

SPOTLIGHT: How Do Students Engage With Mathematics in the Classroom?

Table 8

Percentage of elementary grades mathematics teachers that report engaging their students in the following activities

Student activities	Less than or equal to 50% of students	More than 50% of students
Spend most instructional time on grade-level mathematics topics addressed by the state mathematics standards for my grade level	17%	83%
Revisit previous grades' content to fill learning gaps	75%	25%
Relate new mathematics content to other mathematics content within and across grade levels	48%	52%
Pursue conceptual understanding, procedural skill and fluency, and application with equal intensity	45%	55%
Explain their thinking and build on other students' thinking	43%	57%
Make sense of problems that do not include clear procedures for solving	56%	44%
Persevere in solving problems that do not include clear solution procedures	58%	42%
Use repeated practice to improve their procedural skills	32%	68%
Apply mathematics to solve problems in real-world contexts	44%	56%
Look for and make use of structure (e.g., patterns in numbers, shapes or algorithms)	46%	54%
Choose and use appropriate tools when solving a problem	43%	57%

Note. Question Text: 'In this school year, what proportion of your students typically engage in each of the following activities at least once a week for the mathematics classes you teach?' Data are filtered to elementary grades mathematics. Percentages may not sum to 100% due to rounding error.

Table 9

Percentage of middle grades mathematics teachers that report engaging their students in the following activities

Student activities	Less than or equal to 50% of students	More than 50% of students
Spend most instructional time on grade-level mathematics topics addressed by the state mathematics standards for my grade level	22%	78%
Revisit previous grades' content to fill learning gaps	63%	37%
Relate new mathematics content to other mathematics content within and across grade levels	49%	51%
Pursue conceptual understanding, procedural skill and fluency, and application with equal intensity	50%	50%
Explain their thinking and build on other students' thinking	62%	38%
Make sense of problems that do not include clear procedures for solving	68%	32%
Persevere in solving problems that do not include clear solution procedures	71%	29%
Use repeated practice to improve their procedural skills	45%	55%
Apply mathematics to solve problems in real-world contexts	46%	54%
Look for and make use of structure (e.g., patterns in numbers, shapes or algorithms)	51%	49%
Choose and use appropriate tools when solving a problem	48%	52%

Note. Question Text: 'In this school year, what proportion of your students typically engage in each of the following activities at least once a week for the mathematics classes you teach?' Data are filtered to middle grades mathematics. Percentages may not sum to 100% due to rounding error.

Table 10

Percentage of high school mathematics teachers that report engaging their students in the following activities

Student activities	Less than or equal to 50% of students	More than 50% of students
Spend most instructional time on grade-level mathematics topics addressed by the state mathematics standards for my grade level	24%	76%
Revisit previous grades' content to fill learning gaps	71%	29%
Relate new mathematics content to other mathematics content within and across grade levels	55%	45%
Pursue conceptual understanding, procedural skill and fluency, and application with equal intensity	60%	40%
Explain their thinking and build on other students' thinking	65%	35%
Make sense of problems that do not include clear procedures for solving	73%	27%
Persevere in solving problems that do not include clear solution procedures	75%	25%
Use repeated practice to improve their procedural skills	42%	58%
Apply mathematics to solve problems in real-world contexts	59%	41%
Look for and make use of structure (e.g., patterns in numbers, shapes or algorithms)	56%	44%
Choose and use appropriate tools when solving a problem	55%	45%

Note. Question Text: 'In this school year, what proportion of your students typically engage in each of the following activities at least once a week for the mathematics classes you teach?' Data are filtered to high school grades mathematics. Percentages may not sum to 100% due to rounding error.

The source for these tables is the RAND Corporation American Instructional Resources Survey (AIRS) for years 2019, 2020, and 2021, completed by the American Teacher Panel in the spring of each year. Technical documentation is available for the [AIRS 2019](#), [AIRS 2020](#), and [AIRS 2021](#). You can read more in-depth analysis in EdReports [Data Snapshot: K-12 Mathematics Instructional Materials](#).