IXL Skill Plan for the TerraNova 3®

8th grade

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Number and Number Relations

Standard	IXL skills
Compare, Order	1. Compare and order integers T2M 2. Compare rational numbers MUK 3. Put rational numbers in order QP5
Equivalent Forms	1. Write a repeating decimal as a fraction WD6 2. Convert between decimals and fractions or mixed numbers 2RC 3. Convert between percents, fractions, and decimals 6PB
Ratio, Proportion	1. Identify equivalent ratios ZVD 2. Do the ratios form a proportion? QBJ
Percent	1. Find what percent one number is of another JMG 2. Compare percents of numbers 2D8
Roots, Radicals	1. Square roots of perfect squares 9RS 2. Cube roots of positive perfect cubes RYG 3. Cube roots of positive and negative perfect cubes J7K
Absolute Value	1. Absolute value and opposite integers ABP 2. Absolute value of rational numbers 89R
Exponents, Scientific Notation	**Scientific notation** 1. Convert between standard and scientific notation H8A **Exponents** 2. Evaluate exponents EYR 3. Exponents with negative bases ZQC 4. Evaluate negative exponents WGS
Number Line	1. Integers on number lines EZE 2. Graph integers on horizontal and vertical number lines LFR

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Factors, Multiples, Divisibility

Factors

1. Sort factors of numerical expressions GQU

Divisibility

2. Divisibility rules VW5

GCF and LCM

3. Greatest common factor 3M8
4. Least common multiple 2QK

Computation and Numerical Estimation

Standard	IXL skills
Computation	**Integers** 1. Add and subtract integers 6UW 2. Multiply and divide integers MDA **Rational numbers** 3. Add and subtract rational numbers Z68 4. Multiply and divide rational numbers 52P **Percents** 5. Percents of numbers and money amounts ZGA
Computation In Context	**Integers** 1. Add and subtract integers: word problems XP7 **Rational numbers** 2. Add and subtract rational numbers: word problems ZAL 3. Multiply and divide rational numbers: word problems 6Q9 **Percents** 4. Find what percent one number is of another: word problems ARV 5. Percents of numbers: word problems JNT
Recognize When To Estimate	

Operation Concepts

Standard	IXL skills
Operation Properties	**Properties of operations** 1. Properties of addition and multiplication TYL **Order of operations** 2. Evaluate numerical expressions involving integers Y6W 3. Evaluate numerical expressions involving rational numbers 5E3 **Operation rules** 4. Apply addition, subtraction, multiplication, and division rules S6N

Measurement

Standard	IXL skills
Perimeter	1. Perimeter LR2
Area	**Area** 1. Area ZZY 2. Area between two shapes HKM **Surface area** 3. Surface area of cubes, prisms, and pyramids ZT6 4. Surface area of cylinders FGU 5. Surface area of cones 5E6
Mass, Weight	
Volume, Capacity	1. Volume of cubes, prisms, and pyramids JUB 2. Volume of cylinders 9F3 3. Volume of cones YYR
Angle Measure	
Scale Drawing, Map, Model	1. Scale drawings: word problems Q5W 2. Scale drawings: scale factor word problems Z9T
Convert Measurement Units	1. Convert rates and measurements: customary units W5N 2. Convert rates and measurements: metric units EMM 3. Convert between customary and metric systems 7DU

Geometry and Spatial Sense

Standard	IXL skills
Angles	**Angle relationships** 1. Identify complementary, supplementary, vertical, adjacent, and congruent angles HGV 2. Find measures of complementary, supplementary, vertical, and adjacent angles R2B **Triangles and quadrilaterals** 3. Find missing angles in triangles JFJ 4. Find missing angles in quadrilaterals I N2R
Coordinate Geometry	1. Coordinate plane review T6E 2. Quadrants and axes K77
Congruence, Similarity	**Similar and congruent figures** 1. Similar and congruent figures U85 **Congruence** 2. Congruence statements and corresponding parts LPP 3. Side lengths and angle measures of congruent figures DSQ **Similarity** 4. Side lengths and angle measures of similar triangles XED 5. Side lengths and angle measures of similar figures 79Y
Transformations	**Translations** 1. Translations: graph the image XUS 2. Translations: find the coordinates RUP **Reflections** 3. Reflections: graph the image NBM 4. Reflections: find the coordinates KUX

Rotations

5. Rotations: graph the image AC9
6. Rotations: find the coordinates HHS

Dilations

7. Dilations: graph the image 9T4
8. Dilations: find the coordinates UV9

Pythagorean Theorem

1. Pythagorean theorem: find the missing leg or hypotenuse length MTM
2. Converse of the Pythagorean theorem: is it a right triangle? EQZ

Data Analysis, Statistics, and Probability

Standard	IXL skills
Select Data Display	
Interpret Data Display	1. Interpret histograms HVL 2. Box plots YVZ
Make Inferences From Data	1. Make predictions with scatter plots CM7
Draw Conclusions From Data	1. Interpret histograms HVL 2. Box plots YVZ
Evaluate Conclusions Drawn From Data	
Sampling	1. Identify representative, random, and biased samples CSR
Statistics	1. Calculate mean, median, mode, and range HDX 2. Interpret charts and graphs to find mean, median, mode, and range CND 3. Identify an outlier G95
Probability	**Simple events** 1. Probability of simple events 5ZY **Compound events** 2. Compound events: find the number of outcomes P5R **Independent and dependent events** 3. Identify independent and dependent events SRF 4. Probability of independent and dependent events SAS
Use Data To Solve Problems	
Compare Data	1. Identify trends with scatter plots GZE 2. Outliers in scatter plots RP8

Patterns, Functions, Algebra

Standard	IXL skills
Function	1. Identify functions ELJ 2. Identify functions: graphs AEB 3. Find values using function graphs 7N2 4. Complete a table for a function graph 7EK
Expression	**Write expressions** 1. Write variable expressions: two or three operations 6QT **Evaluate expressions** 2. Evaluate multi-variable expressions QZT 3. Evaluate absolute value expressions 2YA **Simplify expressions** 4. Add and subtract linear expressions QCY 5. Identify equivalent linear expressions I RUK
Rules	1. Write variable expressions for arithmetic sequences EX2 2. Write a linear function from a table UYY
Inequality	**Two-step inequalities** 1. Solve two-step inequalities N9D 2. Graph solutions to two-step inequalities WHT **Multi-step inequalities** 3. Solve multi-step inequalities 6AZ 4. Graph solutions to multi-step inequalities HKW
Solve Linear Equation	1. Solve equations with variables on both sides ZYL 2. Solve equations: mixed review HZZ
Graph Linear Equation	1. Graph a line using slope FSV 2. Graph a line from an equation in slope-intercept form W5E

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Equation

One-variable equations

1. Which x satisfies an equation? BVQ
2. Properties of equality 7WL
3. Identify equivalent equations J48

Two-variable equations

4. Write a linear equation from a graph WHM
5. Write a linear equation from two points 2R9

Problem Solving and Reasoning

Standard	IXL skills
Identify Missing/Extra Information	
Formulate Problem	
Develop, Explain Strategy	1. Multi-step word problems EHX 2. Pythagorean theorem: find the perimeter VGE
Deductive/Inductive Reasoning	1. Use Venn diagrams to solve problems BZF
Proportional Reasoning	**Ratios and proportions** 1. Word problems involving ratios 8AT 2. Solve proportions: word problems 5XV 3. Estimate population size using proportions ZNB **Constant of proportionality** 4. Find the constant of proportionality from a table ZCK 5. Find the constant of proportionality from a graph YMH **Proportional relationships** 6. Interpret graphs of proportional relationships Q96 7. Write and solve equations for proportional relationships HPM

Communication

Standard	IXL skills
Model Math Situations	**Pythagorean Theorem** 1. Pythagorean theorem: word problems 87U **Expressions and equations** 2. Write variable expressions: word problems MEC 3. Model and solve equations using algebra tiles D45 4. Solve one-step and two-step equations: word problems HCP **Proportional relationships** 5. Write equations for proportional relationships from tables S69 6. Write equations for proportional relationships from graphs G7N **Linear relationships** 7. Write linear functions: word problems YK6
Relate Models to Ideas	**Operations** 1. Add and subtract integers using counters 5F7 **Expressions and equations** 2. Write variable expressions from diagrams FPF 3. Write and solve equations that represent diagrams G6N **Graphs** 4. Interpret points on the graph of a linear function 9E8
Evaluate Ideas	