

TEXAS ASSESSMENT OF KNOWLEDGE AND SKILLS (TAKS)

BLUEPRINT FOR GRADES 3-8 MATHEMATICS

Objectives	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Objective 1—Numbers, operations, and quantitative reasoning	10	11	11	10	10	10
Objective 2—Patterns, relationships, and algebraic reasoning	6	7	7	9	10	10
Objective 3—Geometry and spatial reasoning	6	6	7	7	7	7
Objective 4—Measurement	6	6	7	5	5	5
Objective 5—Probability and statistics	4	4	4	6	7	8
Objective 6—Mathematical processes and tools	8	8	8	9	9	10
Total number of items	40	42	44	46	48	50

At all grade levels, items are primarily multiple choice, although a small number of griddable items will be included on a test form.

Curriculum Rationale

Overall, TAKS mathematics items are of greater complexity and require a more in-depth level of critical thinking than TAAS. Based on this, the average length of time needed to complete a TAKS test will likely increase.

In elementary and middle school, Objective 1 (understanding numbers, operations, and quantitative reasoning) receives more emphasis because the included TEKS provide the foundation for mathematics necessary to build students' fluency with numbers so that they can succeed with higher-level mathematics. This objective includes place value, comparison of numbers, addition, subtraction, multiplication, division, and estimation. The progression from grade to grade increases from whole numbers to fractions to decimals to integers, and within these groups, from smaller, simple forms of the numbers to larger, more complex forms.

In the middle grades, Objective 2 (understanding patterns, relationships, and algebraic reasoning) increases in emphasis as students prepare for Algebra I. In addition, the items increase in complexity as students move from Grade 3 to Grade 8. For example, third grade students must be able to identify number and geometric patterns. In contrast, at Grades 4 and 5, students must be able to use patterns to solve problems, interpret data, and make generalizations. Then at Grades 6, 7, and 8, students must be able to generate formulas and formulate equations and inequalities.

In elementary and middle school, the emphasis on Objective 3 (understanding geometry and spatial reasoning) remains the same. This objective includes formal geometric vocabulary, congruence, symmetry, angles, parallel and perpendicular lines, transformations, circle relationships, and location of points, first on a number line and then on a coordinate grid.

In the middle grades, the emphasis on Objective 4 (understanding the concepts and uses of measurement) decreases slightly as the focus shifts to algebra foundations. This objective includes linear measurement, time, temperature, the use of standard measures, capacity, conversions, area, volume, and angle measurement. When a concept is first introduced at a particular grade level, items are written in a simple format using models. In subsequent grade levels, items that assess this same concept increase in complexity in that they require the use of formulas.

In the middle grades, the emphasis on Objective 5 (understanding probability and statistics) increases as the included TEKS build algebraic skills. This objective includes the use of data. The items move from pictographs and bar graphs to circle graphs and other, more complex graphs. In the early grades, students are required to read and interpret information. In later grades the level of complexity increases: students must make predictions and complete probability experiments as well as find the median, range, mode, and mean.

In elementary and middle school, Objective 6 (understanding mathematical processes and tools) maintains a strong focus, as the included TEKS not only provide students varied opportunities to link skills from different mathematical areas but also allow students to think critically and problem solve effectively. The problems solved in this objective combine content from multiple objectives. For example, an item that links skills from Objectives 4 and 5 might require students to identify the bar graph that shows the difference in area of a solid figure when one dimension is changed.