Desmos essentials

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PATTY’S GUIDING PRINCIPLES FOR PROFESSIONAL LEARNING

● Build our skills by engaging in mathematics.
● Learn with and from each other.
● Reflect on our practice.
● Leave with a new skill or product you can apply in your daily work of teaching students.
INTRODUCTION
NUTS & BOLTS
Our agenda

- Visual Patterns
- Desmos Activity Design
- Facilitating Desmos Activities
Visual Patterns
Stage 1

visualpatterns.org
Stage 2

visualpatterns.org
Stage 3

visualpatterns.org
Stage 4

visualpatterns.org
How many snowflakes in stage 10? Stage 100?
Create a table.

Sketch a graph.

Write an equation.

Inspired by visualpatterns.org
Explore math with Desmos.

Graph functions, plot data, evaluate equations, explore transformations, and much more – for free!

Four Function and Scientific
Check out the newest additions to the Desmos calculator family.

Teacher.desmos.com
Find the best digital activities for your math class — or build your own.

Learn.desmos.com
Level up your Desmos skills with videos, challenges, and more.

Start Graphing ➔
<table>
<thead>
<tr>
<th>$x_1$</th>
<th>$y_1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
</tr>
</tbody>
</table>
\[ y_1 \sim mx_1 + b \]

**Statistics**

\[ r^2 = 1 \]
\[ r = 1 \]

**Residuals**

**Parameters**

\[ m = 3 \]
\[ b = 3 \]
Scavenger Hunt

bit.ly/desmos-hunt
Our agenda

- Visual Patterns
- Desmos Activity Design
- Facilitating Desmos Activities
Graphing Stories
BUILDING GREAT ACTIVITIES

- Use a variety of verbs and nouns.
- Ask for informal analysis before formal.
- Create an intellectual need for new mathematical skills.
- Create problematic activities.
- Give students opportunities to be right and wrong in different, interesting ways.
- Delay feedback for reflection.
- Connect representations.

- Create objects that promote mathematical conversations.
- Create cognitive conflict.
- Keep expository screens short, focused, and connected to existing student thinking.
- Integrate strategy and practice.
- Create activities that are easy to start and difficult to finish.
- Ask proxy questions.

bit.ly/desmos-building-code
In graphing stories...

- Give students opportunities to be right and wrong in different, interesting ways.
- Delay feedback for reflection.
- Connect representations.
- Create cognitive conflict.

bit.ly/desmos-building-code
Welcome to your teacher dashboard!
Desmos Classroom Activities

At Desmos, our mission is to help every student learn math and love learning math. With that in mind, we’ve assembled a collection of unique and engaging digital activities, which are free for you and your students.

Watch the video

What We Offer
Sign in

- Any google accounts will do
- Good for saving files
- Same account as Desmos calculator
Searching for activities

- Can find any custom or Desmos curated activity
- Search by topic or name
- Not comprehensive – intently filtered
Home/Most Popular/Latest

Your Activities

Bundles

Activity Pick of the Week:

Limited

by Bryn

In this activity, you will understand...

Featured Activities

The Intermediate Value Theorem

by Desmos

This activity asks students to understand the Intermediate Value Theorem.

(1) The "continuous" condition
(2) The Intermediate Value Theorem

BUNDLES

Conics

Exponential

Expressions

Functions
● Good way to save activities for later
Teacher guide

- Create a pdf file you can save and print of the lesson

Limits and Continuity

30-45 minutes | Introduction

In this activity, students consider left and right limits—as well as function values—in order to develop an informal and introductory understanding of continuity.

Activity Checklist

- Complete the activity using student preview.
- Identify your learning targets for the activity.
● Preview the lesson through a student lens

<table>
<thead>
<tr>
<th>Classes</th>
<th>Students</th>
<th>Date</th>
<th>Create Class Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactive Code  Reactivate</td>
<td>9</td>
<td>Nov 10, 2017 at 6:52 am</td>
<td>View Dashboard</td>
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<tr>
<td>Inactive Code  Reactivate</td>
<td>23</td>
<td>Nov 10, 2017 at 6:33 am</td>
<td>View Dashboard</td>
</tr>
</tbody>
</table>

Student Preview
BIT.LY/2PAQ7Kr
our agenda

- Visual Patterns
- Desmos Activity Design
  - Facilitating Desmos Activities
Facilitating a Desmos activity
Facilitating an Activity

- Desmos Dashboard
  - Classroom Conversation Tools
  - Snapshots
- Teacher Guide and Tips
- Creating a Facilitation Plan
start session

- Start a session and generate a class code

—in order to develop an informal and introductory understanding of

creating a different code for each class period.
Run an activity

- Find a buddy
- Choose who will be “teacher” and who will be “student”
- Teacher: Give the code to your “student”
- Run the activity with your “student”
- Watch the dashboard and practice using the conversation tools
- Switch “teacher” and “student” roles
next steps

1. Use Desmos in your classroom during the next two weeks of school.
2. Share something you learned today with a colleague.
Thank you!

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