

## Constructing and exploring conics geometrically (Tutorial B11)

[http://www.atomiclearning.com/k12/en/movie/XXXXXX/play\\_window?type=Tutorial&sid=2421](http://www.atomiclearning.com/k12/en/movie/XXXXXX/play_window?type=Tutorial&sid=2421)

[00:00:00.00]

Geometric conic functionality allows geometric construction and exploration of conic sections using geometric definitions

[00:00:07.00]

of foci, vertices, directrices, or using any 5 given points. To construct a conic section using these features, first

[00:00:15.00]

insert a Graphs or Geometry application. I'm in the Graphs application. Next, click the Document Tools menu, and choose

[00:00:25.00]

Geometry, Shapes, and choose the conic or method you'd like to use. I'll construct a parabola by defining the

[00:00:33.00]

focus and directrix, so I'll choose Parabola. Now I need to define the focus, so I'll find that location and then

[00:00:43.00]

click to define it. Now I'll roll my cursor away from the focus. If I stay away from the axes, the point I'm dragging

[00:00:52.00]

defines the vertex of the parabola, so if I wanted to define it that way, I could drag until I locate the vertex and

[00:00:59.00]

click. As I roll over an axis, I'm now defining a directrix, and constructing the parabola that way instead. To create

[00:01:09.00]

my parabola, I'll click on the axis (or another line previously created) to define it, and you'll see the parabola appear.

[00:01:17.00]

You can construct other conic sections just as easily. I'll go to Document Tools, and choose Geometry, Shapes again,

[00:01:27.00]

and this time I'll choose Ellipse. We'll construct an ellipse by defining the foci and a point on the ellipse. Set the

[00:01:38.00]

first focus by rolling to its location and clicking. Next, roll to the location of the other focus, and click again.

[00:01:46.00]

Now roll away from your foci to define the last point, a point on your ellipse. Once you've found it, click to define

[00:01:55.00]

your ellipse. Now you can explore and compare the conic sections you've defined geometrically.

[00:02:04.00]