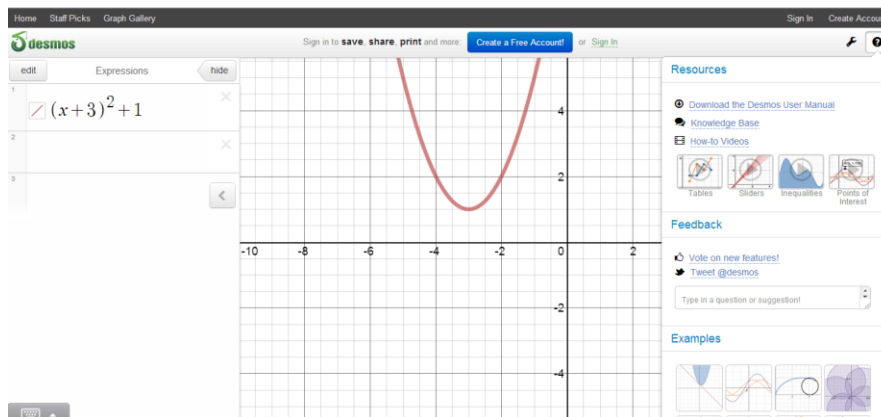


Desmos

Curator: Emily Beski



At Desmos, we imagine a world of universal math literacy, where no student thinks that math is too hard or too dull to pursue. We believe the key is learning by doing. When learning becomes a journey of exploration and discovery, anyone can understand – and enjoy! – math.

To achieve this vision, we've started by building the next generation of the graphing calculator. Using our powerful and blazingly-fast math engine, the calculator can instantly plot any equation, from lines and parabolas up through derivatives and Fourier series. Data tables open up a world of curve-fitting and modeling. Sliders make it a breeze to demonstrate function transformations. As browser-based html5 technology, the graphing calculator works on any computer or tablet without requiring any downloads. It's intuitive, beautiful math. And best of all: it's completely free.

Desmos is used by students, teachers, researchers, and general math enthusiasts from every state, and 169 countries. Join the fun! (www.desmos.com)

Grade Level: All Grades

PSSM Content Standard: Algebra

CCSSM Content Standard: [Mathematics » High School: Functions & Modeling](#)

Math Content: Online Graphing Calculator

Evaluation

What is being learned? What mathematics is the focus of the activity/technology? Is relational or instrumental understanding emphasized?

Students are learning how graphs are affected by changing different parameters. They are able to look at piecewise functions amongst others and make conjectures about different types of equations. It can also be used to make different charts and tables and to model equations from the data entered.

How does learning take place? What are the underlying assumptions (explicit or implicit) about the nature of learning?

Students learn by doing. They get the opportunity to change their equations, change their windows and save their graphs to come back and work on at a later date.

What role does technology play? What advantages or disadvantages does the technology hold for this role? What unique contribution does the technology make in facilitating learning?

Technology lets students see immediately the effect that the parameters have on the graph. Tale from the overview, It gives the students an advantage because the feedback is immediate. They can see multiple examples in matter of seconds, whereas using a graphing calculator such as a TI-83 or TI-84 could eventually provide the same learning experience it would take much longer. Students would have to graph multiple equations and look at multiple graphs. This activity allows students to see instant results.

How does it fit within existing school curriculum? (e.g., is it intended to supplement or supplant existing curriculum? Is it intended to enhance the learning of something already central to the curriculum or some new set of understandings or competencies?)

This website is designed to supplement existing curriculum and enhance the learning of graphing and equations. It gives students a chance to visually see what is happening when they are changing parameters.

How does the technology fit or interact with the social context of learning? (e.g., Are computers used by individuals or groups? Does the technology/activity support collaboration or individual work? What sorts of interaction does the technology facilitate or hinder?)

I would suggest that students work on this individually. If a teacher wanted to have students work in pairs, one student could make a graph and their partner could have to duplicate it using the correct parameters.

How are important differences among learners taken into account?

The color is something interesting about this website. I think it will help visual learners more than just a handheld graphing calculator.

What do teachers and learners need to know? What demands are placed on teachers and other "users"? What knowledge is needed? What knowledge supports does the innovation provide (e.g., skills in using particular kinds of technology)?

Desmos.com is very user friendly, however, it does take a little bit of time to learn. They have a twitter and have webinars on a regular basis. They also have numerous how to videos posted on their website that has answered all of the questions that my students and I have had.