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| **MT: Functions** |
|  | **Learn** | **Practice** |
| **Target 1:** Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). (M.8.F.2) | * <http://quizlet.com/40339313/functions-m8f2-flash-cards/>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-notation/v/what-is-a-function>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-notation/v/difference-between-equations-and-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/linear-nonlinear-functions-tut/v/recognizing-linear-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/linear-nonlinear-functions-tut/v/linear-and-nonlinear-functions-example-3>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-notation/v/linear-function-graphs>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-notation/v/understanding-function-notation-example-1>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-notation/v/understanding-function-notation-example-2>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/v/testing-if-a-relationship-is-a-function>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/v/relations-and-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/v/graphical-relations-and-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/v/recognizing-functions--example-1>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/v/recognizing-functions--example-2>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/v/functional-relationships-1>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/v/recognizing-functions--example-3>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/v/recognizing-functions--example-5>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/v/functions-as-graphs>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/comparing-features-of-functions-1>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/comparing-features-of-functions-3>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/comparing-features-of-functions-5>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/interpreting-features-of-linear-functions-example>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/interpreting-features-of-linear-functions-example-2>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/comparing-features-of-functions-2>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/comparing-features-of-functions-4>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/comparing-features-of-functions-6>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/constructing-a-linear-function-word-problem>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/constructing-and-interpreting-a-linear-function>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/v/constructing-and-interpreting-graphs>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/v/slope-and-y-intercept-intuition>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/v/slope-and-rate-of-change>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/v/graphical-slope-of-a-line>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/v/slope-of-a-line-3>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/v/slope-example>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/linear-nonlinear-functions-tut/v/linear-and-nonlinear-functions-example-3>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/linear-nonlinear-functions-tut/v/linear-and-nonlinear-functions-example-1>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/linear-nonlinear-functions-tut/v/linear-and-nonlinear-functions-example-2>
* <http://www.ck12.org/algebra/Linear-and-Non-Linear-Function-Distinction/lecture/Exploring-Nonlinear-Functions/r1/>
* <http://learnzillion.com/lessons/1192-compare-two-functions-by-analyzing-an-equation-and-a-graph>
* <http://learnzillion.com/lessons/1193-compare-two-functions-by-analyzing-an-equation-and-a-table>
* <http://learnzillion.com/lessons/290-compare-distancetime-graphs-with-distancetime-equations>
* <http://www.ck12.org/algebra/Input-Output-Tables-for-Function-Rules/lecture/Algebra-Graphing-Lines-1/r1/>
* <http://www.ck12.org/algebra/Function-Rules-for-Input-Output-Tables/lecture/Introduction-to-Functions-Part-2/r1/>
* <http://www.ck12.org/algebra/Function-Rules-for-Input-Output-Tables/lecture/Example-1-Write-a-Function-Rule-Given-a-Table-of-Values/r1/>
* <http://learnzillion.com/lessons/4011-applications-of-combining-functions>
* <http://learnzillion.com/lessons/1841-compare-two-linear-relations>
* <http://learnzillion.com/lessons/4008-creating-a-new-function-from-the-graphs-of-two-functions>
 | * <http://www.ixl.com/math/grade-8/does-x-y-satisfy-the-linear-equation>
* <http://www.ixl.com/math/grade-8/complete-a-function-table>
* <http://www.ixl.com/math/grade-8/write-a-rule-for-a-function-table>
* <http://www.ixl.com/math/grade-8/graph-a-line-from-a-function-table>
* <http://www.ixl.com/math/grade-8/graph-a-line-from-an-equation>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-notation/e/views_of_a_function>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/e/recognizing_functions>
* <http://www.ck12.org/algebra/Input-Output-Tables-for-Function-Rules/asmtpractice/Input-Output-Tables-for-Function-Rules-Practice/r1/?referrer=concept_details>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/e/comparing-features-of-functions-1>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-intro/e/recog-func-2>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/e/comparing-features-of-functions-0-5>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/e/interpreting-features-of-linear-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/e/constructing-and-interpreting-linear-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/e/line_graph_intuition>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/e/slope_of_a_line>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/e/graphing_linear_equations>
* <http://www.ixl.com/math/grade-8/find-the-slope-of-a-graph>
* <http://www.ixl.com/math/grade-8/find-slope-from-two-points>
* <http://www.ixl.com/math/grade-8/find-slope-from-an-equation>
* <http://www.ixl.com/math/grade-8/graph-a-line-using-slope>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/linear-nonlinear-functions-tut/v/linear-and-nonlinear-functions-example-3>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/linear-nonlinear-functions-tut/v/linear-and-nonlinear-functions-example-1>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/linear-nonlinear-functions-tut/v/linear-and-nonlinear-functions-example-2>
* <http://www.ck12.org/algebra/Linear-and-Non-Linear-Function-Distinction/lecture/Exploring-Nonlinear-Functions/r1/>
* <http://www.ck12.org/algebra/Function-Rules-for-Input-Output-Tables/asmtpractice/Function-Rules-for-Input-Output-Tables-Practice/r1/?referrer=concept_details>
* <http://www.ixl.com/math/grade-8/write-a-rule-for-a-function-table>
* <http://www.ixl.com/math/grade-8/graph-a-line-from-a-function-table>
* <http://www.ixl.com/math/grade-8/graph-a-line-from-an-equation>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-function-notation/e/views_of_a_function>
 |
| **Target 2:** Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x,y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. (M.8.F.4) | * <http://quizlet.com/40339868/functions-m8f4-flash-cards/>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-intercepts/v/finding-intercepts-for-a-linear-function-from-a-table>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/v/slope-and-y-intercept-intuition>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/v/slope-and-rate-of-change>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/v/graphical-slope-of-a-line>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/v/slope-of-a-line-3>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/v/slope-example>
* <http://learnzillion.com/lessons/3582-construct-a-function-by-solving-for-unknown-information>
* <http://learnzillion.com/lessons/1837-interpreting-slope-and-yintercept-in-context>
* <http://learnzillion.com/lessons/1836-create-equation-table-and-graph-from-a-situation>
* <http://learnzillion.com/lessons/287-construct-linear-functions-from-tables>
* <http://learnzillion.com/lessons/288-construct-linear-functions-from-a-graph>
* <http://learnzillion.com/lessons/3582-construct-a-function-by-solving-for-unknown-information>
* <http://learnzillion.com/lessons/3509-determine-rate-of-change-in-linear-relationships>
* <http://learnzillion.com/lessons/3511-define-and-interpret-linear-relationships-in-tables>
* <http://learnzillion.com/lessons/3508-interpret-linear-relationships-in-word-problems>
* <http://learnzillion.com/lessons/3510-determine-initial-value-in-a-linear-relationship>
* <http://learnzillion.com/lessons/1837-interpreting-slope-and-yintercept-in-context>
* <http://learnzillion.com/lessons/1836-create-equation-table-and-graph-from-a-situation>
* <http://learnzillion.com/lessons/3582-construct-a-function-by-solving-for-unknown-information>
* <http://learnzillion.com/lessons/3509-determine-rate-of-change-in-linear-relationships>
* <http://learnzillion.com/lessons/3511-define-and-interpret-linear-relationships-in-tables>
* <http://learnzillion.com/lessons/1838-construct-a-linear-function>
* <http://learnzillion.com/lessons/1837-interpreting-slope-and-yintercept-in-context>
* <http://learnzillion.com/lessons/1836-create-equation-table-and-graph-from-a-situation>
* <http://learnzillion.com/lessons/287-construct-linear-functions-from-tables>
* <http://learnzillion.com/lessons/288-construct-linear-functions-from-a-graph>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-graphing-prop-rel/v/comparing-proportional-relationships-exercise-2>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-graphing-prop-rel/v/comparing-proportional-relationships-exercise>
* <http://learnzillion.com/lessons/3509-determine-rate-of-change-in-linear-relationships>
* <http://learnzillion.com/lessons/3511-define-and-interpret-linear-relationships-in-tables>
* <http://learnzillion.com/lessons/3508-interpret-linear-relationships-in-word-problems>
* <http://learnzillion.com/lessons/3510-determine-initial-value-in-a-linear-relationship>
 | * <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-intercepts/e/solving_for_the_y-intercept>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-intercepts/e/linear-function-intercepts>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-intercepts/e/interpreting-and-finding-intercepts-of-linear-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/e/slope_of_a_line>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/e/line_graph_intuition>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/cc-8th-slope/e/graphing_linear_equations>
* <http://www.ixl.com/math/grade-8/find-the-slope-of-a-graph>
* <http://www.ixl.com/math/grade-8/find-slope-from-two-points>
* <http://www.ixl.com/math/grade-8/find-slope-from-an-equation>
* <http://www.ixl.com/math/grade-8/graph-a-line-using-slope>
* <https://www.khanacademy.org/test-prep/algebra1-brushup/graph-eqns-brushups/e/constructing-and-interpreting-linear-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/e/interpreting-features-of-linear-functions>
* <https://www.khanacademy.org/test-prep/algebra1-brushup/graph-eqns-brushups/e/constructing-and-interpreting-linear-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/e/interpreting-features-of-linear-functions>
* <http://www.ixl.com/math/grade-8/write-a-rule-for-a-function-table>
* <http://www.ixl.com/math/grade-8/graph-a-line-from-an-equation>
* <https://www.khanacademy.org/test-prep/algebra1-brushup/graph-eqns-brushups/e/constructing-and-interpreting-linear-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/analyzing-functions-algebra/e/interpreting-features-of-linear-functions>
* <http://www.ixl.com/math/grade-8/linear-function-word-problems>
 |
| **Target 3:** Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally. (M.8.F.5) | * <http://quizlet.com/40340256/functions-m8f5-flash-cards/>
* <http://learnzillion.com/lessons/3537-explain-intercepts-using-graphs>
* <http://learnzillion.com/lessons/3536-describe-function-relationships-using-graphs>
* <http://learnzillion.com/lessons/3538-sketch-graphs-by-interpreting-situations>
* <http://learnzillion.com/lessons/1839-describe-the-rate-of-change-on-an-interval-using-a-graph>
* <http://learnzillion.com/lessons/1842-sketch-a-graph-of-a-linear-relation-given-the-function-behavior>
* <http://learnzillion.com/lessons/1840-describe-the-rate-of-change-of-linear-and-nonlinear-functions>
* <http://learnzillion.com/lessons/1843-create-a-verbal-description-of-a-linear-relation-given-a-graph-or-equation>
* <http://learnzillion.com/lessons/3537-explain-intercepts-using-graphs>
* <http://learnzillion.com/lessons/3514-describe-rate-of-change-using-graphs>
* <http://learnzillion.com/lessons/3538-sketch-graphs-by-interpreting-situations>
* <http://learnzillion.com/lessons/3536-describe-function-relationships-using-graphs>
* <http://learnzillion.com/lessons/1839-describe-the-rate-of-change-on-an-interval-using-a-graph>
* <http://learnzillion.com/lessons/1840-describe-the-rate-of-change-of-linear-and-nonlinear-functions>
* <http://learnzillion.com/lessons/1843-create-a-verbal-description-of-a-linear-relation-given-a-graph-or-equation>
 | * <https://www.khanacademy.org/test-prep/algebra1-brushup/graph-eqns-brushups/e/constructing-and-interpreting-linear-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/linear-nonlinear-functions-tut/e/interpreting-graphs-of-linear-and-nonlinear-functions>
* <http://www.ixl.com/math/grade-8/graph-a-line-from-a-function-table>
* <http://www.ixl.com/math/grade-8/graph-a-line-from-an-equation>
* <http://www.ixl.com/math/grade-8/graph-a-line-using-slope>
* <https://www.khanacademy.org/test-prep/algebra1-brushup/graph-eqns-brushups/e/constructing-and-interpreting-linear-functions>
* <https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-relationships-functions/linear-nonlinear-functions-tut/e/interpreting-graphs-of-linear-and-nonlinear-functions>
* <http://www.ixl.com/math/grade-8/graph-a-line-from-a-function-table>
 |