.

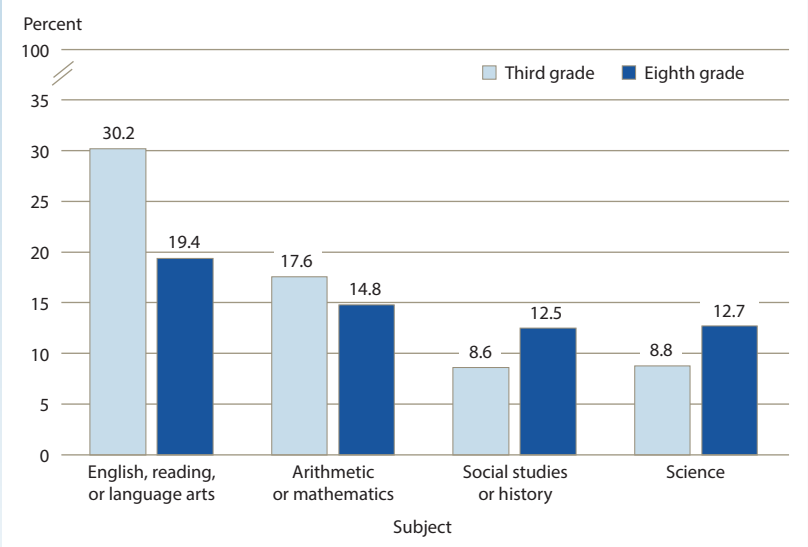
Average number of hours per week that third- and eighth-graders in public schools spent on various subjects, by grade: 2011–12



NOTE: The amount of allocated time was reported by the school principal.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File," 2011–12.

FIGURE 7.

Average percentage of time per week that third- and eighth-graders in public schools spent on various subjects, by grade: 2011–12



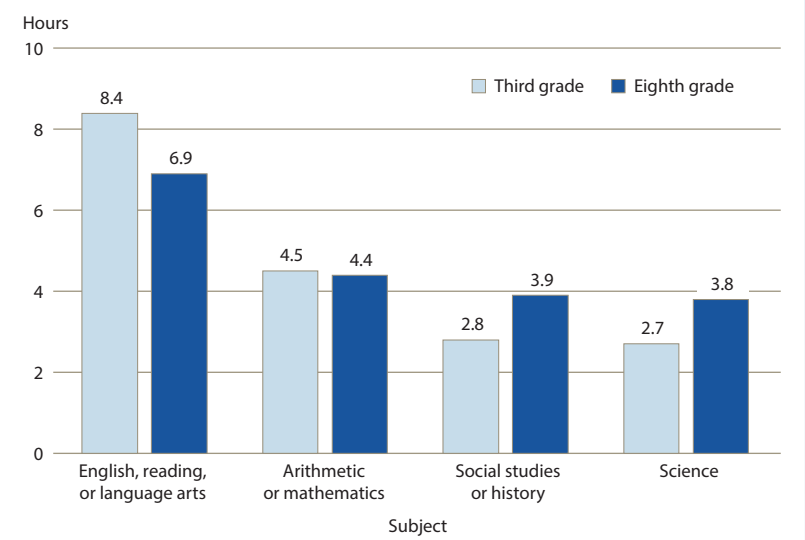
NOTE: The amount of allocated time was reported by the school principal.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File," 2011–12.

Private Schools

In private schools, there were no significant differences in the amount or percentage of time that students in the third and eighth grades spent per week on English, mathematics, social studies, or science (figures 8 and 9).

FIGURE 8.

Average number of hours per week that third- and eighth-graders in private schools spent on various subjects, by grade: 2011–12

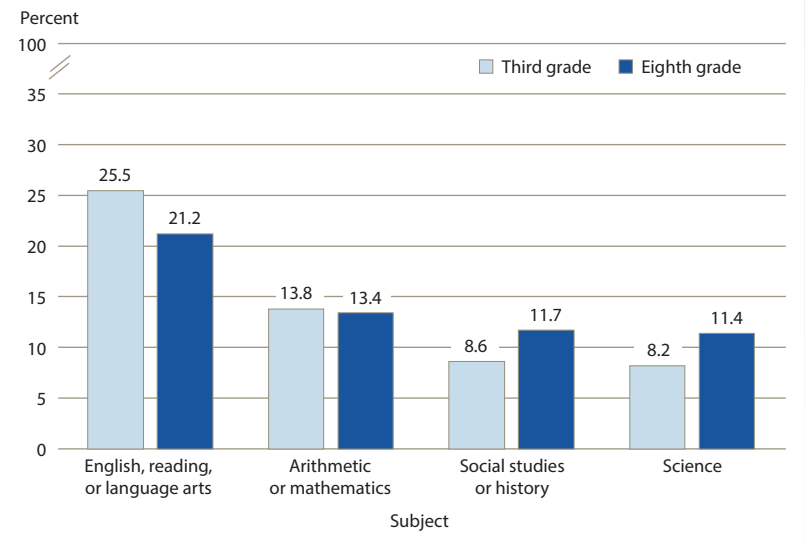


NOTE: The amount of allocated time was reported by the school principal.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Private School Principal Data File," 2011–12.

FIGURE 9.

Average percentage of time per week that third- and eighth-graders in private schools spent on various subjects, by grade: 2011–12



NOTE: The amount of allocated time was reported by the school principal.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Private School Principal Data File," 2011–12.

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http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2017076

Readers of this brief may be interested in the following National Center for Education Statistics (NCES) reports:

Bitterman, A., Gray, L., and Goldring, R. (2013). *Characteristics of Public and Private Elementary and Secondary Schools in the United States: Results From the 2011–12 Schools and Staffing Survey* (NCES 2013-312). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Bitterman, A., Goldring, R., and Gray, L. (2013). *Characteristics of Public and Private Elementary and Secondary School Principals in the United States: Results From the 2011–12 Schools and Staffing Survey* (NCES 2013-313). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Lanahan, L., Princiotta, D., and Enyeart, C. (2006). *Instructional Focus in First Grade* (NCES 2006-056). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Morton, B. A. and Dalton, B. (2007). *Changes in Instructional Hours in Four Subjects by Public School Teachers of Grades 1 Through 4* (NCES 2007-305). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Perie, M., Baker, D. P., and Bobbitt, S. (1997). *Time Spent Teaching Core Academic Subjects in Elementary Schools: Comparisons Across Community, School, Teacher, and Student Characteristics* (NCES 97-293). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

To access and explore Schools and Staffing Survey (SASS) data, please visit the DataLab for the Schools and Staffing Survey at http://nces.ed.gov/datalab/sass/.

METHODOLOGY AND TECHNICAL NOTES

Overview of the Schools and Staffing Survey

The Schools and Staffing Survey (SASS) is sponsored by the National Center for Education Statistics (NCES) of the Institute of Education Sciences within the U.S. Department of Education and is conducted by the U.S. Census Bureau. SASS is a nationally representative sample survey of public and private K–12 schools, principals, and teachers in the 50 states and the District of Columbia. School districts associated with public schools and library media centers in public schools are also part of SASS. SASS has been conducted seven times: in school years 1987–88, 1990–91, 1993–94, 1999–2000, 2003–04, 2007–08, and 2011–12.

The 2011–12 SASS consisted of questionnaires for five types of respondents: school districts (public), schools (public and private), principals (public and private), teachers (public and private), and school library media centers (public). Modified versions of the public school principal, public school, and public school teacher questionnaires that incorporated wording and questions appropriate for private school settings were sent to private schools. Charter schools and schools in single-school districts received a modified public school questionnaire that included both district and school items.

For public schools, information can be linked across teachers and their principals, schools, library media centers, and districts. For private schools, information can be linked across teachers and their principals and schools. For the content of the questionnaires, see http://nces.ed.gov/surveys/sass/questionnaire.asp.

SASS was designed to produce national, regional, and state estimates for public elementary and secondary schools, school districts, principals, teachers, and school library media centers; and national and regional estimates for public charter schools, as well as principals, teachers, and school library media centers within these schools. For private schools, the sample supports national, regional, and affiliation strata estimates for schools, principals, and teachers. Comparisons between public and private schools and their principals and teachers are possible only at the regional and national levels, because private schools were selected for sampling by affiliation strata and region rather than by state.

Sampling Frames and Sample Selection

Public schools. The starting point for the 2011–12 SASS public school sampling frame was the preliminary 2009–10 Common Core of Data (CCD) Nonfiscal School Universe data file. The sampling frame was adjusted from the CCD in order to fit the definition of a school eligible for SASS. To be eligible for SASS, a school was defined as an institution or part of an institution that provides classroom instruction to students, has one or more teachers to provide instruction, serves students in one or more of grades 1–12 or the ungraded equivalent, and is located in one or more buildings apart from a private home. If two or more schools shared the same building, they were treated as different schools if they had different administrators (i.e., principal or school head).

The SASS 2011–12 universe of schools is confined to the 50 states plus the District of Columbia and excludes the other jurisdictions, Department of Defense overseas schools, Bureau of Indian Education schools, and CCD schools that do not offer teacher-provided classroom instruction in grades 1–12 or the ungraded equivalent. This last group includes schools that are essentially administrative units that may oversee entities that provide classroom instruction or may only provide funding and oversight.

The SASS definition of a school is generally similar to the CCD definition, with some exceptions. Because SASS allows schools to define themselves, Census Bureau staff observed that schools generally report as one entity in situations where the administration of two or more schools reported separately on CCD is the same. Thus, CCD schools with the same location, address, and phone number were collapsed during the SASS frame building on the assumption that the respondent would consider them to be one school. A set of rules was applied in certain states to determine in which instances school records should be collapsed together. When school records were collapsed together, the

student and teacher counts, grade ranges, and names as reported to CCD were all modified to reflect the change.

Finally, additional school records were added to the sampling frame. Most of these records were for alternative, special education, or juvenile justice facilities in California, Pennsylvania, and New York. For a detailed list of frame modifications, see the *Survey Documentation for the 2011–12 Schools and Staffing Survey* (Chambers et al. forthcoming). After deleting, collapsing, and adding school records, the SASS public school sampling frame consisted of about 90,530 traditional public schools and 5,080 public charter schools.

SASS used a stratified probability proportionate to size (PPS) sample. The measure of size used for the schools was the square root of the number of full-time equivalent teachers reported or imputed for each school during the sampling frame development. The sampling procedures resulted in a total public school sample of about 10,250 traditional public schools and 750 public charter schools.[9]

Private schools. The 2011–12 SASS private school frame was based on the 2009–10 Private School Universe Survey (PSS) as updated for the 2011–12 PSS. The school frame is updated prior to each administration of PSS by collecting membership lists from private school associations and religious denominations, as well as private school lists from state education departments. The 2011–12 SASS private school frame was further augmented by the inclusion of additional schools that were identified through the 2009–10 PSS area frame data collection; these area frame schools were included in the SASS sample survey with certainty. Schools with kindergarten as the highest grade level were deleted from the frame to fit the SASS definition. After these changes, the private school sampling frame consisted of about 28,490 private schools.

Private schools were stratified by affiliation strata, grade level, and Census region. The measure of size and PPS procedures described for public schools were used for private schools as well. Of the 3,000 private schools sampled for the 2011–12 SASS, about 2,750 were from the list frame and about 250 were from the 2009–10 PSS area frame.

Principals. The principal of each sampled school was selected. About 14,000 school principals were sampled (10,250 traditional public school principals, 750 public charter school principals, and 3,000 private school principals).

Data Collection Procedures

In 2011–12, SASS employed a mail-based survey approach with subsequent telephone and in-person field follow-up. In preparation for school-level data collection, advance letters were mailed to the sampled schools in June 2011 to verify their addresses. School packages were mailed in October 2011. Next, schools were telephoned using a computer-assisted telephone interviewing instrument to verify school information and to establish a survey coordinator (who became the main contact person at the school for subsequent communication). The field follow-up period was preceded by phone calls from the telephone centers to remind the survey coordinators to have staff complete and return all forms. Individual survey respondents (principal, librarian, and teachers) were also called from the telephone centers and asked to complete the questionnaire by phone. Data collection ended in June 2012.

Data Processing and Imputation

The Census Bureau used both central processing and headquarters staff to check returned questionnaires, key the data, and implement quality control procedures. Questionnaires that had a preliminary classification of a complete interview were submitted to a series of computer edits consisting of a range check, a consistency edit, a blanking edit (deleting answers to questions that should not have been filled in, such as if a respondent followed a wrong skip pattern), and a logic edit. After these edits were run and reviewed by analysts, the records were put through another edit to make a final determination as to whether the case was eligible for the survey and whether sufficient data had been collected for the case to be classified as a complete interview.

[9] In this brief, charter schools are included with traditional public schools in the analysis of all public schools.

After the final edits were run, cases with "not-answered" values for items remained, and values were imputed. Donor respondent methods, such as hot-deck imputation, were used. If no suitable donor case could be matched, the few remaining items were imputed using mean or mode from groups of similar cases to impute a value to the item with missing data. After each stage of imputation, computer edits were run again to verify that the imputed data were consistent with the existing questionnaire data. If that was not the case, an imputed value was blanked out by one of these computer edits due to inconsistency with other data within the same questionnaire or because it was out of the range of acceptable values. In these situations, Census Bureau analysts looked at the items and tried to determine an appropriate value. Edit and imputation flags, indicating which edit or imputation method was used, were assigned to each relevant survey variable. For further information, see the sections on data processing and imputation in the *Survey Documentation for the 2011–12 Schools and Staffing Survey* (Chambers et al. forthcoming).

Response Rates and Nonresponse Bias Analysis

Overall and unit response rates. The unit response rate indicates the percentage of sampled cases that met the definition of a complete interview. The weighted SASS unit response rate was produced by dividing the weighted number of respondents who completed questionnaires by the weighted number of eligible sampled cases, using the initial base weight (the inverse of the probability of selection). The unit response rate for public school principals was 72.7 percent, and the unit response rate for private school principals was 64.7 percent.

Unit nonresponse bias analysis. Because Standard 4-4 of the NCES Statistical Standards requires analysis of nonresponse bias for any survey stage with a base-weighted response rate less than 85 percent, all SASS files were evaluated for potential bias. Nonresponse adjustments were designed to reduce or eliminate nonresponse bias. There is no evidence of potential bias after nonresponse adjustments were made for the national-level items included in the analysis. For further information on unit response rates and nonresponse bias analysis, see the *Survey Documentation for the 2011–12 Schools and Staffing Survey* (Chambers et al. forthcoming).

Variables Used in this Analysis

The key analytic variables used in this analysis come from four key questions on the SASS questionnaires for public and private school principals. These questions attempt to measure allocated time, or the time that schools or teachers schedule for instruction in various subjects (Berliner 1990; Glass 2002). Principals whose schools enrolled third-grade students answered a question that stated, "How long is the TYPICAL FULL WEEK of school for THIRD GRADE students?" The questionnaire prompted principals to report both hours and minutes. The questionnaire then asked principals, "During a TYPICAL FULL WEEK of school, approximately how many minutes do most THIRD GRADE students spend on the following activities at this school?" Principals were prompted to enter the number of minutes spent on the "combined TOTAL of English, reading, or language arts,"[10] arithmetic or mathematics, social studies or history, science, foreign language (Not English as a second language [ESL]),[11] physical education, music, art, and recess.

Principals whose schools enrolled eighth-grade students answered a question that stated, "How long is the TYPICAL FULL WEEK of school for EIGHTH GRADE students?" The questionnaire prompted principals to report both hours and minutes. The questionnaire then asked principals, "During a TYPICAL FULL WEEK of school, approximately how many minutes do most EIGHTH GRADE students spend on the following activities at this school?" Principals were prompted to enter the number of minutes on a "combined TOTAL of English, reading, or language arts," arithmetic or mathematics, social studies or history, and science.

[10] Regarding the time for English, reading, or language arts for both third-graders and eighth-graders, the questionnaire also asked, "Of these minutes, how many were designated for reading instruction?" Data from that question were not included in the analyses in this brief.

[11] Due to inability to report estimates, this brief does not discuss results for foreign language.

Based on these questionnaire items, some amount of students' time is not accounted for. That is, students are engaged in activities, both instructional (e.g., subjects not included on the questionnaire) and noninstructional (e.g., passing from class to class), that are not captured in the subject-specific follow-up questions. For this reason, the percentages of time that students spend on various subjects is not intended to add up to the entirety of students' school week. Additionally, no information regarding the variance between time scheduled for instruction and time spent on instruction is available for the report.

During analysis, estimates from the question regarding the length of the typical full week of school were converted entirely into minutes. For reporting, estimates regarding the length of a typical full week of school, as well as estimates regarding time spent on various subjects, were converted back into hours.

Estimates related to the percentage of time on various subjects were created by dividing the number of minutes in a given subject by the total number of minutes in a typical week.

Weighting and Variance Estimation

Each SASS data file contains a final weight and a set of replicate weights. The final weights are needed so that the sample estimates reflect the target survey population in data analyses. Each of the analyses uses the principal final weight (AFNLWGT).

In surveys with complex sample designs, such as SASS, direct estimates of sampling errors that assume a simple random sample will typically underestimate the variability in the estimates. The SASS sample design and estimation include procedures that deviate from the assumption of simple random sampling. For this reason, the preferred method of calculating sampling errors is replication. Each SASS data file includes a set of replicate weights designed to produce variance estimates. Each of the analyses in this brief uses the school replicate weights (AREPWT1–AREPWT88) to create balanced repeated replication variance estimates.

Statistical Procedures

Comparisons made in the text were tested for statistical significance at the $p < .05$ level to ensure that the differences were larger than might be expected due to sampling variation. Consistent with widely accepted statistical standards, only those findings that are statistically significant at the .05 level are reported. That is, there is less than a 5 percent chance that the difference occurred by chance. When comparing estimates between categorical groups (e.g., grade level, subject), *t* statistics were calculated. The following formula was used to compute the *t* statistic:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}}$$

where E_1 and E_2 are the estimates to be compared (e.g., the means of sample members in two groups), and se_1 and se_2 are their corresponding standard errors.

The decision rule is to reject the null hypothesis if there is a measurable difference between the two groups in the population in terms of the percentage having the characteristic, if $|t| > t$, where *t* is the value such that the probability that a Student's *t* random variable with *df* degrees of freedom exceeds that value is α/2 for a two-tailed test. All tests in this report are based on a significance level of .05 (i.e., α = 0.05). When the degrees of freedom are large, greater than 120, $t_{0.025;df} \approx 1.96$.

The estimates produced for this brief can be interpreted to have some dependence. To determine whether the dependent or independent *t*-test was the most appropriate for the analyses presented in this brief, we examined the correlations of the estimates. Typically, in cases where correlations are positive, the independent *t*-test is the appropriate and more conservative test of the two. Conversely, in cases where the correlations are negative, the dependent/paired *t*-test is the more conservative approach. Generally, comparisons for eighth-graders and comparisons between third-graders and eighth-graders were positive. Comparisons for third-graders were a mix of positive and negative; however, the negative correlations were very small in magnitude. Given these patterns, we selected the more conservative testing approach and used the independent *t*-test.

No adjustments were made for multiple comparisons. It is important to note that many of the variables examined in this report may be related to one another and to other variables not included in the analyses. The complex interactions and relationships among the variables were not fully explored and warrant more extensive analysis. Furthermore, the variables examined in this report are just a few of those that could be examined. Readers are cautioned not to draw causal inferences based on the results presented.

The coefficient of variation (CV) represents the ratio of the standard error to the estimate. The CV is an important measure of the reliability and accuracy of an estimate. In this report, the CV was calculated for all estimates. If any standard errors were between 30 and 50 percent of the estimate, estimates would be noted with a "!" symbol (interpret with caution) in tables; estimates with a standard error greater than 50 percent would be suppressed and noted as "reporting standards not met."

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APPENDIX A: DATA TABLES

Table A-1. Average number of hours in a typical full week of school for third- and eighth-graders, by school type and grade: 2011–12

School type	Number of hours in a typical full week of school
Public schools	
Third-graders	33.0
Eighth-graders	33.8
Private schools	
Third-graders	33.1
Eighth-graders	33.5

NOTE: The amount of allocated time was reported by the school principal.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.

Table A-2. Average number of hours per week and percentage of time that third-graders spent on various subjects, by school type and subject: 2011–12

School type	Number of hours	Percentage of time
Public schools		
English, reading, or language arts	9.9	30.2
Arithmetic or mathematics	5.8	17.6
Social studies or history	2.8	8.6
Science	2.9	8.8
Physical education	1.7	5.1
Music	1.0	2.9
Art	0.8	2.5
Recess	1.8	5.5
Private schools		
English, reading, or language arts	8.4	25.5
Arithmetic or mathematics	4.5	13.8
Social studies or history	2.8	8.6
Science	2.7	8.2
Physical education	1.5	4.5
Music	0.9	2.8
Art	0.9	2.8
Recess	2.2	6.7

NOTE: The amount of allocated time was reported by the school principal.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.

Table A-3. Average number of hours per week and percentage of time that eighth-graders spent on various subjects, by school type and subject: 2011–12

School type	Number of hours	Percentage of time
Public schools		
English, reading, or language arts	6.5	19.4
Arithmetic or mathematics	5.0	14.8
Social studies or history	4.2	12.5
Science	4.3	12.7
Private schools		
English, reading, or language arts	6.9	21.2
Arithmetic or mathematics	4.4	13.4
Social studies or history	3.9	11.7
Science	3.8	11.4

NOTE: The amount of allocated time was reported by the school principal.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.

APPENDIX B: STANDARD ERROR TABLES

Table B-1. Standard errors for table A-1: Average number of hours in a typical full week of school for third- and eighth-graders, by school type and grade: 2011–12

School type	Number of hours in a typical full week of school
Public schools	
Third-graders	0.68
Eighth-graders	0.99
Private schools	
Third-graders	1.27
Eighth-graders	2.08

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.

Table B-2. Standard errors for table A-2: Average number of hours per week and percentage of time that third-graders spent on various subjects, by school type and subject: 2011–12

School type	Number of hours	Percentage of time
Public schools		
English, reading, or language arts	0.63	1.94
Arithmetic or mathematics	0.32	1.00
Social studies or history	0.28	0.84
Science	0.28	0.84
Physical education	0.21	0.58
Music	0.16	0.44
Art	0.16	0.49
Recess	0.22	0.70
Private schools		
English, reading, or language arts	1.27	4.21
Arithmetic or mathematics	0.50	1.60
Social studies or history	0.48	1.59
Science	0.47	1.39
Physical education	0.34	1.02
Music	0.21	0.65
Art	0.23	0.67
Recess	0.39	1.25

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.

Table B-3. Standard errors for table A-3: Average number of hours per week and percentage of time that eighth-graders spent on various subjects, by school type and subject: 2011–12

School type	Number of hours	Percentage of time
Public schools		
English, reading, or language arts	0.56	1.75
Arithmetic or mathematics	0.39	1.21
Social studies or history	0.28	0.93
Science	0.23	0.82
Private schools		
English, reading, or language arts	0.99	3.62
Arithmetic or mathematics	0.47	1.56
Social studies or history	0.55	1.62
Science	0.62	1.81

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File" and "Private School Principal Data File," 2011–12.