

Unit 6: Expressions, Equations, and Inequalities[Open Up Family Resource Link](#)

Lesson	Skill	Online Resources	Standard
1	Apply different strategies to solve word problems.	https://www.youtube.com/watch?v=Su75BmVW5F4	7.EE.B.3
2	Explain how a tape diagram represents parts of a situation and relationships between them. Use a tape diagram to find an unknown amount in a situation.	https://www.youtube.com/watch?v=q6G_nvy9F8Q https://www.engageny.org/resource/word-problems-with-tape-diagrams https://www.youtube.com/watch?v=GT4fEhfE_8E	7.EE.B.3
3	Match equations and tape diagrams that represent the same situation. Draw a tape diagram that shows the relationship in an equation.	https://www.youtube.com/watch?v=JyHWpSn-fa4&t=413s https://www.youtube.com/watch?v=9a1mgxRKtkw	7.EE.B.3
4	Draw a tape diagram to represent a situation where there is a known amount and several copies of an unknown amount and explain what the parts of the diagram represent. Find a solution to an equation by reasoning about a tape diagram or about what value would make the equation true.	https://www.youtube.com/watch?v=jQMh-GmfMDs https://www.youtube.com/watch?v=ZSIRaZsj3XE&t=209s https://learnzillion.com/lesson_plans/4991-use-a-bar-model-to-write-and-solve-equations/	7.EE.B.3, 7.EE.B.4.a
5	Draw a tape diagram to represent a situation where there is more than one copy of the same sum and explain what the parts of the diagram represent. Find a solution to an equation by reasoning about a tape diagram or about what value would make the equation true.	https://www.youtube.com/watch?v=3jwKoG9TOsw&t=539s https://www.youtube.com/watch?v=cwAz0pNNGhk	7.EE.B.3, 7.EE.B.4.a, 7.EE.B.4
6	Represent a situation or a tape diagram with an equation.	https://www.youtube.com/watch?v=w5wuWQi6U2U https://www.youtube.com/watch?v=AQZaOk8ZEuw&t=278s https://www.youtube.com/watch?v=bVWvnijLPCw	7.EE.B.3
7	Find an unknown weight on a hanger diagram or see-saw and solve an equation that represents	https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations-intro/v/why-we-do-the-same-thing-to-both-	7.EE.B.4.a

	<p>the diagram.</p> <p>Write an equation that describes the weights on a balanced hanger or see-saw.</p> <p>Explain how a balanced hanger or a see-saw and an equation represent the same situation.</p>	<p>sides-simple-equations</p> <p>https://www.youtube.com/watch?v=aKa2QAarXgQ</p> <p>https://solveme.edc.org/mobiles/</p>	
8	<p>Explain why some balanced hangers or see-saw can be described by two different equations, one with parentheses and one without.</p> <p>Explain how a balanced hanger or a see-saw and an equation represent the same situation.</p> <p>Write an equation that describes the weights on a balanced hanger or a see-saw.</p> <p>Find an unknown weight on a hanger diagram or a see-saw and solve an equation that represents the diagram.</p>	<p>https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations-intro/v/why-we-do-the-same-thing-to-both-sides-two-step-equations</p> <p>https://www.youtube.com/watch?v=aKa2QAarXgQ</p> <p>https://solveme.edc.org/mobiles/</p>	7.EE.B.4.a
9	<p>Use the idea of doing the same to each side to solve equations that have negative numbers or solutions.</p>	<p>https://www.youtube.com/watch?v=QQoPAU5L52s</p> <p>https://www.youtube.com/watch?v=Velg_aLrmo</p> <p>https://www.youtube.com/watch?v=rNE3dZKtjAU</p> <p>https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations-intro/v/equations-2</p> <p>https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations-intro/v/solving-equations-1</p> <p>https://www.youtube.com/watch?v=l3XzepN03KQ</p>	7.EE.B.4.a, 7.EE.B.4
10	<p>Solve an equation like $3(x+2)=15$ in two different ways: by first dividing each side by 3, or by first rewriting $3(x+2)$ using the distributive property.</p>	<p>https://www.youtube.com/watch?v=ft5AFVs9WsE</p> <p>https://www.youtube.com/watch?v=N6jUh4HF78M</p> <p>https://www.youtube.com/watch?v=uxkNXwCXIIE</p>	7.EE.B.4.a
11	<p>Solve story problems by drawing and reasoning about a tape diagram or by writing and solving an equation.</p>	<p>https://www.youtube.com/watch?v=JeWhHpSlftQ</p>	7.EE.B.3, 7.EE.B.4.a, 7.EE.B.4

		https://www.youtube.com/watch?v=Qs5mCkkjdTY https://www.youtube.com/watch?v=N_Kj3B2MGxs https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-linear-eq-word-probs/v/linear-equation-word-problem-example https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-linear-eq-word-probs/e/linear-equation-world-problems-2	
12	Solve story problems about percent increase or decrease by drawing and reasoning about a tape diagram or by writing and solving an equation.	https://www.ixl.com/math/grade-7/percent-of-change-word-problems https://braingenie.ck12.org/skills/102130	7.EE.A.2, 7.EE.B.3, 7.EE.B.4.a, 7.EE.B.4
13	Understand what it means for a number to make an inequality true. Explain what the symbols \leq and \geq mean. Represent an inequality on a number line.	https://www.mathsisfun.com/algebra/inequality.html https://www.youtube.com/watch?v=iv048ecVFAU https://www.youtube.com/watch?v=TvENrWx578E https://www.ixl.com/math/grade-6/graph-inequalities-on-number-lines	7.EE.B.4
14	Write an inequality to represent a situation. Describe the solutions to an inequality by solving a related equation and then reasoning about values that make the inequality true.	https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-one-step-inequalities/v/inequalities-using-multiplication-and-division https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-one-step-inequalities/v/one-step-inequalities-2 https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-one-step-inequalities/v/one-step-inequalities https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-one-step-inequalities/v/inequalities-using-addition-and-subtraction https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-one-step-inequalities/e/one_step_inequalities	7.EE.B.4.b
15	Solve inequalities by solving a related equation and then checking which values are solutions to the original inequality. Graph the solutions to an inequality on a number line.	https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-two-step-inequalities/v/solving-inequalities https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-two-step-inequalities/v/solving-inequalities	7.EE.B.4

		inequalities/e/solving-2-step-inequalities	
16	<p>Explain what the parts of the inequality mean and how they relate to a given situation.</p> <p>Match an inequality to a situation it represents, solve it, and then explain what the solution means in the situation.</p>	https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-one-step-inequalities/v/inequalities	7.EE.B.4.b
17	Use what I know about inequalities to solve real-world problems.	https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-two-step-inequalities/v/interpreting-inequalities https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-two-step-inequalities/v/writing-and-using-inequalities-3 https://www.khanacademy.org/math/algebra-home/alg-basic-eq-ineq/alg-two-step-inequalities/e/interpreting-solving-linear-inequalities	7.EE.B.4.b
18	Re-write subtraction as adding the opposite and then rearrange terms in an expression.	https://www.youtube.com/watch?v=_PEMGOQG-NE http://virtualnerd.com/act-math/basics/operations-integers/subtraction-rewritten-as-addition https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-expressions-and-variables/cc-6th-combining-like-terms/v/combining-like-terms-2	7.EE.A.1, 7.NS.A.1.c, 7.NS.A.1
19	<p>Use the distributive property to rewrite expressions with positive and negative numbers.</p> <p>Understand that factoring and expanding are words used to describe using the distributive property to write equivalent expressions.</p>	https://www.khanacademy.org/math/algebra/introduction-to-algebra/alg1-manipulating-expressions/v/combining-like-terms-and-the-distributive-property https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-factoring/v/factoring-algebraic-expressions https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-factoring/v/factoring-linear-binomials https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-factoring/e/factoring_linear_binomials	7.EE.A.1
20	<p>Write an equivalent expression that has fewer terms.</p> <p>Figure out whether two expressions are equivalent to each other.</p>	https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-factoring/v/equivalent-expressions-with-distribution-and-negative-numbers https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-factoring/e/equiv-expressions-w-neg-and-dist	7.EE.A.1

		https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-expressions-and-variables/cc-6th-combining-like-terms/e/combining-like-terms-0.5	
21	Write an equivalent expression that has fewer terms.	https://www.ixl.com/math/algebra-1/simplify-variable-expressions-involving-like-terms-and-the-distributive-property https://www.ixl.com/math/grade-6/identify-equivalent-expressions https://www.ixl.com/math/algebra-1/identify-equivalent-linear-expressions	7.EE.A.1
22	Use various strategies to write an equivalent expression. Make the expression shorter by combining parts with common factors.	https://www.youtube.com/watch?v=8hlx1sxcfBk https://www.youtube.com/watch?v=i-C_5kOmH48 https://www.ixl.com/math/grade-7/write-equivalent-expressions-using-properties	7.EE.A.1