TK-12 RoboBlocky Math Curriculum
Sample Math Activities with Coding and Robotics

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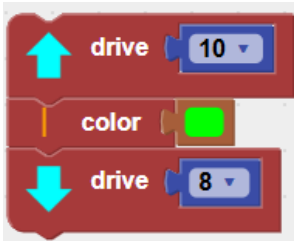
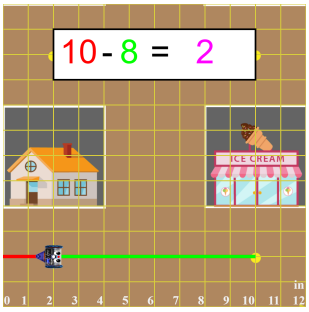
The examples below demonstrate how coding and robotics can actively engage students in exploring mathematical concepts through both virtual and physical robots across grade levels, from transitional kindergarten through high school. Students can see virtual robots move on the screen and, when available, physical robots move simultaneously on an activity mat.

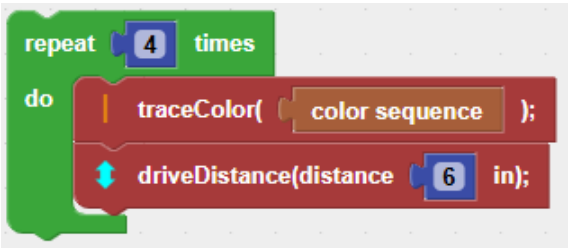
Example 1: Subtraction 10 - 8 = 2 for Kindergarten and 1st Grade Math

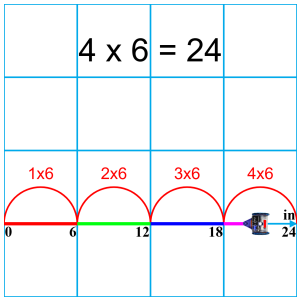




This example illustrates the subtraction 10 − 8 = 2. The program moves the robot forward from 0 to 10 inches, then moves back 8 inches, resulting at 2 inches on the number line.

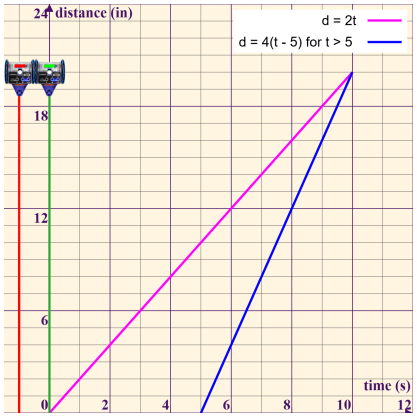
Example 2: Multiplication 4 × 6 = 24 for 3rd Grade Math

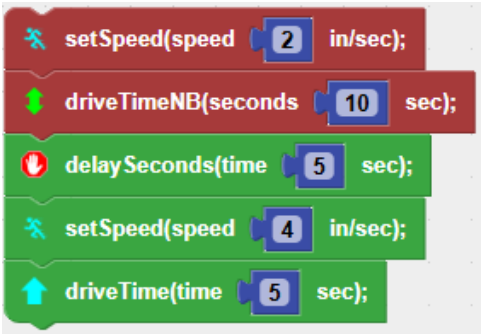




This example illustrates multiplication 4 × 6 = 24. The program makes the robot repeat a movement of 6 inches four times, stoping at 24 inches on the number line.

Example 3: Solving a Linear System of Equations d = 2t and d = 4(t-5) for Grades 8 and 9





This example illustrates solving a linear system of equations: d = 2t and d = 4(t-5). The program moves the 1st robot at 2 inches per second. It waits for 5 seconds, then moves the 2nd robot at 4 inches per second, catching the 1st robot at 20 inches, occurring 10 seconds after the 1st robot started moving.