



IXL Skill Plan for the TABE[®] 11&12 11&12 Math Level M



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Measurement and Data

Standard	IXL skills
Create line plots from given data sets and explain simple characteristics	1. Create and interpret line plots with fractions XBS
Use line plots to solve simple addition and subtraction problems	1. Create and interpret line plots with fractions XBS
Use line plots to solve multi-step addition, subtraction, multiplication, and division problems	1. Create and interpret line plots with fractions XBS
Use visual representations of arithmetic operations to bridge the concrete to the abstract (e.g., number line diagrams, area models, etc.)	1. Add and subtract fractions with like denominators using number lines SUT 2. Add fractions with unlike denominators using models 2BS 3. Subtract fractions with unlike denominators using models QA6
Find the missing side length of a rectangle given one side length and the area or perimeter	1. Perimeter: find the missing side length T2V 2. Find the area or missing side length of a rectangle 9E6
Extend the use of measuring tools to include measuring angles with protractors	1. Measure angles with a protractor NCN
Measure angles to the nearest degree using a protractor and create angles with given measures	1. Measure angles with a protractor NCN 2. Draw angles with a protractor R9K
Use properties of complementary and supplementary angles to find missing angle measures in diagrams	1. Adjacent angles VJY
Extend the idea of using unit squares to find areas of rectangles to using unit cubes to find volumes of rectangular prisms	1. Volume of rectangular prisms made of unit cubes WG8
Find volumes of rectangular prisms by counting unit cubes and by multiplying the side lengths (using the volume formula)	1. Volume of cubes and rectangular prisms TFL

Find the missing dimension of a rectangular prism when given the other dimensions and the volume

1. Volume of cubes and rectangular prisms TFL

Geometry

Standard	IXL skills
<p>Recognize points, lines, line segments, angles, and parallel and perpendicular lines in polygons and in diagrams other than those of polygons</p>	<ol style="list-style-type: none"> 1. Points, lines, line segments, rays, and angles 9MK 2. Identify parallel, perpendicular, and intersecting lines DSU 3. Parallel, perpendicular, and intersecting lines 8VQ 4. Acute, right, obtuse, and straight angles R5K
<p>Recognize points, lines, line segments, and angles and their relationships to each other (e.g., a point lies on a line) when presented in polygons and diagrams</p>	<ol style="list-style-type: none"> 1. Parallel sides in quadrilaterals 58M
<p>Recognize points, lines, line segments, angles, and parallel and perpendicular lines in the coordinate plane</p>	
<p>Draw polygons with vertices at whole number coordinates in the coordinate plane</p>	
<p>Distinguish common and non-common attributes of pairs or groups of shapes</p>	<ol style="list-style-type: none"> 1. Classify quadrilaterals 6ZQ
<p>Distinguish common and non-common attributes of pairs or groups of shapes using pictures, diagrams, and words</p>	<p>Identify quadrilaterals</p> <ol style="list-style-type: none"> 1. Identify parallelograms AJB 2. Identify rectangles XAE 3. Identify rhombuses C66 <p>Describe relationships</p> <ol style="list-style-type: none"> 4. Identify the relationships between quadrilaterals KCG 5. Describe relationships among quadrilaterals SZT
<p>Identify and create nets for given prisms and pyramids</p>	<ol style="list-style-type: none"> 1. Nets of three-dimensional figures 8KP

Identify coordinates of points and plot points with whole number coordinates in the first quadrant of the coordinate plane

1. Objects on a coordinate plane NTR

Name parts of ordered pairs and what they describe (e.g., x-coordinate, y-coordinate)

1. Describe the coordinate plane PF8

Expressions and Equations

Standard	IXL skills
Write simple expressions and equations to represent real-world situations	1. Write variable expressions: one operation F5B
Identify and name parts of expressions and equations (e.g., terms, coefficient, variable, etc.)	1. Identify terms and coefficients 9KE
Solve multi-step equations involving addition, subtraction, multiplication, and division of rational numbers	<p>One-step equations</p> <p>1. Solve one-step addition and subtraction equations with decimals and fractions 5D2</p> <p>2. Solve one-step multiplication and division equations with decimals and fractions T53</p> <p>Two-step equations</p> <p>3. Solve two-step equations QVK</p> <p>Test solutions</p> <p>4. Does x satisfy an equation? VMB</p> <p>5. Which x satisfies an equation? VG8</p>
Write and solve expressions and equations to represent verbal descriptions (e.g., the product of twice a number, n , and 6) and real-world situations	<p>Expressions</p> <p>1. Write variable expressions: two operations CX9</p> <p>2. Write variable expressions: word problems 6LQ</p> <p>Equations</p> <p>3. Solve one-step addition and subtraction equations: word problems 35Q</p> <p>4. Solve one-step multiplication and division equations: word problems GMV</p> <p>5. Write a one-step equation: word problems YVX</p> <p>6. Solve one-step equations: word problems BXY</p>
Write and solve expressions and equations involving the distributive property or combining like terms	<p>1. Solve equations involving like terms W82</p> <p>2. Multiply using the distributive property 2HH</p>

Solve one- and two-step equations involving addition, subtraction, multiplication, and/or division of whole numbers while using visual representations to show the process

1. Model and solve equations using algebra tiles G6Z

Use properties of addition and multiplication to justify steps in solving an equation

1. Properties of addition JRM
 2. Properties of multiplication HC8
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Write and solve multi-step equations involving addition, subtraction, multiplication, division, the distributive property, and exponents (squares and cubes) with rational numbers

Use inverse operations to show steps in solving equations

Number and Operations - Fractions

Standard	IXL skills
Use multiple representations to create equivalent fractions, especially with denominators other than 1, 2, 3, 4, 6, and 8	<ol style="list-style-type: none"> 1. Find equivalent fractions using area models HYC 2. Fractions with denominators of 10 and 100 VLP
Solve simple, one-step, real-world problems involving addition or subtraction of fractions with different denominators or multiplication or division involving a unit fraction	<ol style="list-style-type: none"> 1. Multiply fractions by whole numbers: word problems U2V 2. Multiply two fractions: word problems 38Y 3. Divide unit fractions and whole numbers: word problems G2N 4. Add and subtract fractions with unlike denominators: word problems TCD
Compose and decompose fractions using addition and subtraction	<p>Add fractions</p> <ol style="list-style-type: none"> 1. Add fractions with like denominators PDU <p>Subtract fractions</p> <ol style="list-style-type: none"> 2. Subtract fractions with like denominators AVF <p>Decompose fractions</p> <ol style="list-style-type: none"> 3. Decompose fractions into unit fractions using models QG2 4. Decompose fractions into unit fractions XHG 5. Decompose fractions N2Z 6. Decompose fractions multiple ways UEW
Solve simple, one-step, real-world problems involving addition and subtraction of fractions with the same denominators	<ol style="list-style-type: none"> 1. Add and subtract fractions with like denominators: word problems XBR 2. Add and subtract fractions with like denominators in recipes LYR
Solve simple, one-step, real-world problems involving addition and subtraction of fractions with different denominators	<ol style="list-style-type: none"> 1. Add 3 or more fractions: word problems BFQ 2. Add and subtract fractions with unlike denominators: word problems TCD
Express repeated addition of unit fractions as multiplication expressions (e.g., $1/5 + 1/5 + 1/5 = 3 \times 1/5 = 3/5$)	

Express the division of two whole numbers as a fraction in a real-world context

1. Understand fractions as division: word problems CTD

Use visual representations to show division of a whole number by a unit fraction

1. Divide whole numbers by unit fractions using models VDU

Use visual representations to create models of decimals and connect these to fractions

Model decimals and fractions

1. Model decimals and fractions TPV
2. Graph fractions as decimals on number lines 2N9

Compare decimals and fractions

3. Compare decimals and fractions on number lines 8YG
4. Compare decimals and fractions TB7

Use visual representations to compare decimals to the hundredths place

1. Compare money amounts EAL
2. Compare decimals on number lines T2W
3. Compare decimal numbers DY5
4. Compare decimals using models CV7

Numbers and Operations - Base Ten

Standard	IXL skills
Create and use multiple representations of multi-digit decimals based on place value	<ol style="list-style-type: none"> Understanding decimals expressed in words F9G What decimal number is illustrated? CTP Convert decimals between standard and expanded form WTU Convert decimals between standard and expanded form using fractions BLQ
Compare the values of digits in multi-digit numbers and observing patterns	<ol style="list-style-type: none"> Place values in decimal numbers X8U Relationship between decimal place values DVM
Compare decimals to the thousandths place	<ol style="list-style-type: none"> Compare decimal numbers NSG
Create and use multiple representations of addition and subtraction of multi-digit numbers, including those with more than three digits, based on place value and connect these representations to the standard algorithms (especially where regrouping is required)	<ol style="list-style-type: none"> Add two multi-digit numbers RG2 Add 3 or more numbers up to millions ZMC Subtract two multi-digit numbers VP2
Use various strategies for adding numbers with up to four digits	<ol style="list-style-type: none"> Add two numbers up to four digits P2Q
Use various strategies for adding numbers, including decimals, with up to six digits	<ol style="list-style-type: none"> Add decimal numbers BDX
Use various strategies to multiply two-, three-, and four-digit numbers by one-, two-, and three-digit numbers	<p>Multiply 2-digit numbers</p> <ol style="list-style-type: none"> Multiply 2-digit numbers by 2-digit numbers LLJ Multiply 2-digit numbers by 3-digit numbers JHB Multiply 2-digit numbers by larger numbers 9VQ Multiply three or more numbers up to 2 digits each CKE <p>Multiply 3-digit numbers</p> <ol style="list-style-type: none"> Multiply by 3-digit numbers NSP Multiply three numbers up to 3 digits each 7JG

Investigate the relationship between skip counting and multiplication and division

Use various strategies to multiply three- and four-digit numbers by one-digit numbers

1. Multiply by 1-digit numbers 7H4

Use various strategies to divide two-, three-, and four-digit numbers by one- and two-digit numbers

Divide 2-digit numbers by 1-digit numbers

1. Divide 2-digit numbers by 1-digit numbers 4T7
2. Divide 2-digit numbers by 1-digit numbers: complete the table UFM
3. Divide 2-digit numbers by 1-digit numbers: interpret remainders 5WV
4. Divide 2-digit numbers by 1-digit numbers using arrays M49
5. Divide 2-digit numbers by 1-digit numbers using area models 7LG
6. Divide using the distributive property GDY

Divide larger numbers by 1-digit numbers

7. Divide larger numbers by 1-digit numbers: complete the table 2UB
8. Divide larger numbers by 1-digit numbers: interpret remainders J8D
9. Divide 3-digit numbers by 1-digit numbers using area models 6UL
10. Divide larger numbers by 1-digit numbers GE8

Divide by 2-digit numbers

11. Divide by 2-digit numbers using models AJA
12. Divide by 2-digit numbers using partial quotients ASM
13. Divide 2-digit and 3-digit numbers by 2-digit numbers HMA
14. Divide 4-digit numbers by 2-digit numbers 35K

Round multi-digit numbers to the thousands and ten thousands places and examine the values of the digits in each place

1. Round decimals MPB

Create models of decimals and use decimal notation

1. What decimal number is illustrated? CTP

Operations and Algebraic Thinking

Standard	IXL skills
Write and solve expressions and equations to represent real-world situations	<ol style="list-style-type: none"> 1. Write numerical expressions for word problems <small>NF5</small> 2. Write variable equations: word problems <small>TVB</small>
Write and solve multi-step, real-world problems involving addition, subtraction, multiplication, division, and grouping symbols	<ol style="list-style-type: none"> 1. Write numerical expressions for word problems <small>NF5</small>
Solve multi-step equations involving addition, subtraction, multiplication, division, and grouping symbols without context	<ol style="list-style-type: none"> 1. Evaluate numerical expressions <small>Z5N</small>
Solve multi-step, real-world problems involving addition, subtraction, multiplication, and/or division of whole numbers while using visual representations to show the process	<ol style="list-style-type: none"> 1. Multi-step word problems <small>EA9</small> 2. Multi-step word problems involving subtraction <small>68Y</small> 3. Multi-step word problems with strip diagrams <small>CZQ</small> 4. Multi-step word problems involving remainders <small>SLS</small>
Write and use two-step equations involving addition, subtraction, multiplication, division, and grouping symbols that represent real-world situations	<ol style="list-style-type: none"> 1. Write equations to represent word problems <small>5SJ</small>
Use expressions and equations to represent multiplicative relationships expressed in words	<ol style="list-style-type: none"> 1. Compare numbers using multiplication <small>GGE</small>
Create, compare, and analyze multiple solution strategies and representations to investigate the relationship between multiplication and division of whole numbers	<ol style="list-style-type: none"> 1. Compare numbers using multiplication: word problems <small>QKB</small> 2. Comparison word problems: addition or multiplication? <small>YCW</small> 3. Multiplication facts to 10: find the missing factor <small>NLU</small> 4. Properties of division <small>TNJ</small>



Create number patterns with addition rules to investigate how they relate to multiplication and division

1. Use a rule to complete a number pattern 5P2

Identify prime and composite numbers

1. Prime and composite: up to 20 TNF
 2. Prime and composite: up to 100 L9R
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