

## Materials for Teachers using IM Grade 8 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 8th grade math with Bootstrap also addresses many CS Standards*, *including*: 1B-AP-10, 2-AP-1, 2-AP-11, 2-AP-12, 2-AP-13, 2-AP-14, 2-AP-17, 2-AP-14, and 3B-AP-21.

## **IM Unit** Integrated Computing Lessons that can extend the IM Unit **Function Composition** • Simple code allows students to experiment with rotating, scaling, and reflecting images of shapes, text or anything from the web. Rigid Practicing transformations with their own names is highly motivating. **Transfromations** In seconds, students can adjust the degree of rotation and get visual feedback on how and Congruence the numbers transform the images. Bootstrap Rocks! Matching the table, graph and defi Functions Can Be Linear • We offer an abundance of interactive materials to get students thinking about whether relationships represented in tables and graphs are linear. No programming required. Linear Relationships **Defining Linear Functions** Check out our interactive materials that invite students to investigate linear 10 relationships in tables, graphs, and function definitions. Solving Word Problems with the Design Recipe 500 • Students solve a classic function word problem about the velocity and height of a rocket - and then write simple code to see the rocket blast off. 450 Students can even modify the code to change the speed and direction of the rocket! **Piecewise Functions and Conditionals** 400 • Students learn how to define a function so that it behaves differently depending on the input, beginning with a program that generates a variety of different red shapes. 350 • Video games rely on piecewise functions for player animation! The video game project offers an exciting opportunity to apply new and otherwise abstract 300 mathematical knowledge. **Functions and** 250 Volume 200 150 100 **Scatter Plots** • Simple code allows students to quickly generate scatterplots from any dataset, allowing for lively discussion about trends observed. Correlations As a class, your students will search out correlations in a dataset, discussing and analyzing the form, direction, and strength of the linear relationships they see in Associations in Data the scatterplots they generate. Linea Non-Linear None Excited to learn molecular representations and the effect of the learn molecular representation and the effect of the learn molecular representation and the learn molecular r interest. Simple code enables students to use linear regression to quantify patterns in their dataset... National Science Foundation Oer eated with substitution le WHERE DISCOVERIES BEGIN egardless of whether you them to inspire real data analys opt to facilitate the culminating research project or not.