Desmos doesn't come with a giant manual or a series of videos to teach you how to use it (although they do have a 9 page "Getting Started" document.) The best way to learn how to use Desmos is to start playing. With that in mind, here are some challenges to get you thinking and working. Knowing that something *can* be done is sometimes all the inspiration you'll need to figure out *how* something is done.

Some of the challenges below you'll figure out instantly. Others, you'll puzzle over for a bit longer. Whatever the case, don't hesitate to click on **_EVERYTHING_** (you can't break Desmos!) and don't hesitate to ask for help.

Challenge Set #1

1. Plot a linear function (and try standard form just to see if it will work).
2. Plot any nonlinear function using function and y= notation.
3. Click on intercepts, vertices, and intersections
4. Plot two points in any two different quadrants
5. Plot a linear function that passes through these two points
6. Change the color and style of one or more functions [hint, clicking and holding is different than just clicking]
7. Turn off all graphs and points (without deleting them)
8. Add a table with the following points:
   - (0,0), (2,5), (4,10), (6,15), (8,20)
9. Adjust the graph settings so you can see all five points (and minimize the remaining "wasted window space")
10. Plot a function that passes through each of the five points.

And while you are clicking on things, don't forget to hit that "Wrench" in the upper right. All the important settings for axis labels, polar paper, trigonometric settings, and Projector Mode are all there.
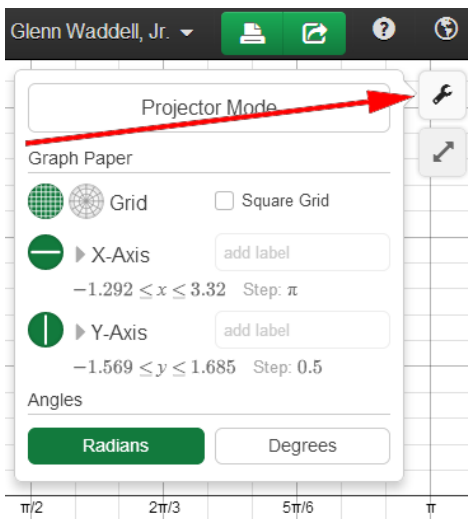
Challenge Set #2

1. Plot a linear function in $f(x) = a(x - h) + k$ form with sliders.
2. Add a quadratic function in $f(x) = a(x - h)^2 + k$ form. Discuss your observations of what the sliders do with the functions.
3. Plot inequalities. Include equal and not equal to functions and tinker with the shading and boundary.
4. Plot a horizontal line and vertical line, just for a break.
5. Plot a power function ($y = ax^b$), add sliders, tinker, observe, discuss
6. Plot an exponential function ($y = ab^x$), add sliders, tinker, observe, discuss
7. Plot a trigonometric function ($y = a\sin(x - h) + k$), add sliders, tinker, observe, discuss

8. And the BIG challenge: Use at least 4 different types of functions or relations and use appropriate domain AND/ OR range restrictions, write your name (first, last, both your choice.)

The "Tours" (upper right) can help if you want to use them. Or use the "hamburger" in the upper left to see many pre-made samples that will blow your mind! Or, scroll down on the main page http://www.desmos.com to see examples of learner made art that are even more amazing because learners did them. Sharing links to graphs is super easy as well.
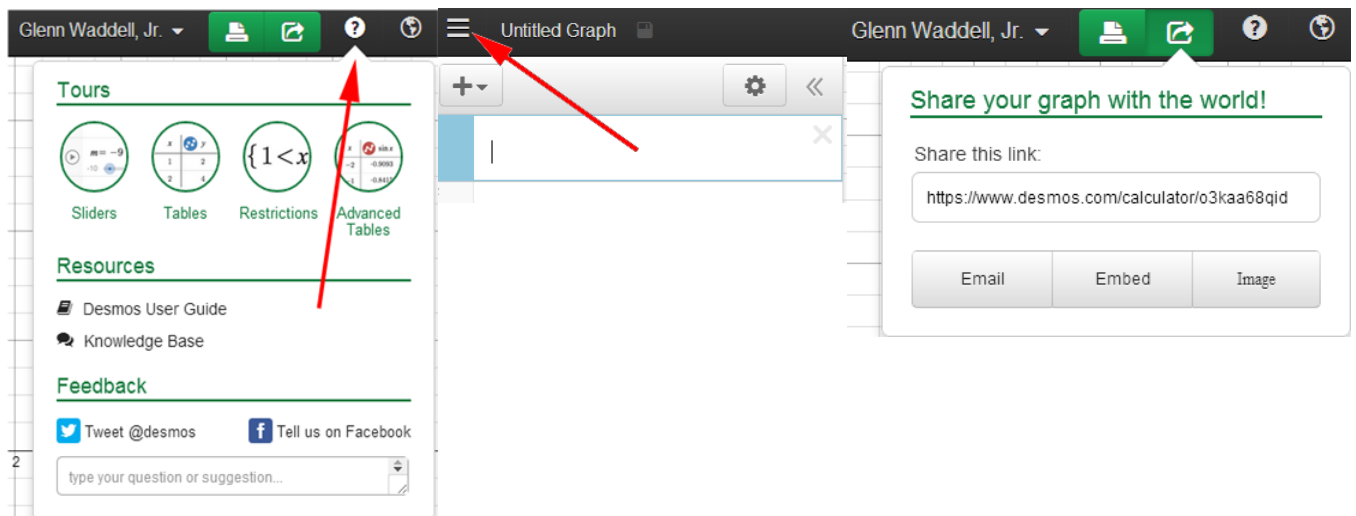
But if you REALLY want to get your learners involved in Desmos and mathematics, go to http://teacher.desmos.com . There are 4 premade lessons available now and more on the way.

If you want to see how I use Desmos in the classroom to display lessons, go to http://blog.mrwaddell.net and hit the Desmos tab at the top. I have more examples of constructions from Algebra 1 through Trigonometry there.