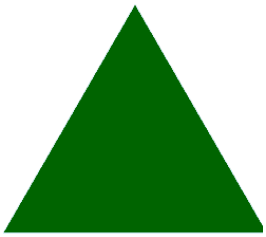
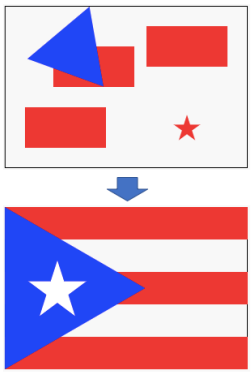
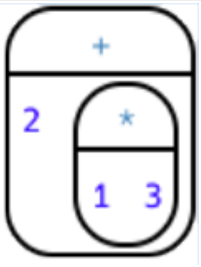
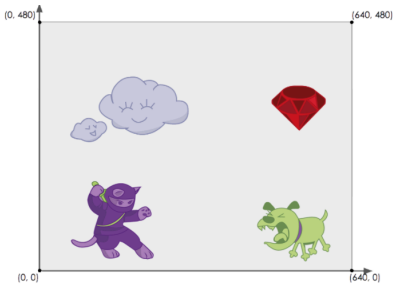
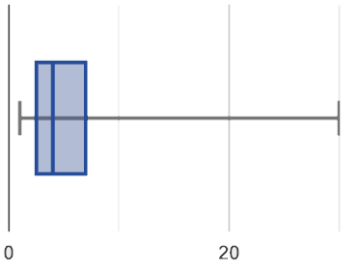
Materials for Teachers using IM Grade 6 Math™

Like IM 6–8 Math™, Bootstrap is field-tested and research-validated, with a focus on deep exploration that supports and engages all kinds of learners. Our integrated computing modules have been proven to support math transfer and can be mixed and matched to supplement what you're already doing in your classroom. *Teaching 6th grade math with Bootstrap also addresses many CS Standards, including: 2-AP-1, 2-AP-10, 2-AP-11, 2-AP-13, 2-AP-14, 2-AP-17, 2-AP-19, 3B-AP-14, and 3B-AP-21.*

IM Unit	Integrated Computing Lessons that can extend the IM Unit
Area and Surface Area	  Function Composition • Get your students coding with highly motivational image functions! • Writing simple code to build a wide range of shapes of different colors and sizes reinforces vocabulary for describing polygons. Surface Area of a Rectangular Prism • This lesson engages students in analyzing a rectangular prism to identify which dimensions are needed to find the area of each face. • Simple code generates a printable set of rectangles labeled with dimensions. Students use printouts to construct paper models of their prisms and calculate the surface area. • Ultimately, students can use their model to generate a formula for calculating the surface area of a prism.
Introducing Ratios	 Project: Make a Flag • Flags are an authentic application for ratios and scaling! • In this lesson, students write code both to scale and locate shapes on the coordinate grid to recreate an image of their choosing. • This activity has a low threshold and a high ceiling. Students of all kinds of minds love building flags - some will make many! And they take great pride in seeing their flags and code hanging on classroom walls, a rare opportunity to connect to and share pride in their identity in math class.
Expressions and Equations	

IM Unit	Integrated Computing Lessons that can extend the IM Unit
Rational Numbers	 Order of Operations • Instead of a list of rules to memorize, we use the Circles of Evaluation to expose the structure of the math involved in evaluating expressions. Check it out! It's a powerful tool. • Circles of Evaluation can be used without any programming!  Coordinates and Game Design • video game design offers an exciting and relevant new context for students to apply their knowledge of the coordinate plane. • Students brainstorm what they want their own game to look like, and then design a screenshot of that game by assessing the ordered pair location of each character. Simple Inequalities • Simple code enables students to test solutions and non-solutions to inequalities, concretizing the concept by providing immediate visual feedback. The computer plots points provided by students in either green or red, depending on if those points make the inequality true or false. • An extension of this lesson (which does involve *compound* inequalities) is our 🎮 Sam the Butterfly - Applying Inequalities lesson, where students use inequalities to define the boundaries that will keep a video game character on screen.
Datasets and Distributions	Measures of Center  • Simple code returns the mean, median, and mode(s) for any real world dataset, allowing for meaningful conversations about why we have to think carefully about which measure of center best represents a given dataset. Introduction to Box Plots • Simple code generates 5-number summaries, box plots and/or histograms for any dataset, connecting this generally abstract concept to real world analysis.