Diagnostic Guide

Grade 6

What this document covers

Section 1 Diagnostic Assessment Interface.

Section 2 Guide to Diagnostic Skill Entry Points (Tables 1–3).

Overview and Purpose

The Beginning-of-Year (BOY) Screener is a targeted diagnostic assessment consisting of 21 questions designed to evaluate student mastery of prerequisite standards from the prior grade level. For Grade 6, the screener specifically assesses Grade 5 TEKS to determine each student's readiness for on-grade-level instruction.

This diagnostic tool serves three primary functions:

1. **Snapshot of Readiness:** Measures student mastery of the previous grade's standards to establish a baseline for instruction.
2. **Actionable Insights:** Highlights specific strengths and areas of growth for both whole-class planning and individual student intervention.
3. **Automated Recommendations:** Assessment data automatically generates initial Practice Mode recommendations, assigning the specific skill entry points and interventions detailed in this guide.

How to Use This Guide

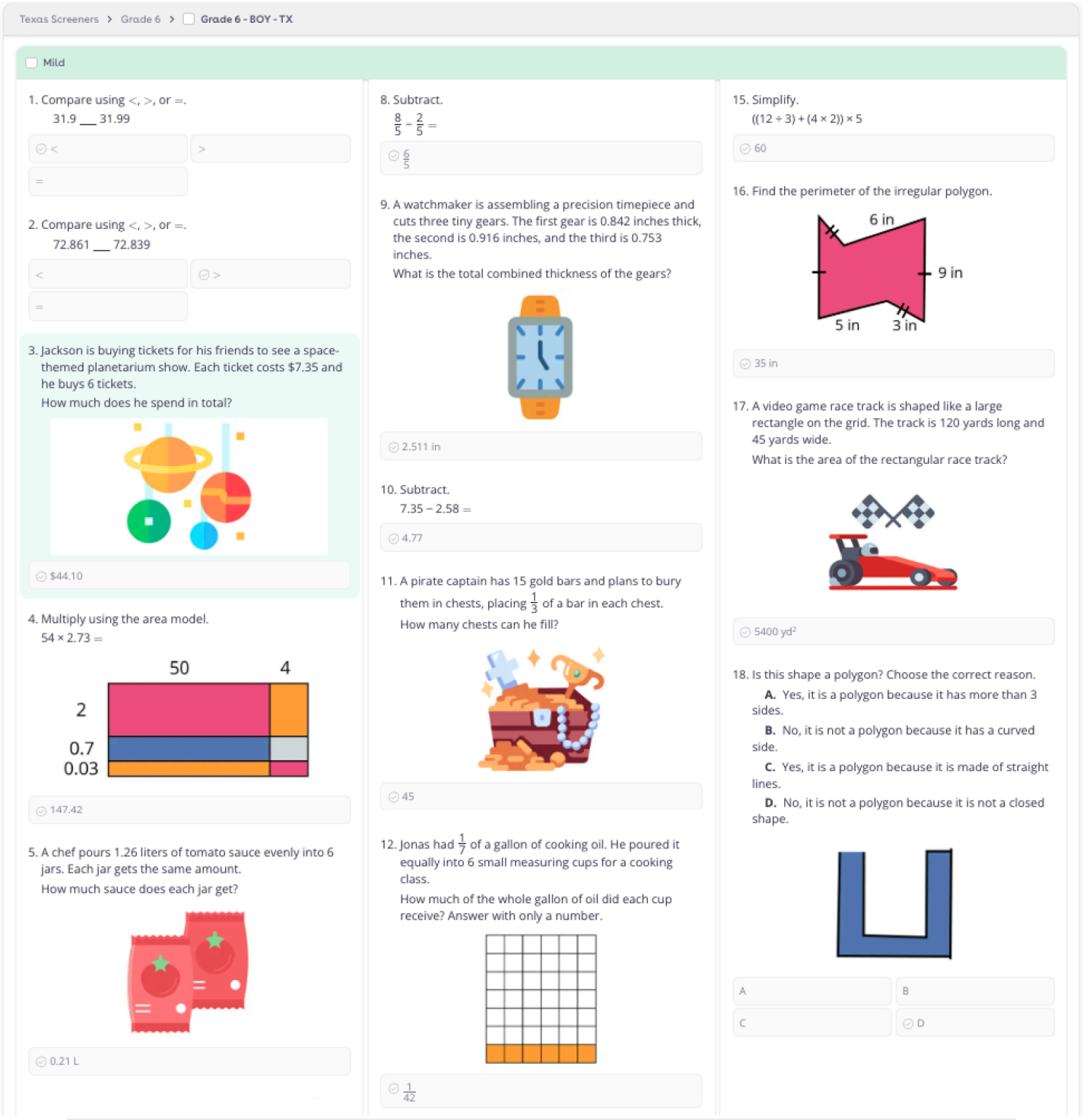
Based on the actionable insights generated by the screener, educators should use the following tables to identify and assign the appropriate skill entry points and interventions:

- **For Targeted Practice (Table 1):** Assign these Practice Cards for students who need a focused refresher on specific discrete skills (e.g., below 70% proficiency on individual questions). These can be used for independent work, station activities, or homework.
- **For Comprehensive Reteaching (Table 2):** Use these Grade 5 instructional chapters and sections for students demonstrating significant gaps across an entire domain (e.g., below 50% proficiency). These resources provide the conceptual foundation and guided instruction necessary to rebuild understanding before attempting Grade 6 content.
- **For Vertical Alignment (Table 3):** Refer to this matrix to see how each prerequisite skill connects to upcoming Grade 6 TEKS and chapters. Use this to prioritize interventions that are most critical for the specific Grade 6 content currently being taught.

Section 1: Diagnostic Assessment Interface

The figure below demonstrates the teacher's view of the Grade 6 BOY Screener. This digital interface captures the student response data necessary to generate the recommended skill entry points and interventions detailed in Tables 1, 2, and 3.

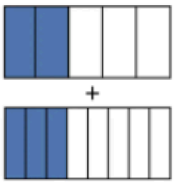
Figure 1. *Grade 6 Beginning-of-Year Diagnostic Screener — Teacher View*



6. A science lab has 7 liters of liquid nitrogen. They fill test tubes, each holding 0.28 liters.
   How many test tubes can they fill?

25

7. Add.
   $\frac{2}{5} + \frac{3}{8} =$



$\frac{31}{40}$

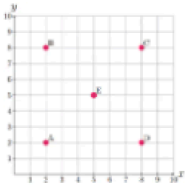
13. Mia saved up $50 from her allowance. She went to the bookstore and bought a notebook for $6 and a set of pens for $8. Then she wants to buy as many comic books as possible. Each comic book costs $3.
    How many comic books can she buy?

12

14. The following rule $y = 3x + 2$ is used for the following pattern:
    5, 8, 11, 14
    What is the next number in the pattern?

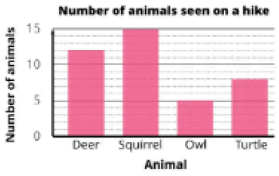
17

19. Find the coordinates of point C.



(8, 8)

20. A nature center asked visitors which animals they had seen during their hike. The bar graph shows how many of each animal were seen.
    How many people participated in the survey?



40

21. The table shows the number of hours students spent practicing musical instruments over the weekend.
    Use the data to create a line plot showing how many students practiced for each number of hours.
    Determine the range, the difference between the maximum and the minimum, of hours practiced.

Hours of practice		
2	4	3
5	4	2
6	5	3
4	2	6

4 h

Section 2: Guide to Diagnostic Skill Entry Points

Table 1: Diagnostic Intervention Guide — Recommended Practice Cards

This table maps each diagnostic question to targeted Practice Cards within the curriculum. These resources are designed for immediate, focused intervention—allowing students to practice the specific discrete skills identified as gaps (e.g., below 70% proficiency) without pausing the entire class for a full reteach. Teachers can assign these cards as independent work, station activities, or homework to efficiently close skill gaps.

Diagnostic Strand	Question(s)	Prerequisite TEKS (Grade 5)	Recommended Practice Cards
Number System and Place Value	Q1, Q2	5.2.B	· Compare decimals up to thousandths
	Q3, Q4	5.3.E	· Multiply decimals to hundredths
	Q5, Q6	5.3.G	· Divide numbers to the hundredths
	Q7, Q8, Q9, Q10	5.3.K	· Add and subtract rational numbers
Fractions and Rational Numbers	Q11, Q12	5.3.L	· Divide whole numbers by unit fractions
Algebraic Reasoning	Q13	5.4.B	· Solve multistep word problems with multi-digit numbers
	Q14	5.4.C	· Identify number patterns and rules
	Q15	5.4.F	· Evaluate numerical expressions with grouping symbols
Geometry and Measurement	Q16, Q17	5.4.H	· Find perimeter of rectangles · Relate perimeter and area of rectangles
	Q18	5.5.A	· Classify 2D shapes in multiple categories
	Q19	5.8.C	· Plot points in the first quadrant
Data Analysis	Q20, Q21	5.9.C	· Draw and interpret scaled bar graphs · Plot dot plots

Table 2: Prerequisite Reteach Guide — Grade 5 Instructional Alignment

For students demonstrating significant gaps (e.g., below 50% proficiency) across an entire domain, targeted practice alone may not be sufficient. This table directs educators to the full Grade 5 instructional chapters and sections required for deep reteaching. These resources provide the conceptual foundation and guided instruction necessary to rebuild prerequisite understanding before students attempt Grade 6 content.

Diagnostic Strand	Question(s)	Prerequisite TEKS (Grade 5)	Recommended Chapter	Recommended Sections
Number System and Place Value	Q1, Q2	5.2.B	**Understanding Decimals**	· Comparing decimals to hundredths · Comparing decimals to thousandths
	Q3, Q4	5.3.E	**Operations on Whole Numbers**	· Complex money word problems · Multiplying decimals by whole numbers · Multiplying decimals to hundredths
	Q5, Q6	5.3.G	**Operations on Decimals**	· Complex money word problems · Dividing decimals by whole numbers
	Q7, Q8, Q9, Q10	5.3.K	**Operations on Decimals**	· Adding decimals · Adding fractions · Adding positive rational numbers · Subtracting decimals · Subtracting fractions · Subtracting positive rational numbers
Fractions and Rational Numbers	Q11, Q12	5.3.L	**Operations on Fractions**	· Dividing unit fractions by whole numbers · Dividing whole numbers by unit fractions
Algebraic Reasoning	Q13	5.4.B	**Expressions, Equations, and Patterns**	· Evaluate variable expressions with decimals · Word problems as equations with unknown
	Q14	5.4.C	**Expressions, Equations, and Patterns**	· Numerical patterns as input-output tables and rules
	Q15	5.4.F	**Expressions, Equations, and Patterns**	· Order of operations with grouping symbols
Geometry and Measurement	Q16, Q17	5.4.H	**Perimeter and Area**	· Area and perimeter of rectangles · Area of parallelogram · Area of rectangles · Area of rectilinear figures · Perimeter of polygons · Volume of right rectangular prisms
	Q18	5.5.A	**2D Figures**	· Polygons · Quadrilaterals

Diagnostic Strand	Question(s)	Prerequisite TEKS (Grade 5)	Recommended Chapter	Recommended Sections
	Q19	5.8.C	**Coordinate Systems**	• Intro to coordinate systems • Plotting points with positive coordinates
Data Analysis	Q20, Q21	5.9.C	**Data Analysis**	• Bar graphs • Line plot • Line plot with fractions • Scatterplots • Solving one- and two-step problems with data representations • Stem and leaf plots • Tables and frequency tables

Table 3: Vertical Alignment Matrix — Connecting Prerequisites to Grade 6 Content

This matrix illustrates the instructional bridge between the Grade 5 prerequisite skills assessed in the diagnostic and the upcoming Grade 6 Target TEKS. It provides the rationale for intervention by showing exactly which Grade 6 chapters and units rely on these prerequisites. Educators should use this table to prioritize interventions that are most critical for the specific Grade 6 content currently being taught.

Diagnostic Strand	Question(s)	Prerequisite TEKS (Grade 5)	Aligned Target TEKS (Grade 6)	Chapters Addressed
Number System and Place Value	Q1, Q2	5.2.B	**6.2**	· Understanding and Representing Rational Numbers · Operations on Positive Rational Numbers
	Q3, Q4	5.3.E	**6.3**	· Operations on Positive Rational Numbers · Operations on Integers
	Q5, Q6	5.3.G	**6.3**	· Operations on Positive Rational Numbers · Operations on Integers
	Q7, Q8, Q9, Q10	5.3.K	**6.3**	· Operations on Positive Rational Numbers · Operations on Integers
Fractions and Rational Numbers	Q11, Q12	5.3.L	**6.3**	· Operations on Positive Rational Numbers · Operations on Integers
Algebraic Reasoning	Q13	5.4.B	**6.9**	· Linear Equations and Inequalities
	Q14	5.4.C	**6.6**	· Linear Equations and Inequalities
	Q15	5.4.F	**6.7**	· Expressions
Geometry and Measurement	Q16, Q17	5.4.H	**6.8**	· Geometry
	Q18	5.5.A	**6.8**	· Geometry
	Q19	5.8.C	**6.11**	· Displaying and Interpreting Data
Data Analysis	Q20, Q21	5.9.C	**6.13**	· Displaying and Interpreting Data