Making Mathematical Art for Your Classroom

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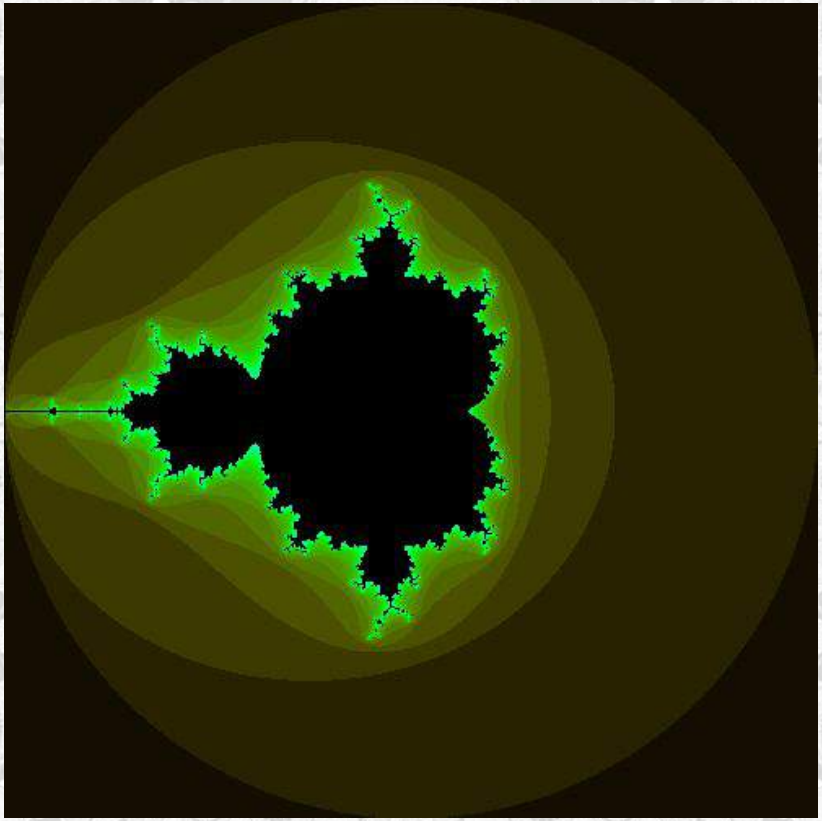
All slides and material can be found here: `bit.ly/makingmathart`

My Spark



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You’re now a student.

Play with math.

Make some pleasing images. Find your spark.

That’s it!

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Tool 1 : Math Art Playground in Desmos

Goto: student.desmos.com

Join code: B4A BER

(if you login to desmos with a google account then you can return back to this instance whenever you'd like)

Link to the actual Desmos Activity

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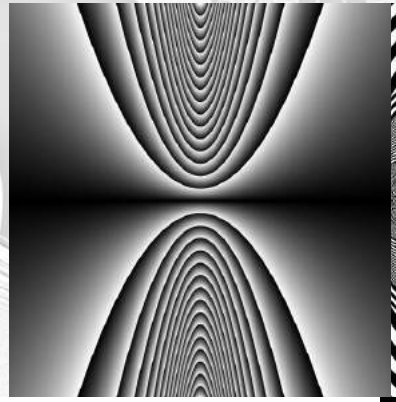

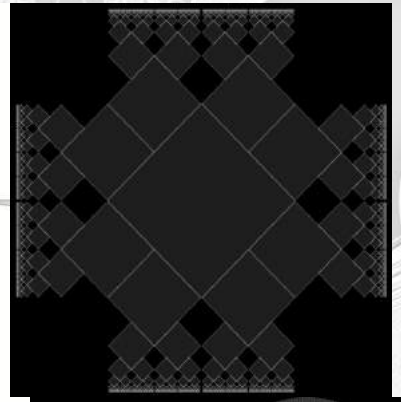
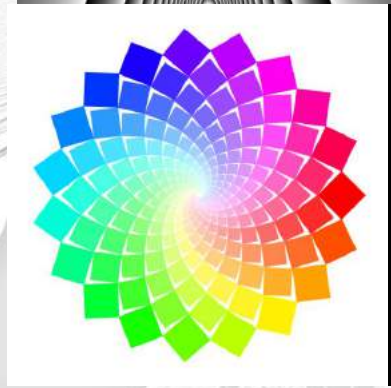
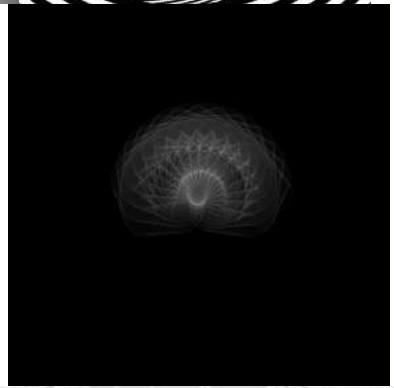
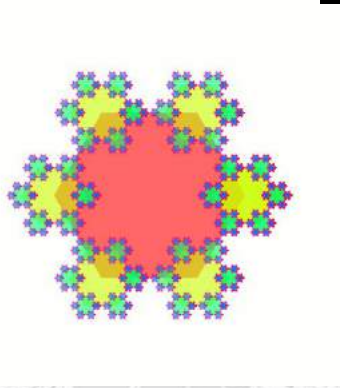
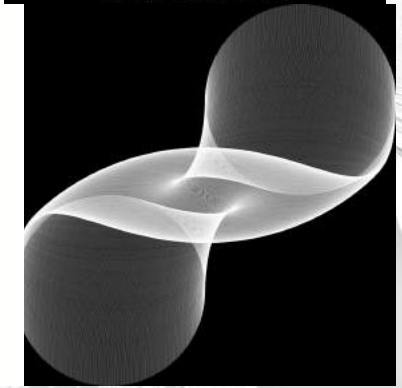

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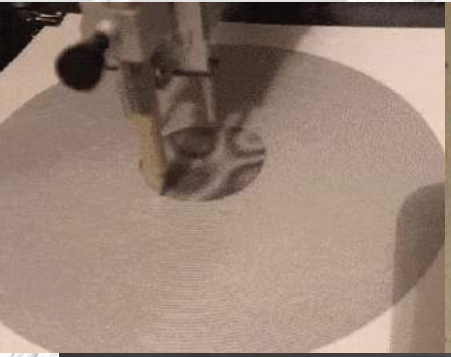



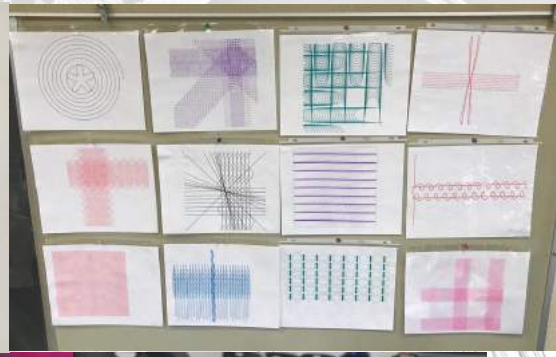
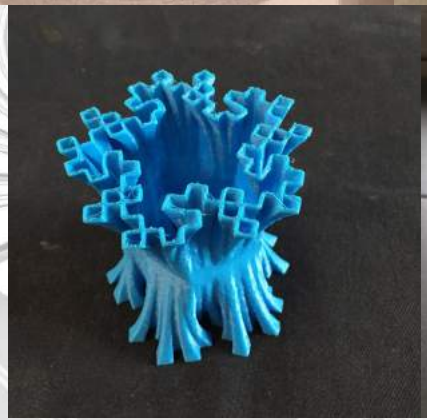


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Software Tools

- Desmos - online graphing tool (free)
- Geogebra - online graphing tool (free and allows for easy svg output)
- Processing - flexible software for learning how to code within the context of the visual arts (free and open source)
- Inkscape - software for importing and creating vector files for laser cutters / drawing robots (free and open source)
- Fiji - software for taking a series of 2D images and creating a 3D printable model (free and open source)

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Hardware Tools

- Drawing Robot - Uses pens/pencils/markers to draw vector based artwork (~ $500)
- Craft Cutters - Cuts vinyl stickers, paper, cardstock, fabric. Can draw on paper.
  (~ $500)
- Laser Engraver / Cutter - Useful for engraving / cutting paper, wood, some plastics, aluminum (~ $2000)
- 3D printer - Needs some more advanced skills to create 3D models, but can be very useful (~ ≥ $500)

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Desmos to Processing

- Function Grapher Processing Sketch & Desmos Sketch
  - Vector based
- Function Inequality Grapher Processing Sketch & Desmos Sketch
  - Not vector based, but can make pixel perfect inequality graphs
- Polar Grapher Processing Sketch & Desmos Sketch
  - Vector based
- Parametric Grapher Processing Sketch & Desmos Sketch
  - Vector based
- Implicit Inequality Processing Sketch & Desmos Sketch
  - Not vector based, but can make pixel perfect implicit inequality graphs

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Workflows

- Workflow: Daily Desmos -> Desmos -> Madeup -> 3D Print
- Workflow: Desmos -> Processing -> Fiji -> 3D Print
- Workflow: Desmos -> Inkscape -> Laser Cutter
- Workflow: Desmos -> Selva3d -> 3D Printer (in 5 minutes!)

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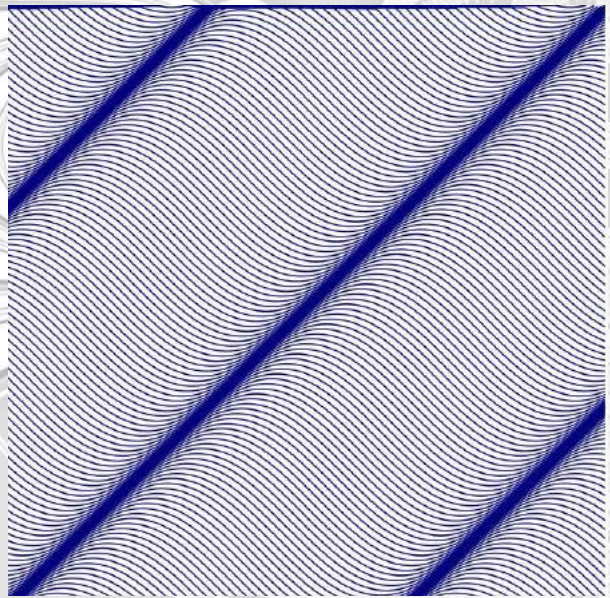
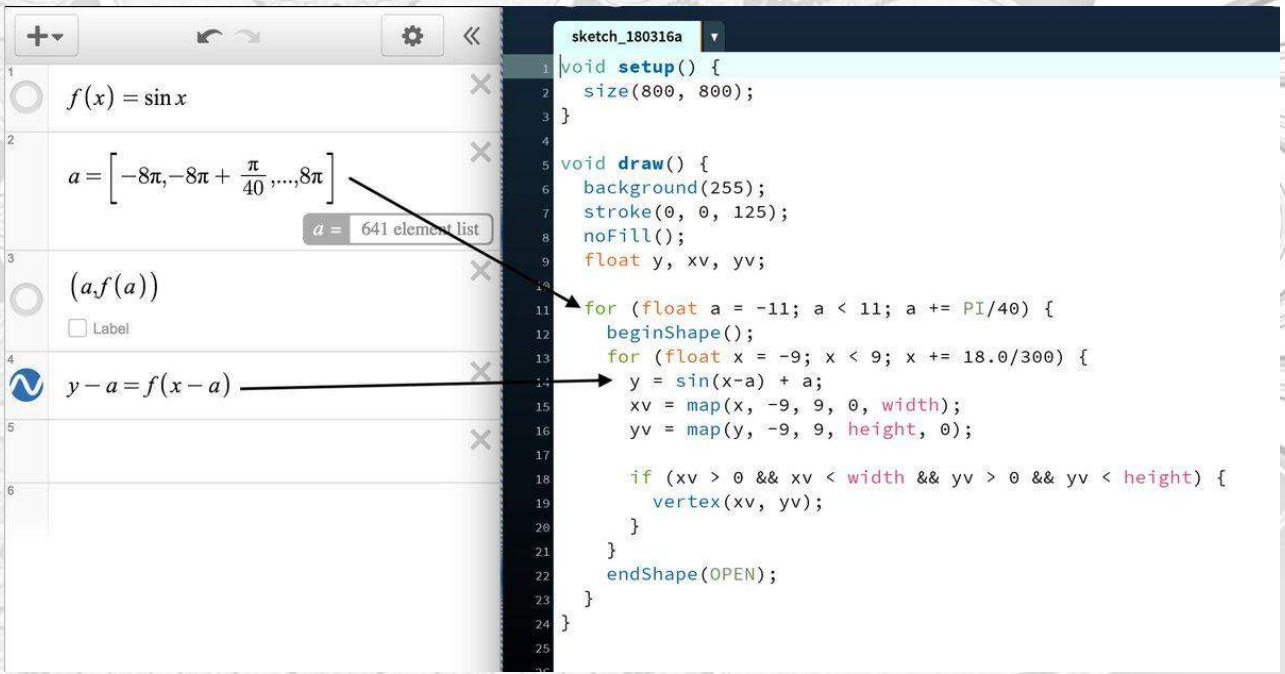
#LearnToCodeThroughMath

- Blog post with more info
- Twitter search





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