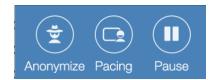
Step 5: There are three teacher control buttons on the left side of the teacher dashboard.

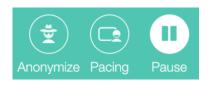


Anonymize changes the names of students to mathematicians. This allows you to show student work without students being embarrassed about wrong or incomplete responses. Helping your students to learn from incomplete understandings will strengthen their understanding of concepts. If you hover the mouse over the name of a mathematician, you can see the name of the student.



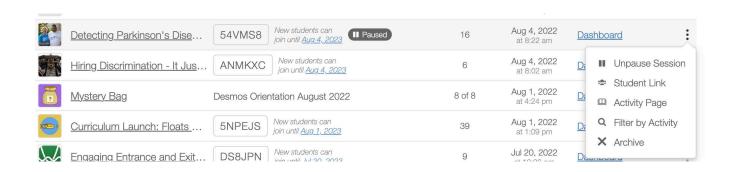
Pacing allows you to select the range of slides that you want your students to do. You can choose several consecutive slides or a single slide.

Special Tip #3: If you plan to pace for the first few slides to start a lesson, set up the pacing when you create the class code. In the first few minutes of class it is easy to forget to do this when you are busy handling administrative tasks for starting class.



Special Tip #4: On your "Dashboard History" page, you can see which activities are paused and un-pause them.

Pause allows you to temporarily suspend student work on an activity. It is best to give students a countdown warning when you pause. You may wish to pause if you feel clarification is needed for directions or if there is a common misunderstanding that needs to be fixed before students get too far into the activity. Notice that the top row in the dashboard turns a green color when the activity is paused. If you want students to finish an activity after class is over, be sure to un-pause the activity or students will not be able to complete it.



Step 6: There are 3 views within the teacher dashboard – summary, teacher and student. Snapshots is an additional feature that will be discussed in step 7.



- Student view shows the individual slides. If you pause your class, you may want to focus on a specific slide with your students and Student view allows you to do just that.
- Teacher view allows you to see which students have answered each question and common answers.
- Summary view allows you to see where each student is in the activity and how they are progressing. A sample summary screen can be seen below.

Wen-Tsun Wu	0 0	~	•
René Descartes	0 0	×	•

Check: Everything on this screen is correct.

Cross: Something on this screen is incorrect.

Dot: This screen needs human interpretation. For example, students were required to explain their choice.

Dash: There is no work for students to do on this screen. It is likely the screen just contains just text or directions.

Warning: (orange triangle with exclamation point) The student may have misunderstood the question itself—intervene immediately! For example, the student typed the word "one" instead of the digit "1".



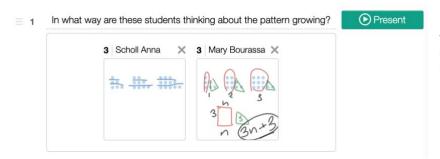
Special Tip #5: If a student says things that are inappropriate in their work, you may wish to prevent the display of those answers. To hide the student, click on the three dots beside the name and choose "Hide Student". The student can still complete the activity.

Step 7:Snapshots is a way to increase classroom discourse by monitoring, selecting, sequencing and connecting student ideas. Click on the camera icon beside student responses to take a snapshot of the response. The image below shows there are 13 snapshots that can be put into slides to show a progression in understanding and help students to make connections.

Snapshots (13)

When you click on "Snapshots" on the teacher Dashboard, you can order and arrange the selected responses on various slides to build student understanding. Click on the green Present button to show the slides created from the Snapshots. To learn more about how to use Snapshots, you can go to learn.desmos.com/snapshots.

Here is a sample of a Snapshot slide.



Special Tip #6: You can use snapshots to select students with the same answer and give them all the exact same feedback on their work.

Step 8: To see the dashboard and student work after class is done or a few days after the lesson has taken place, click on Dashboard History under "Your Stuff".

Special Tip #7: When you try your activity with students, don't be surprised if you feel like a "novice teacher". Take some notes after the lesson about what you would do differently and try it again.



Other Dashboard Items:

1) If you work with other teachers, a co-teacher can be added to any dashboard by clicking on the coteacher icon by the class code near the top left of the teacher dashboard.



2) You can hide a single slide, if you wish within a activity!



Desmos Polygraph Lessons

Desmos Polygraph is a two-player game. One person will pick one of the objects and the other person will ask Yes/No questions to eliminate objects until they know the object that has been chosen. There are two main uses of Desmos Polygraph. It can be used to create a need for developing specific mathematical vocabulary or it can be used to review vocabulary. The first time you do Polygraph, it is recommended that you model the activity with the students. Although Polygraph is a two-player game, it is recommended that students work with a partner. This increases the amount and quality of mathematical conversations and students are less likely to give up when they are working together.

A collection of twenty different Polygraph activities can be found at teacher.desmos.com/collection/5e0d754f20fc663774ebf8f1. They include concepts ranging from rational numbers to integrals.

Create Your Own Polygraph:

Step 1: Create an account at teacher.desmos.com.

IMPORTANT: Be sure to use an email that you will have for years to come. Updating your email for your Desmos account is possible, but both emails need to be active to make the switch. If you leave one school, you will need to update your email at Desmos before your old email account becomes inactive.

Step 2: Click on "Custom Activities" in the left column and then choose "Create a New Activity" in the top right column.

Step 3: Create a title for your activity and then click the "Create New Activity" button. Click on "Polygraph" under the Fullscreen options.

Step 4: Enter equations, tables or images to create your 16 suspects. Duplicates are NOT allowed. You may wish to make a list of the 16 suspects on paper before entering them into the Activity Builder.

Special Tip #1: To insert an image, click on the + sign near the top left and choose image. You may wish to remove axes and grid lines. Remember 16 images will appear on the computer screen and keeping the images simple is recommended.



Step 5: Click on "Details" near the top to enter your activity description. If you want to share the activity with others, do NOT choose "Private Only you can view".

Step 6: Click on "Done" and then click on the "Assign" button to assign to your classes or create a single session code.

Special Tip #2: It is best to use a different class code for each class period.

Special Tip #3: If there are an odd number of players in your classroom, you may wish to be a "student" so that all students are actively playing the game.

Step 7: Debrief the activity after one round of play. Review key vocabulary words and show samples of student questions. Ask students, what makes some questions better than others? Optional variation: Tell students that they need to avoid certain terms, such as quadrant or x-axis.

Asynchronous Remote Learning Option: Assign students in pairs and tell the pairs that they must play against each other at some point in the next 24 or 48 hours. Review student activity in the teacher dashboard and share your observations with your students in a synchronous class session or by creating a screencast.