

# Learning Targets

## Equations and Expressions

### Lesson 1: Tape Diagrams and Equations

- I can tell whether or not an equation could represent a tape diagram.
- I can use a tape diagram to represent a situation.

### Lesson 2: Truth and Equations

- I can match equations to real life situations they could represent.
- I can replace a variable in an equation with a number that makes the equation true, and know that this number is called a solution to the equation.

### Lesson 3: Staying in Balance

- I can compare doing the same thing to the weights on each side of a balanced hanger to solving equations by subtracting the same amount from each side or dividing each side by the same number.
- I can explain what a balanced hanger and a true equation have in common.
- I can write equations that could represent the weights on a balanced hanger.

### Lesson 4: Practice Solving Equations and Representing Situations with Equations

- I can explain why different equations can describe the same situation.
- I can solve equations that have whole numbers, fractions, and decimals.

### Lesson 5: A New Way to Interpret $a$ over $b$

- I understand the meaning of a fraction made up of fractions or decimals, like  $\frac{2.1}{0.07}$  or  $\frac{\frac{4}{5}}{\frac{3}{2}}$ .
- When I see an equation, I can make up a story that the equation might represent, explain what the variable represents in the story, and solve the equation.

### **Lesson 6: Write Expressions Where Letters Stand for Numbers**

- I can use an expression that represents a situation to find an amount in a story.
- I can write an expression with a variable to represent a calculation where I do not know one of the numbers.

### **Lesson 7: Revisit Percentages**

- I can solve percent problems by writing and solving an equation.

### **Lesson 8: Equal and Equivalent**

- I can explain what it means for two expressions to be equivalent.
- I can use a tape diagram to figure out when two expressions are equal.
- I can use what I know about operations to decide whether two expressions are equivalent.

### **Lesson 9: The Distributive Property, Part 1**

- I can use a diagram of a rectangle split into two smaller rectangles to write different expressions representing its area.
- I can use the distributive property to help do computations in my head.

### **Lesson 10: The Distributive Property, Part 2**

- I can use a diagram of a split rectangle to write different expressions with variables representing its area.

### **Lesson 11: Squares and Cubes**

- I can write and explain the formula for the volume of a cube, including the meaning of the exponent.
- When I know the edge length of a cube, I can find the volume and express it using appropriate units.

### **Lesson 12: Surface Area of a Cube**

- I can write and explain the formula for the surface area of a cube.
- When I know the edge length of a cube, I can find its surface area and express it using appropriate units.

### **Lesson 13: Meaning of Exponents**

- I can evaluate expressions with exponents and write expressions with exponents that are equal to a given number.
- I understand the meaning of an expression with an exponent like  $3^5$ .

### **Lesson 14: Expressions with Exponents**

- I can decide if expressions with exponents are equal by evaluating the expressions or by understanding what exponents mean.

### **Lesson 15: Evaluating Expressions with Exponents**

- I know how to evaluate expressions that have both an exponent and addition or subtraction.
- I know how to evaluate expressions that have both an exponent and multiplication or division.

### **Lesson 16: Equivalent Exponential Expressions**

- I can find solutions to equations with exponents in a list of numbers.
- I can replace a variable with a number in an expression with exponents and operations and use the correct order to evaluate the expression.

### **Lesson 17: Two Related Quantities, Part 1**

- I can create tables and graphs that show the relationship between two amounts in a given ratio.
- I can write an equation with variables that shows the relationship between two amounts in a given ratio.

### **Lesson 18: Two Related Quantities, Part 2**

- I can create tables and graphs to represent the relationship between distance and time for something moving at a constant speed.
- I can write an equation with variables to represent the relationship between distance and time for something moving at a constant speed.

### **Lesson 19: Tables, Equations, and Graphs, Oh My!**

- I can create a table and a graph that represent the relationship in a given equation.
- I can explain what an equation tells us about the situation.