

Instructional Unit Title: Walk the Line

The teacher may provide a variety of real-world contexts so that students can begin to explore multiple representations of proportional relationships.

The teacher may demonstrate how to measure the rise and run of a variety of staircases so that students can explore the concept of steepness (i.e., slope).

The teacher may provide a variety of right triangles so that students can investigate the relationship between slope and similar right triangles.

The teacher may provide real-world contexts so that the students can extend the concept of proportional relationships (i.e., $y=mx$) to the more general linear relationship (i.e., $y=mx+b$).

The teacher may provide a variety of one-variable linear equations so that students can begin to explore the differences between equations with only one, infinite, or no solutions.

The teacher may provide parameters for building equations (e.g., show me an equation with both subtraction and division where $x=6$) so that students can explore the relationship between building and solving equations.

The teacher may demonstrate how to solve one-variable linear equations so that the students can explore the relationship between inverse operations and maintaining the balance of equations.

The teacher may use matching activities (consisting of graphs, equations and contexts) so that students can explore rates of change and y-intercepts in multiple representations from multiple situations.

PERFORMANCE ASSESSMENT: A local charity has hired you to manage a fund raising event such as a walk-a-thon. The charity has determined the walk-a-thon will cost them \$300 to host because of advertising and other miscellaneous costs. In order to participate, the charity has decided each volunteer must raise at least twenty dollars in pledges. The charity would like you to create a projected earnings report for the walk-a-thon. Your report must include a model of a linear relationship that indicates the earnings you hope to accrue and the calculations and equations that support these hopes.

This unit was authored by a team of Colorado educators. The unit is intended to support teachers, schools, and districts as they make their own local decisions around the best instructional plans and practices for all students. To see the entire instructional unit sample with possible learning experiences, resources, differentiation, and assessments visit <http://www.cde.state.co.us/standardsandinstruction/instructionalunitsamples>.