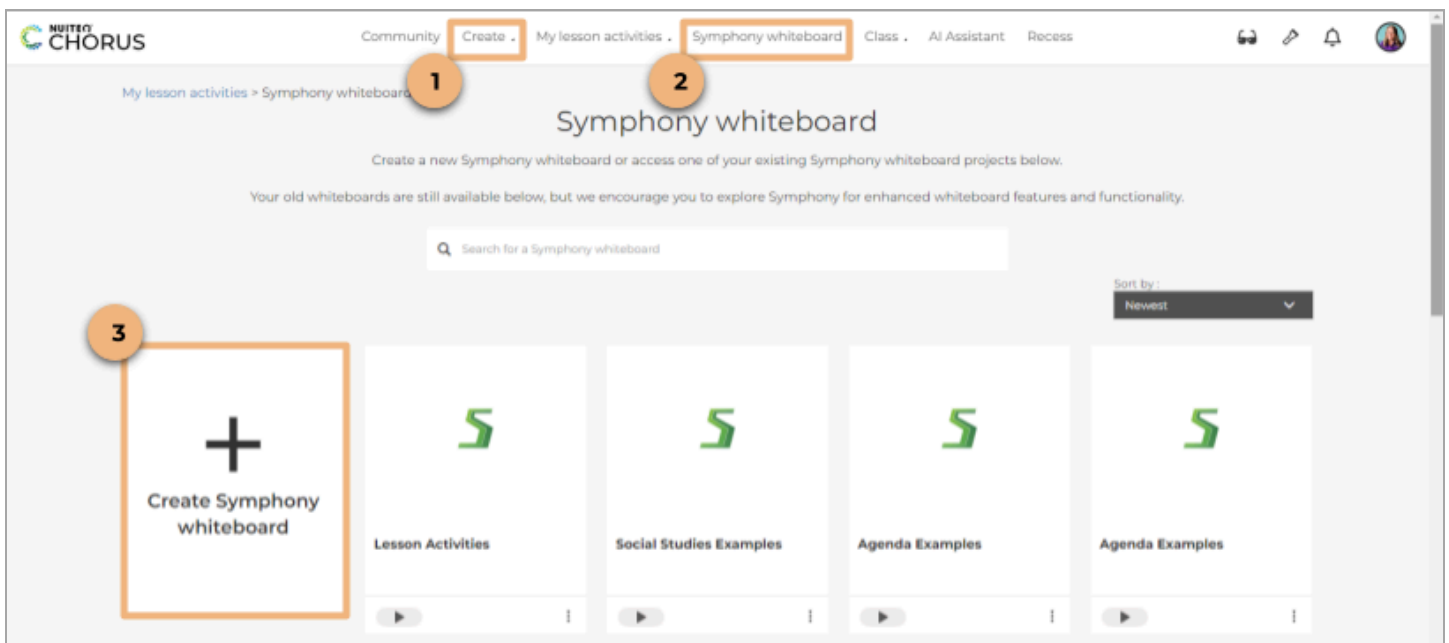


Symphony User Manual

NUITEQ Symphony is a digital makerspace that teachers can use to provide students with dynamic and hands-on learning opportunities through its interactive and integrated whiteboard. By allowing students to create, experiment, and explore with digital tools, Symphony fosters deeper engagement with educational content. It encourages critical analysis and synthesis, empowering students to think critically and develop a deeper understanding of the material they encounter.

Creating new Symphony whiteboards

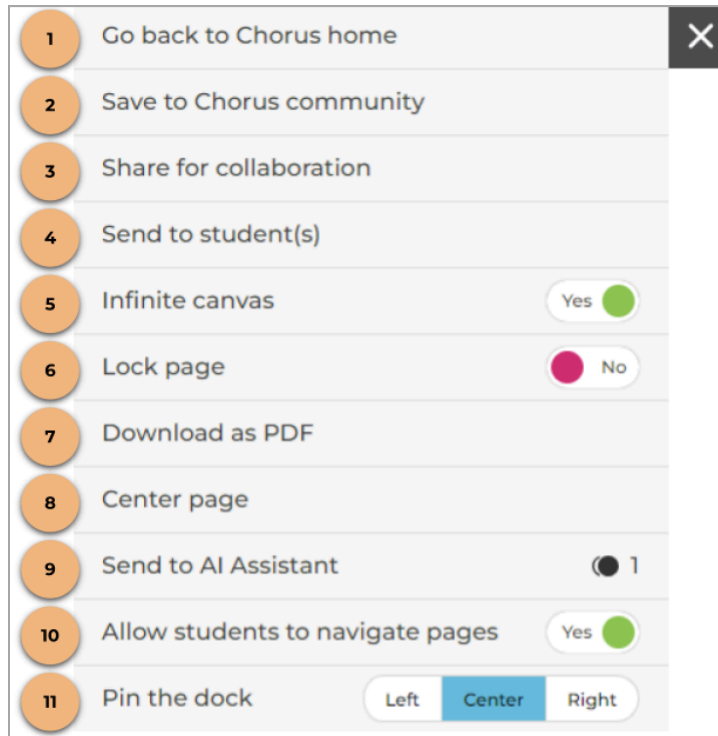
- To create a new Symphony whiteboard, begin by signing in to your Chorus Online account at Chorus.NUITEQ.com.
- There are two pathways you can choose to create a Symphony whiteboard. The first is by choosing “Create” (1) from the top menu, then selecting “Symphony whiteboard.” The other option is to choose “Symphony whiteboard” (2) from the top menu, then select the plus icon (3) to create.



- When you choose to create, you will be prompted to provide a name for your Symphony whiteboard. Once you have named your Symphony whiteboard, select “Create.”
- Now you are ready to begin adding resources, annotations, and digital tools to your Symphony whiteboard.

Symphony whiteboard menu options

The Symphony whiteboard has a toolbar menu located at the bottom of the page. Select the three-line icon to open the menu options. The options in the menu are:



1. **Go back to Chorus home:** This will navigate you to your “Symphony whiteboard” homepage.
2. **Save to Chorus community:** Options for saving include the following:
 - a. **Keep this activity private. Only visible to me:** This option limits who can view your Symphony whiteboard.
 - b. **Share it with the Chorus community for anyone to enjoy:** This option uploads a copy of your Symphony whiteboard to the Chorus community for anyone to find and use.
 - c. **Unlisted:** This option will allow you to share the URL for your Symphony whiteboard with select users, but it will not be available in the Chorus community.

Upload to Chorus community

Lesson Activities

Keep this activity private. Only visible to me.

Share it with the Chorus community for anyone to enjoy.

Unlisted

I consent to share my activity to the Chorus community according to the NUI TEQ Chorus [Terms of Use](#) and [Transfer Impact Assessment](#)

Cancel Upload

3. **Share for collaboration:** This allows students to access and collaborate on a single Symphony whiteboard. You can select specific students or the whole class from your Chorus classes.

4. **Send to students:** Symphony whiteboards can be shared with students in your Chorus classes as practice or gradable assessments. For more information, please view the “*Sending Symphony whiteboards to students*” section of this document.

5. **Infinite canvas:** This option provides you with an unlimited whiteboard surface. When infinite canvas is disabled, you will have a static page.

6. **Lock page:** This will lock the page to the whiteboard surface.

7. **Download as PDF:** This option allows you to download the Symphony whiteboard as a PDF and save it to your local computer hard drive.

8. **Center page:** Will reposition the layout of your Symphony whiteboard so that the infinite canvas space is centered within the viewing window.

9. **Send to AI Assistant:** Will take the Symphony whiteboard and create a corresponding Chorus lesson activity using the award-winning AI Assistant feature.

10. **Allow students to navigate pages:** Choosing this option will prevent students from switching between pages when the Symphony whiteboard has been shared for collaboration. Please note that students will still be able to annotate and manipulate the page they are on.

11. **Pin the dock:** allows you to choose the location of the toolbar. By default the toolbar is pinned to the center. You can move the toolbar to the left or right of the viewing screen.

Page navigation options

In addition to the menu items, Symphony whiteboard also allows for adding and deleting pages. This option is located on the right side of the screen.

- The plus icon will create a new blank page, while the trashcan icon will delete all pages.
- To switch between pages, you can use the up and down arrows or the page switcher.
- From the page switcher, you can drag and drop individual pages to reorder them or choose the trashcan to delete individual pages.
- The option for “toggle mini map” will allow you to find specific areas of the page when using the infinite canvas.

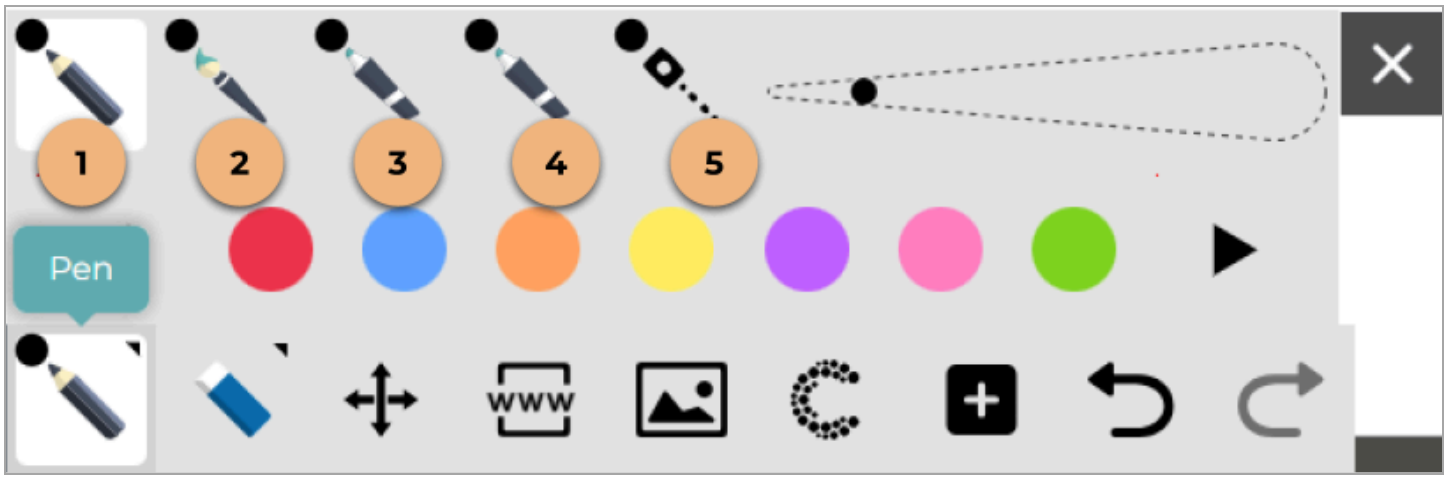
Tools of Symphony whiteboard

Symphony whiteboard is designed as an interactive, digital makerspace with many tools to help teachers provide direct instruction, small group collaboration, and student assessment or creation. From left to right, the menu features the following tools:



1. Pen

The pen icon is for annotations. When selected, it will open a menu of additional annotating tools. These include the pen (1), brush (2), highlighter (3), shape recognizer (4), and a laser pointer (5). The thickness of each annotation tool can be adjusted using the slider. There are also 14 color options for annotating.



2. Erase

Next to the pen icon is the eraser icon. This tool allows you to choose a swipe erase, or to clear the entire page. The thickness of the swipe eraser can be adjusted using the slider (1). When choosing the Clear page option (2), a pop up will appear confirming that you want the page to be completely cleared. This will remove annotations and any media that you have placed on the page.

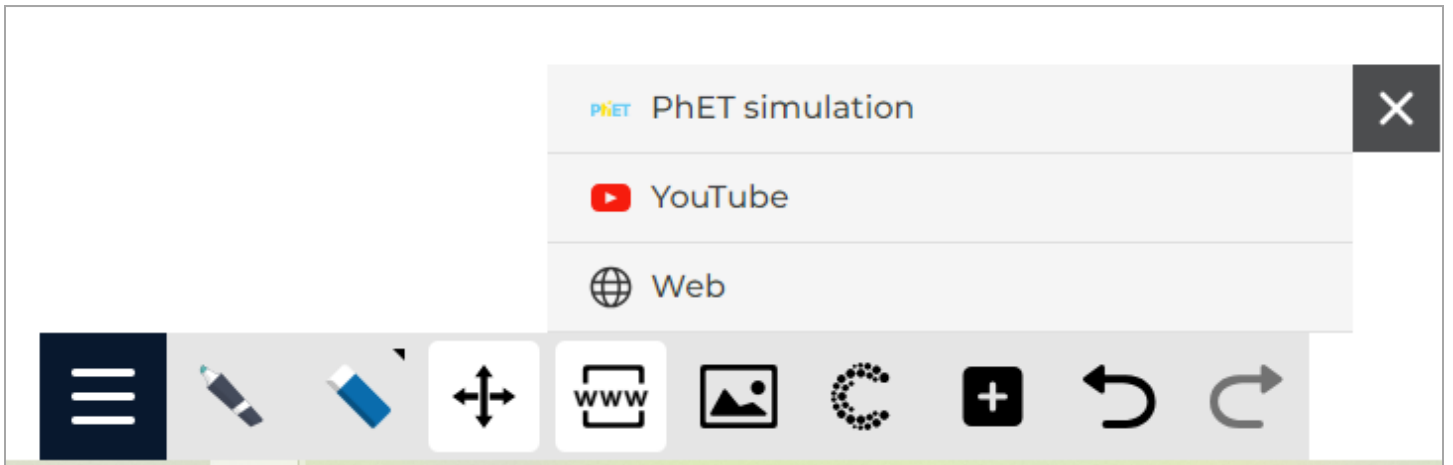


3. Move

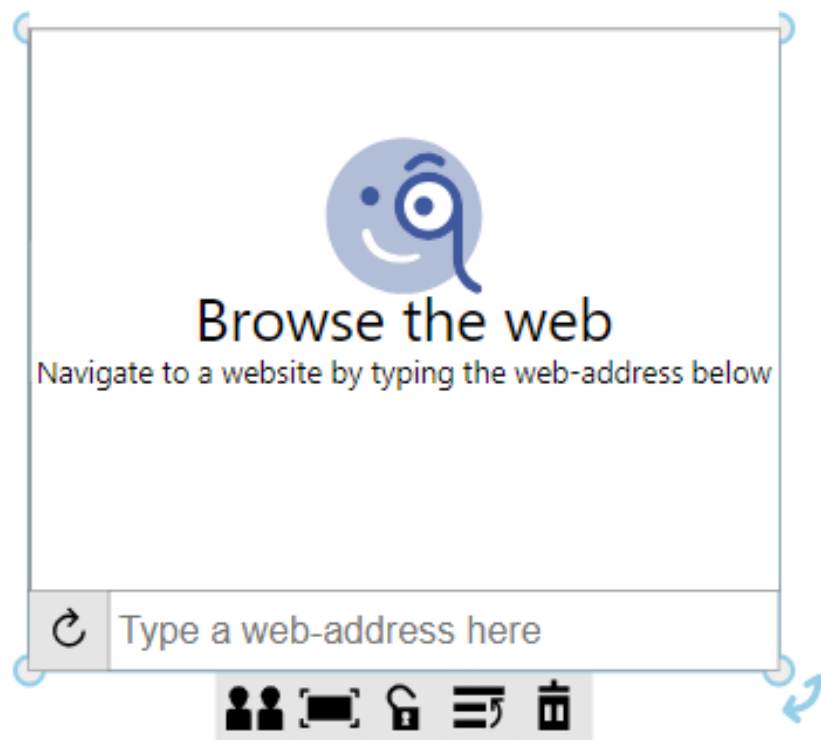
The cross-arrow icon is to move items on the page.

4. Insert webpage

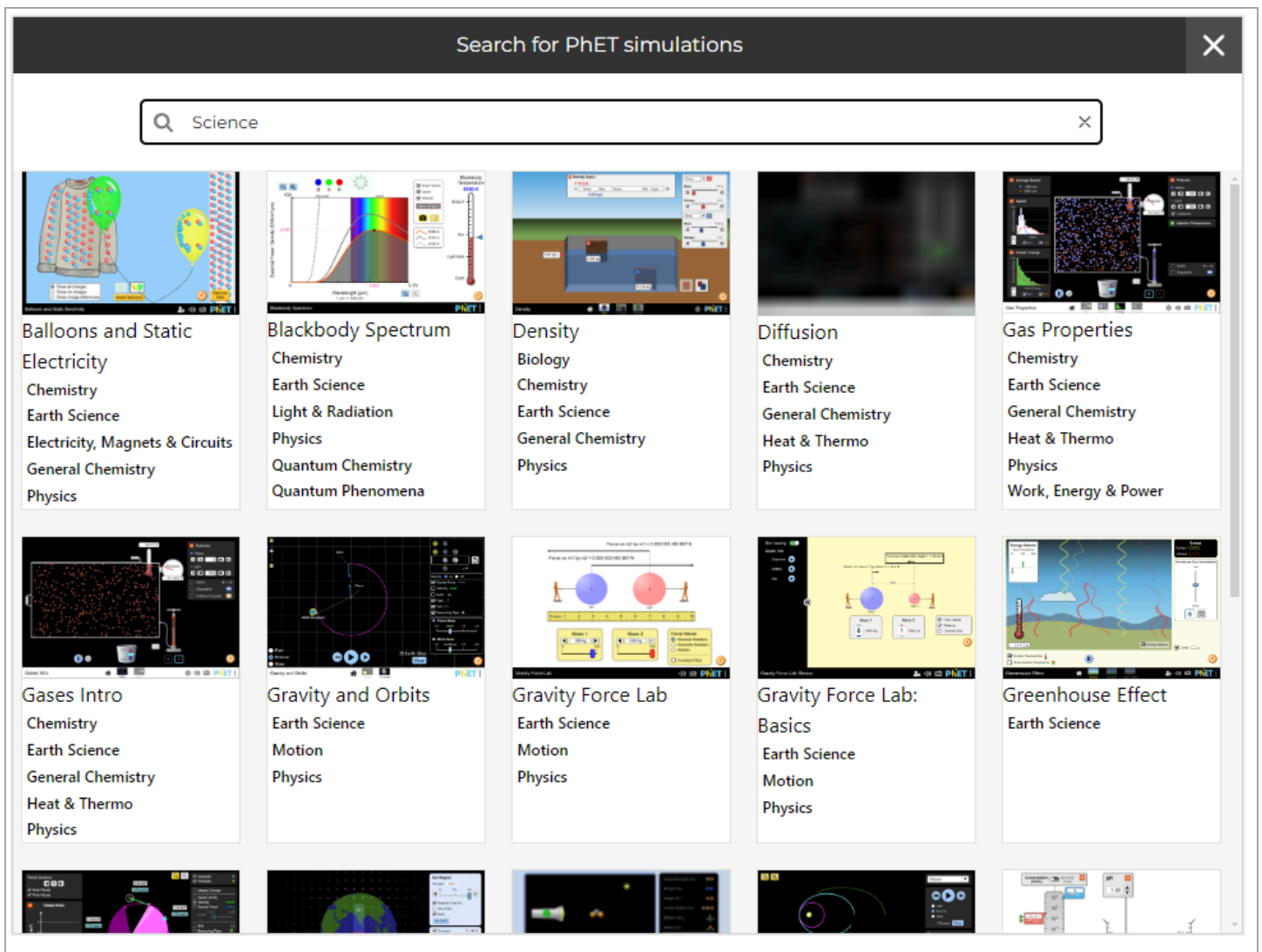
The webpage icon allows you to embed websites, PhET simulations, and YouTube videos onto the Symphony whiteboard.



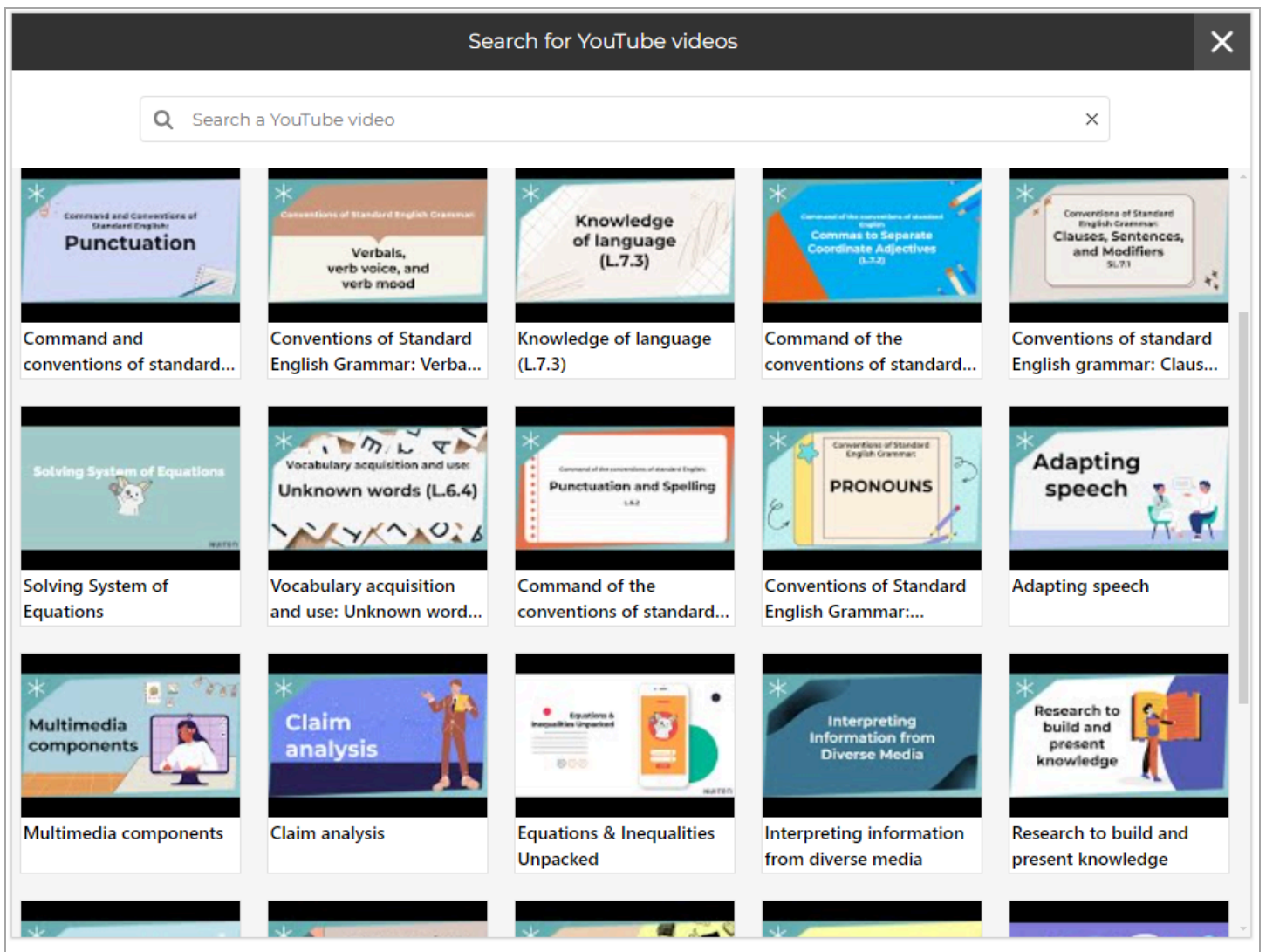
- **Webpages:** For web pages, simply type the web address you wish to open into the browser tab. Please note that some websites do not allow for embedding. You will see a message indicating if your selected website cannot be embedded. For all other websites, these will operate as live web pages allowing you to scroll, click, or manipulate items on the screen.



- **PhET Simulations:** When selecting PhET simulations, you can type in the title, subject area, or keywords related to the science or mathematics simulation you wish to use. Once a PhET simulation is selected, it can be manipulated within the Symphony whiteboard.

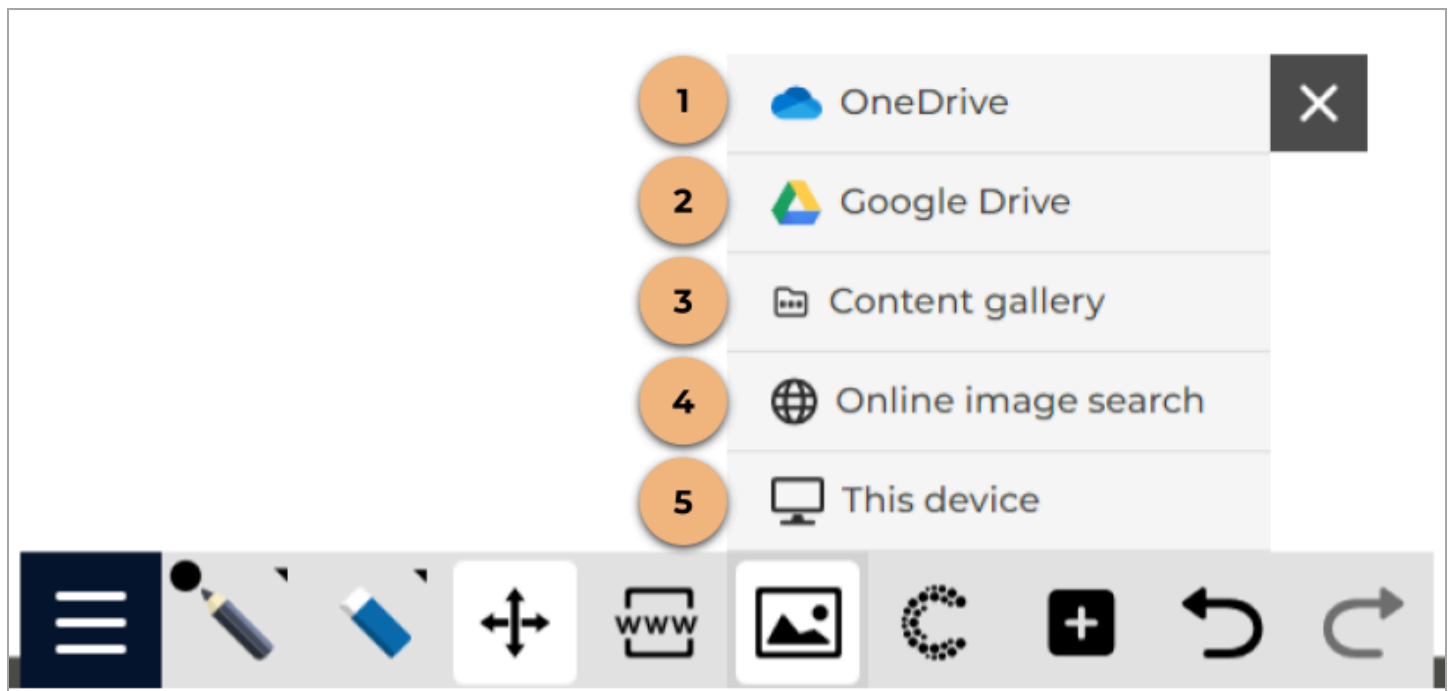


- **YouTube:** When choosing YouTube videos you will see the NUI TEQ Chorus Educational Content Videos YouTube channel. These are standard-aligned videos for the core subject areas. You can also type in the video title or keywords to search for videos on YouTube.



5. Add media

The media icon will allow you to bring in digital media, such as PDFs, jpegs, PNG images, and gifs, to the Symphony whiteboard. You can access your saved media from OneDrive (1) or Google Drive (2). The Content gallery (3) contains curated media, like graphic organizers, for various subject and grade levels. Online image search (4) will allow you to use keywords to search for media online. Choose "This device" (5) to connect to your computer's hard drive.



- **Format Media:** Once digital media has been added to the page, there are additional features to help format your content. The items can be resized using the resizing handles (1) located in each corner. You can also choose to duplicate (2) the media, flip it horizontally (3) or vertically (4), make the media full screen (5), lock (6), bring it to the front (7), and align horizontally (8). Symphony whiteboard also allows for annotating directly on to digital media and anchoring the annotations to that page. To clear the annotations on the item, select the clear annotations (9) option.



6. Add Chorus lesson activity

The next tool is the ability to add lesson activities to your Symphony whiteboard. These lesson activities can be played directly on the Symphony whiteboard.

My lesson activities

All ages ▾

All lesson activity types ▾

All subjects ▾

All languages ▾



Solving Rational and Radical Equations



Exploring Relationships between Quantities

Comparing Texts
CCSS.ELA-Literacy.RL.7.9Comparing Books & Movies
CCSS.ELA-Literacy...

Word Families



Exploring US States and Regions



New Lesson



Exploring Shakespeare's Drama



7. Tools

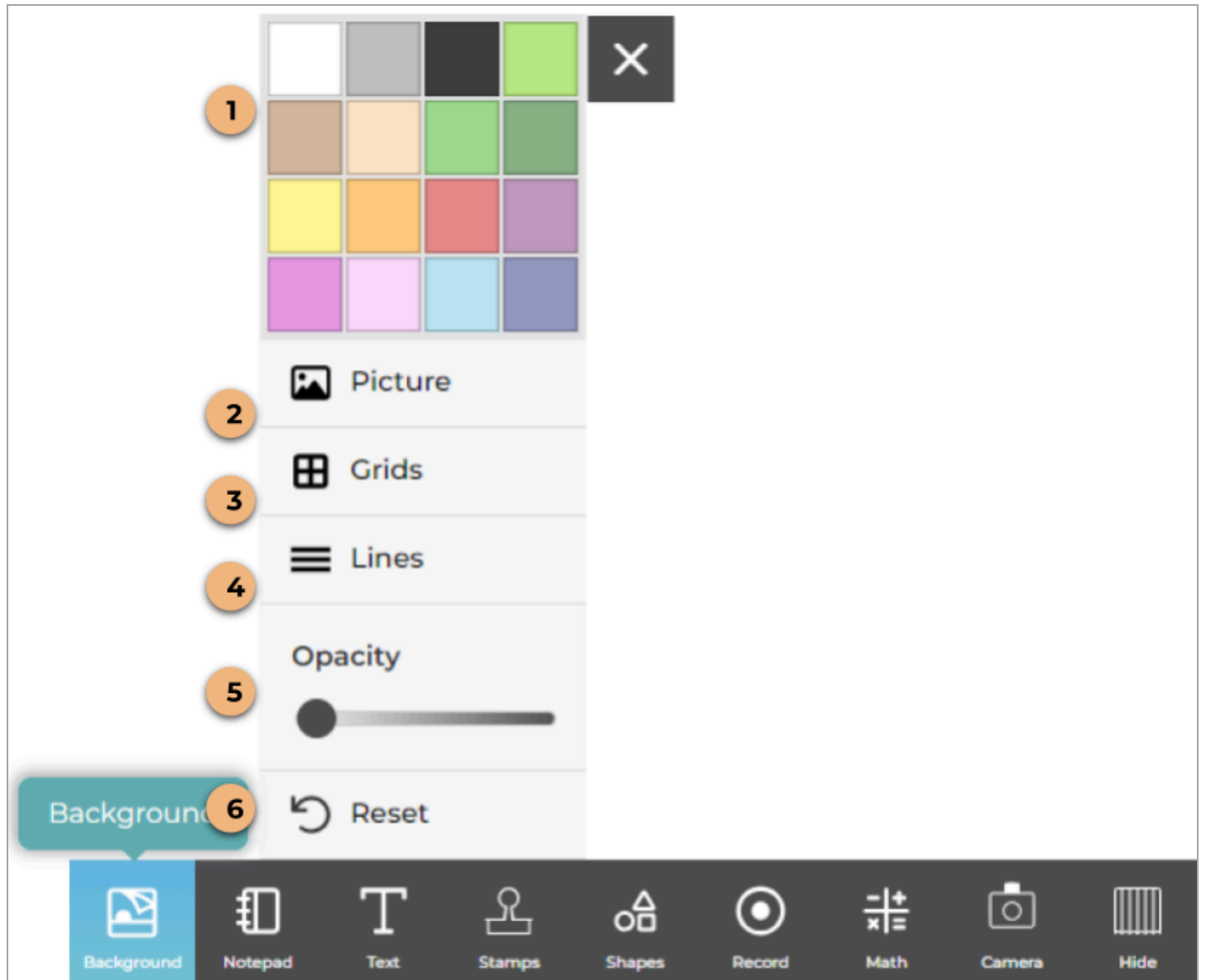
The plus icon will open additional tools. Each tool is explained in detail below.



7.1 Background

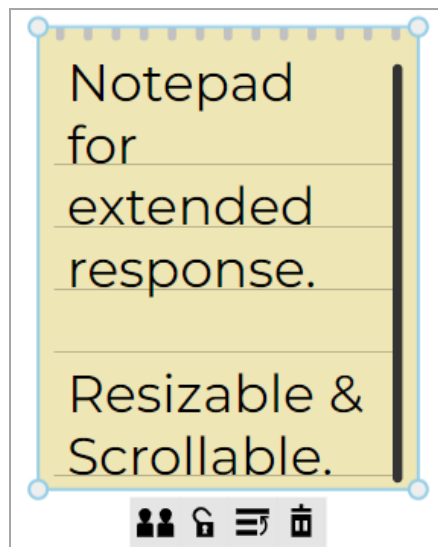
Background: Choose the background color (1) of your Symphony whiteboard. You can also upload an image background by selecting "Picture" (2) to connect to your computer's hard drive. The "Grids" (3) option will bring different grid configurations to your page. Tapping the "Grids" text will bring up different options- such as squares, lines, or dotted grids. The "Lines" (4) option will bring up different line configurations to your page. Tapping the "Lines" text will bring up different line options- including handwriting practice lines. The

“Opacity” (5) option will allow you to adjust the opacity of the background and “Reset” (6) will return the background to the default.



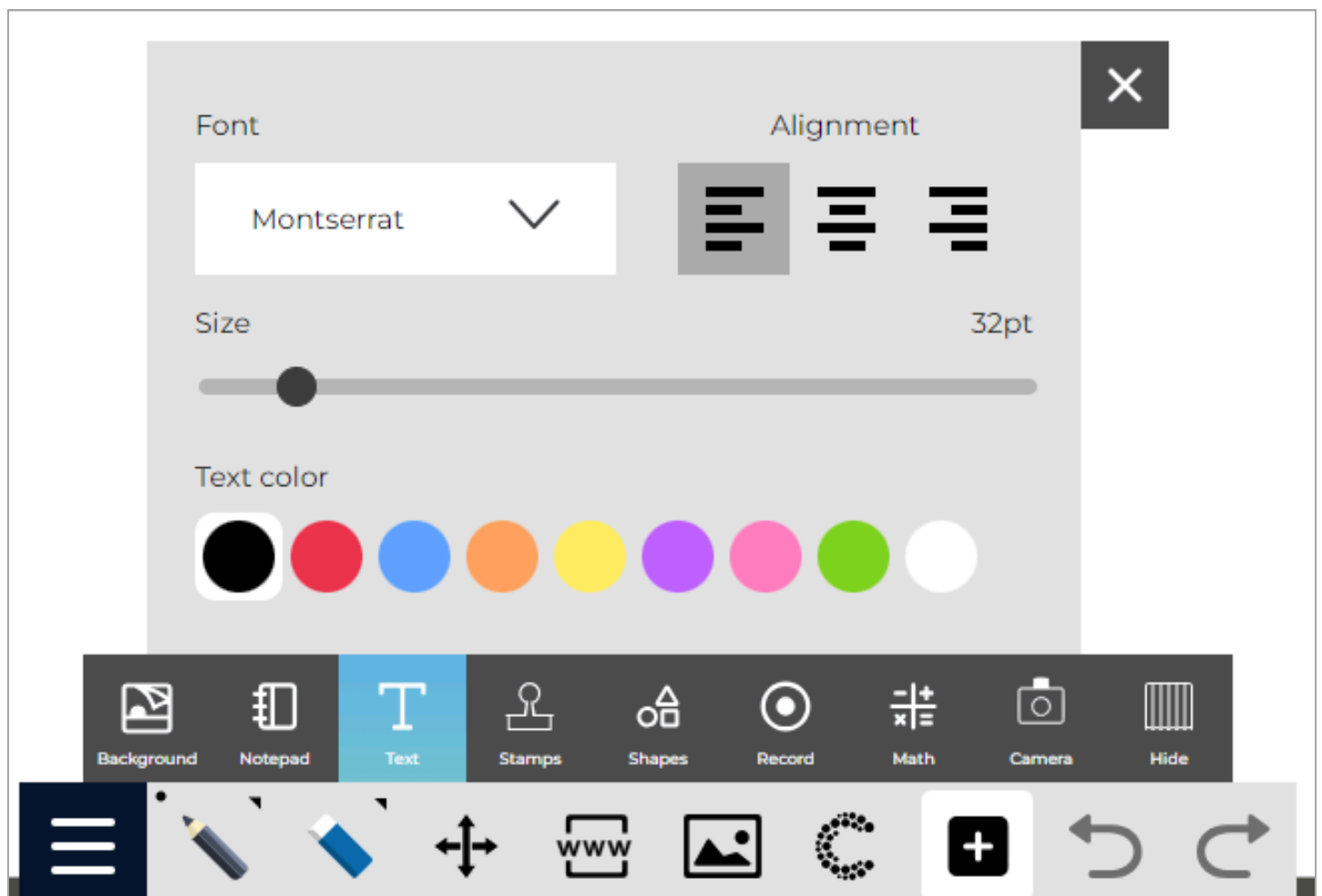
7.2 Notepad

Notepad: This will allow you to incorporate scrollable and resizable notepads for extended responses. When selected you can choose the different text font, size, and alignment. Use the resizing handles to adjust the size of your notepad.



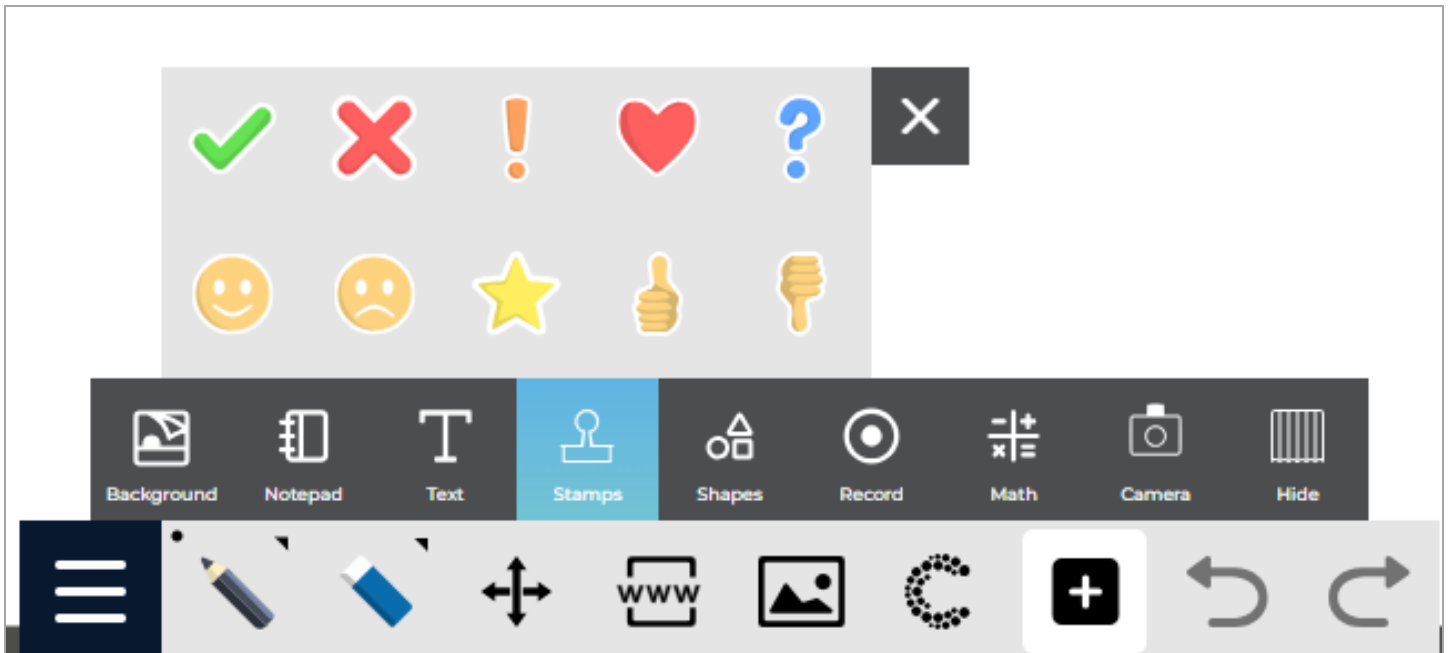
7.3 Text

Text: To add text to the Symphony whiteboard, choose the text icon. Then select the font type, alignment, size, and color. Tap anywhere on the screen to add the text box.



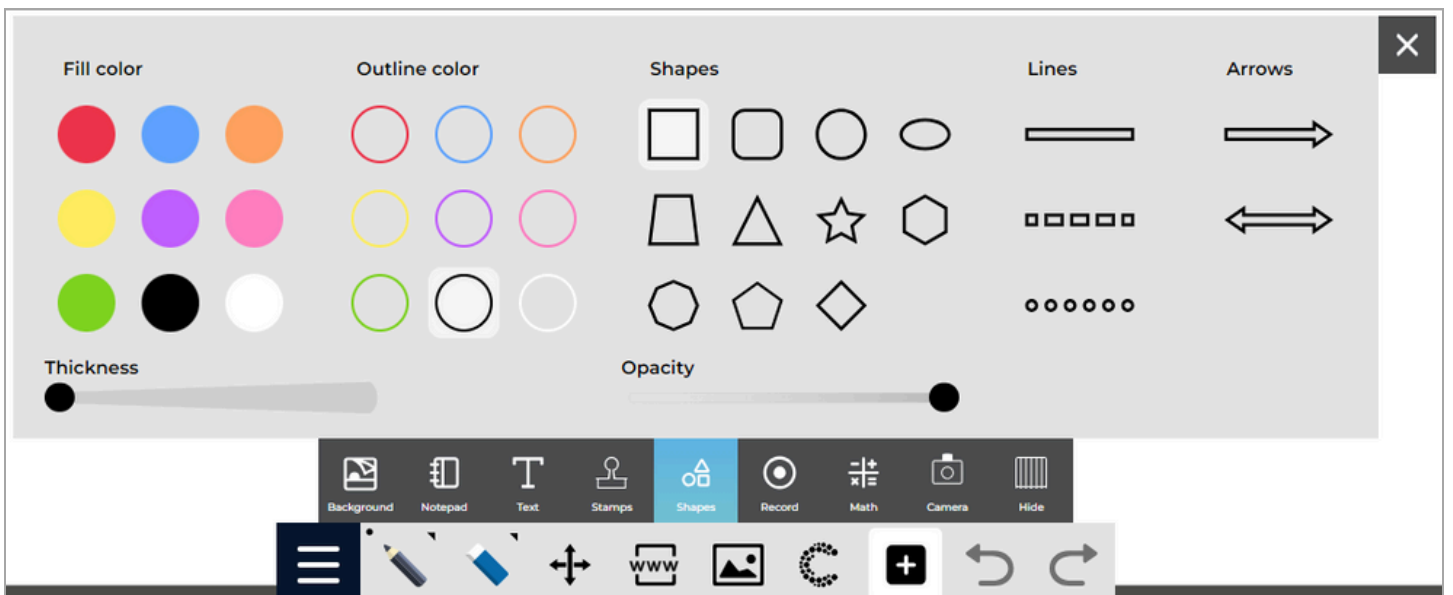
7.4 Stamps

Stamps: The stamp tool allows users to add digital stamps to the Symphony whiteboard. Select a stamp and then tap anywhere on the screen to add the stamp. The stamp size can also be adjusted using the corner resizing handles.



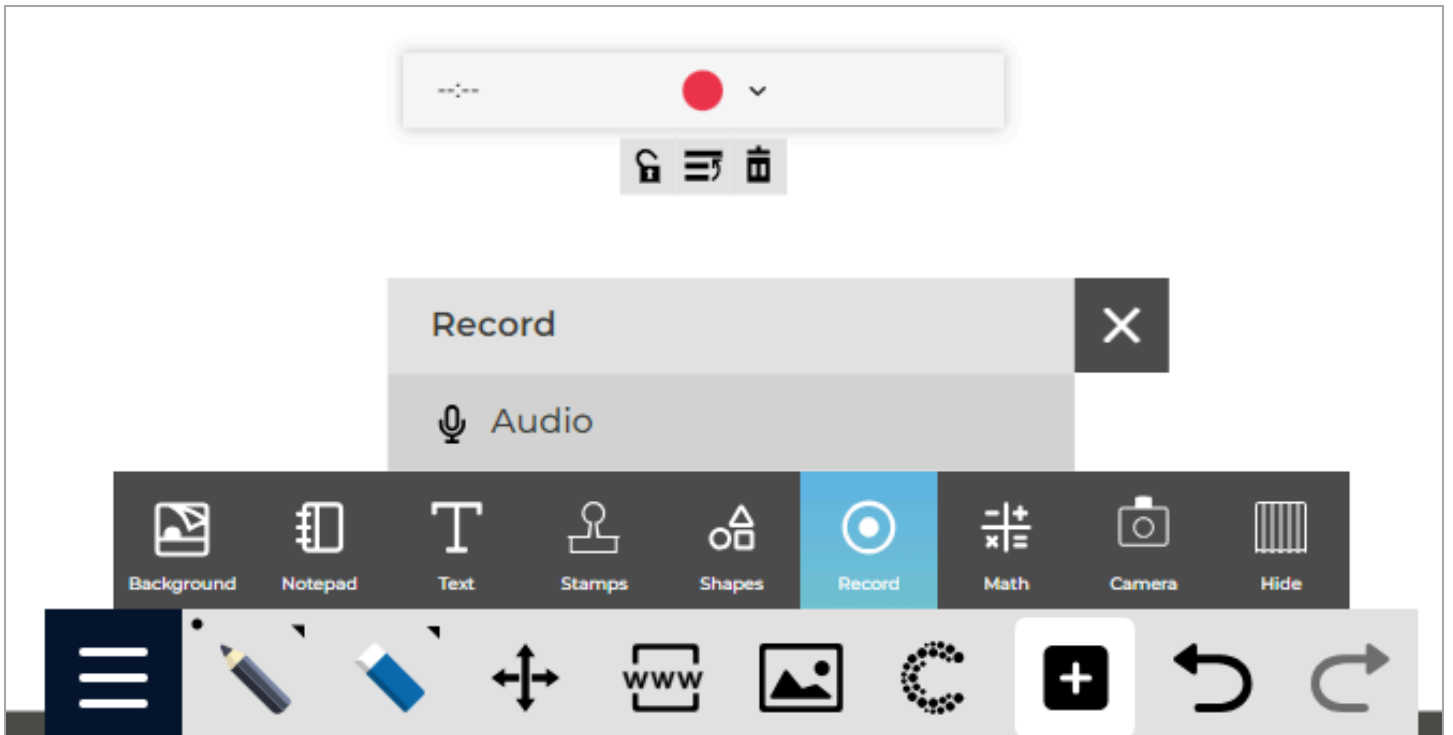
7.5 Shapes

Shapes: The shapes tool provides a menu of different customizable shapes. This includes the shape fill color and outline color. The thickness of the outline and the opacity of the shape can be adjusted using the sliders. Once you have chosen your shape, add it to the page by tapping the screen and dragging to adjust the size.



7.6 Record

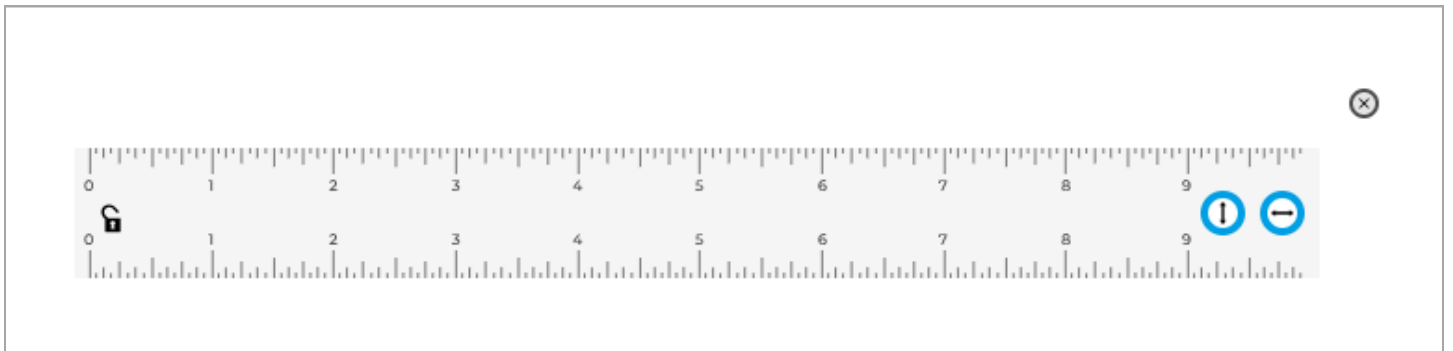
- **Record:** The record option allows you to embed recorded audio. When selecting Record Audio, tap the screen to add the audio option. Then choose the red circle to begin recording. When you have finished recording choose the black square to stop. Next to the red circle, you will see a drop-down that allows you to choose your audio input.



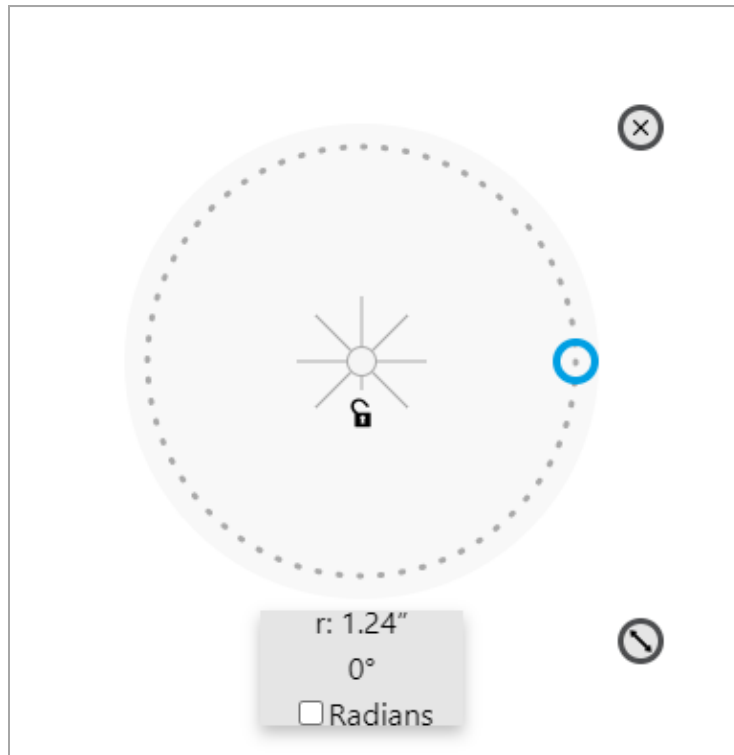
7.7 Math Tools

Math Tools: The math tools include a ruler that can be adjusted for centimeters or inches, a compass, and a protractor. There is also a graph library, calculator, graph tool, and equation editor. These tools exist as an overlay on the Symphony whiteboard.

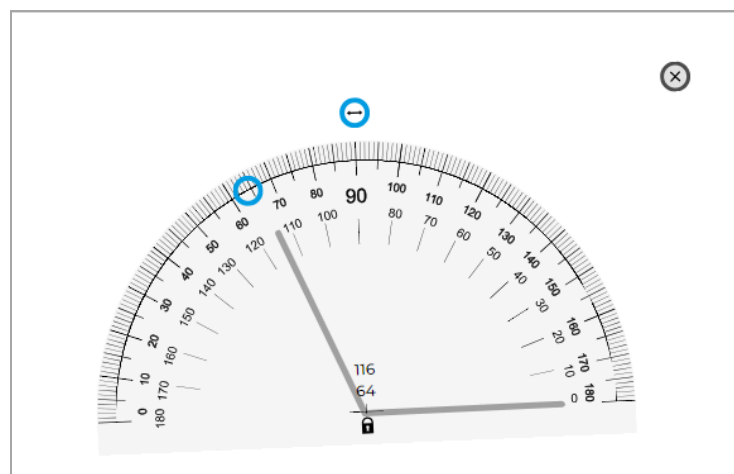
- **Ruler:** The size and position of the ruler can be adjusted using the blue arrows. The ruler can also be locked into position.



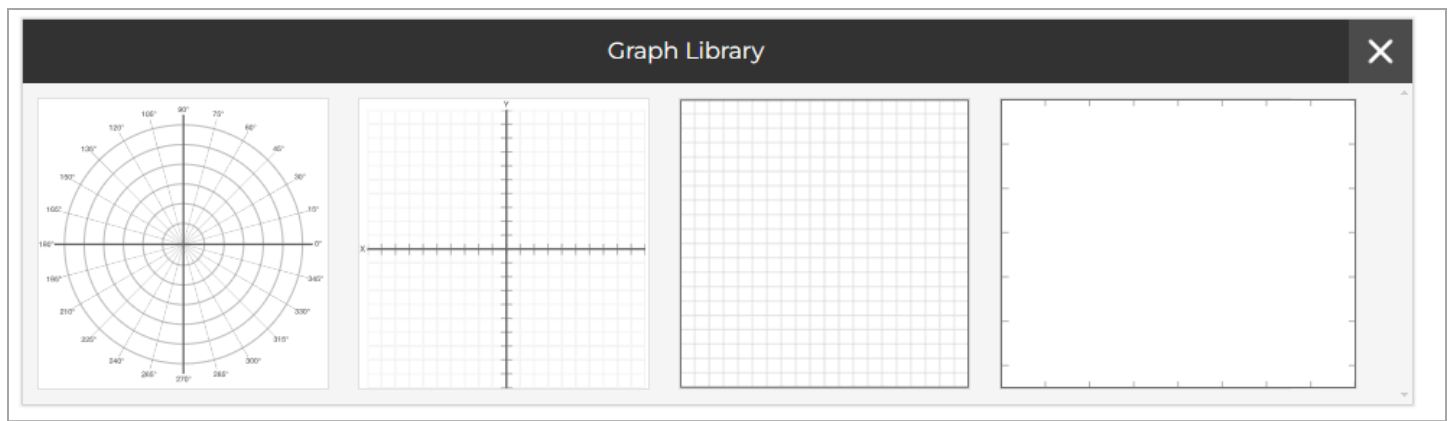
- **Compass:** The compass tool allows for precise geometric constructions (measuring and constructing angles) by simulating a traditional compass



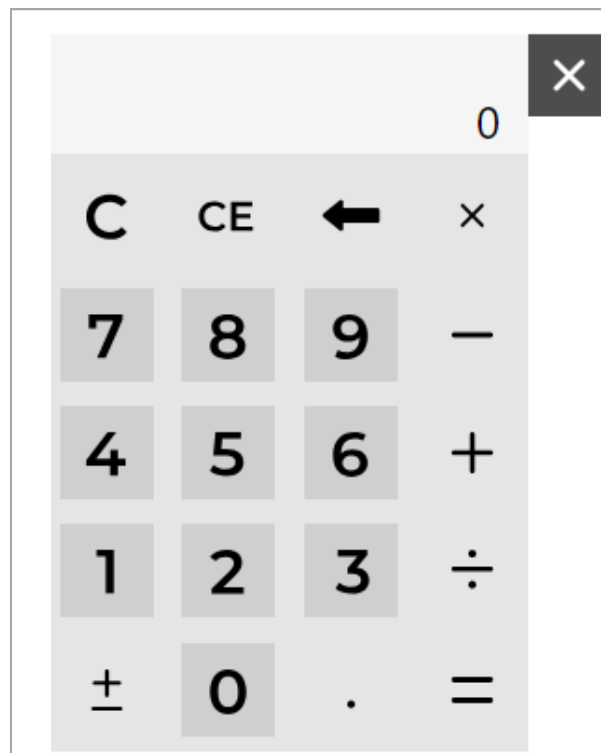
- **Protractor:** The protractor can be used to measure angles. Position the protractor using the “move” icon in the toolbar. The protractor can be locked in place. Once locked, you can use the arrows to adjust the angle on the protractor. The blue circle can be used to measure specific angles.



- **Graph Library:** This tool adds digital graph paper to the Symphony whiteboard. Once a graph is selected, use the corner toggles to adjust the size. Users can annotate on the digital graph paper and use the additional math tools to solve problems.



- **Calculator:** This provides basic calculations, like addition, subtraction, multiplication, and division. Tap the numbers and the functions for simple computations.



- **Graph Tool:** The graph tool provides a more complex graphing calculator with an adjustable X and Y axis. It helps visualize functions and data on a coordinate plane. Examples of uses are graphing equations, plotting data, visualizing functions, and exploring geometry concepts like distance and slope.

Features of the Graph Tool

1. **Show Grid Checkbox:** Ensure this is checked to display the grid on your graph for easier plotting and visualization.
2. **X Axis and Y Axis Length:** These boxes allow you to set the range of the x and y axes. You can input the desired length (e.g., 10) for each axis to determine how large or small your graph will be.

3. Plotting and Functions

- **Numbers and Operators:** The keypad on the left lets you input numbers for basic mathematical operations (e.g., addition, subtraction, multiplication, and division), and decimals.
- **Trigonometric Functions:** The buttons like sin, cos, and tan allow you to input trigonometric functions.
- **Power Functions:** Buttons like x^2 , 10^x , and x^y help you plot powers and exponents. For example, if you want to plot a quadratic function $y=x^2$, you would use the x^2
- **Logarithmic and Pi Functions:** The log, π , and square root buttons allow you to input logarithmic functions, constants like pi, and square roots into your equations.

4. **Compute Button:** After entering your desired equation or points, click "Compute" to generate the graph. This will plot the function or data points on the coordinate grid.

Example Usage of the Graph Tool

- **Graphing a Simple Function:** Let's say you want to graph the function $y=x^2$; Ensure the grid is shown and set the x and y axis lengths appropriately (e.g., 10).
 1. Press x^2 to enter the equation $y=x^2$
 2. Hit "Compute" to see the parabola appear on the graph.
- **Plotting Trigonometric Functions:** To graph $y=\sin(x)$, Enter sin and then x into the calculator. Click "Compute" to generate the sine wave.

The image shows a screenshot of a graphing tool interface. On the left is a coordinate grid with a light blue border and a grid of small squares. The x and y axes are labeled with '10' in input boxes, indicating the axis length. At the bottom of the grid are icons for user settings, a lock, and a refresh. On the right is a calculator keypad with a 'Compute' button at the top right. The keypad includes a 'Show grid' checkbox (checked), a 'C' button, left and right arrow buttons, a delete button, and various mathematical function buttons: x, sin, cos, log, pi, sqrt, (,), tan, x^2, 10^x, x^y, 0, ., ÷, and %.

- **Equation Editor:** The equation editor in NUIEQ Chorus Symphony is a tool for writing and displaying mathematical expressions. Its functionalities include:

Functions of the Equation Editor

1. **Basic arithmetic operations:** Addition, subtraction, multiplication, and division. Look for buttons with symbols like +, -, *, / for addition, subtraction, multiplication, and division.
2. **Exponents and radicals:** Powers, roots, and fractional exponents. Buttons or menus offer options for powers (superscripts), square root ($\sqrt{\quad}$), and other radicals.
3. **Parentheses and grouping symbols:** To control the order of operations. Look for buttons for parentheses () and brackets [] to control the order of operations.
4. **Greek letters and special symbols:** For mathematical notation and formulas. There is a dedicated menu to access Greek letters and special symbols commonly used in math.

Using the Equation Editor

1. Basic Operators

- The top row includes standard arithmetic operations such as addition +, subtraction -, multiplication *, and division \div .
- **Example:** To input the equation $2+3\times 4$, select 2, then +, then 3, *, and 4. The editor will render the equation for you.

2. Exponents and Powers

- You can see exponents buttons like x^y and x^2 . These allow you to input powers.
- **Example:** To input x^2 , select the base x, then press the x^2 button. This will raise the base to the second power.

3. Greek Letters and Symbols

- This section includes Greek letters such as π , Σ , and α . These are useful for trigonometry, geometry, and calculus.
- **Example:** If you want to write a formula for the area of a circle, you can select π and then input the rest of the equation, such as $A=\pi r^2$.

4. Logical and Set Notations

- There are symbols for set theory and logic, such as \cap (intersection), \cup (union), and \in (element of).
- **Example:** To input $A \cup B$, you would select the union symbol \cup between the sets.

5. Fractions and Roots

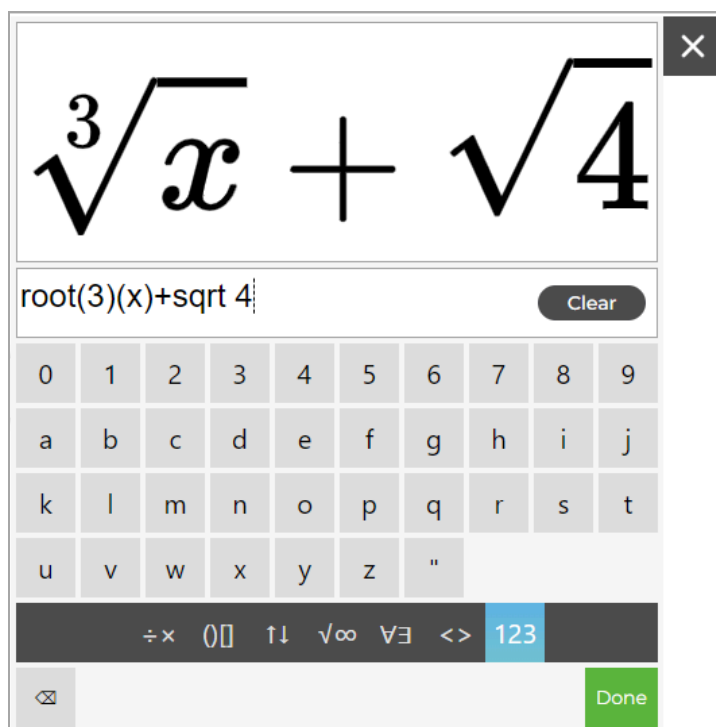
- You can input fractions using the divide symbol \div or by using the fraction template that typically looks like $a\frac{a}{b}b$.
- You can also input square roots using the radical sign $\sqrt{\quad}$.
- **Example:** For $12\frac{1}{2}21$, use the fraction template button, then enter 1 in the numerator and 2 in the denominator.

6. Inequalities and Infinity

- There are buttons for inequalities such as \leq , \geq , and other symbols like infinity ∞ .
- **Example:** To input an inequality such as $x \geq 0$, choose the inequality symbol after typing x .

7. Practical Example: Quadratic Formula

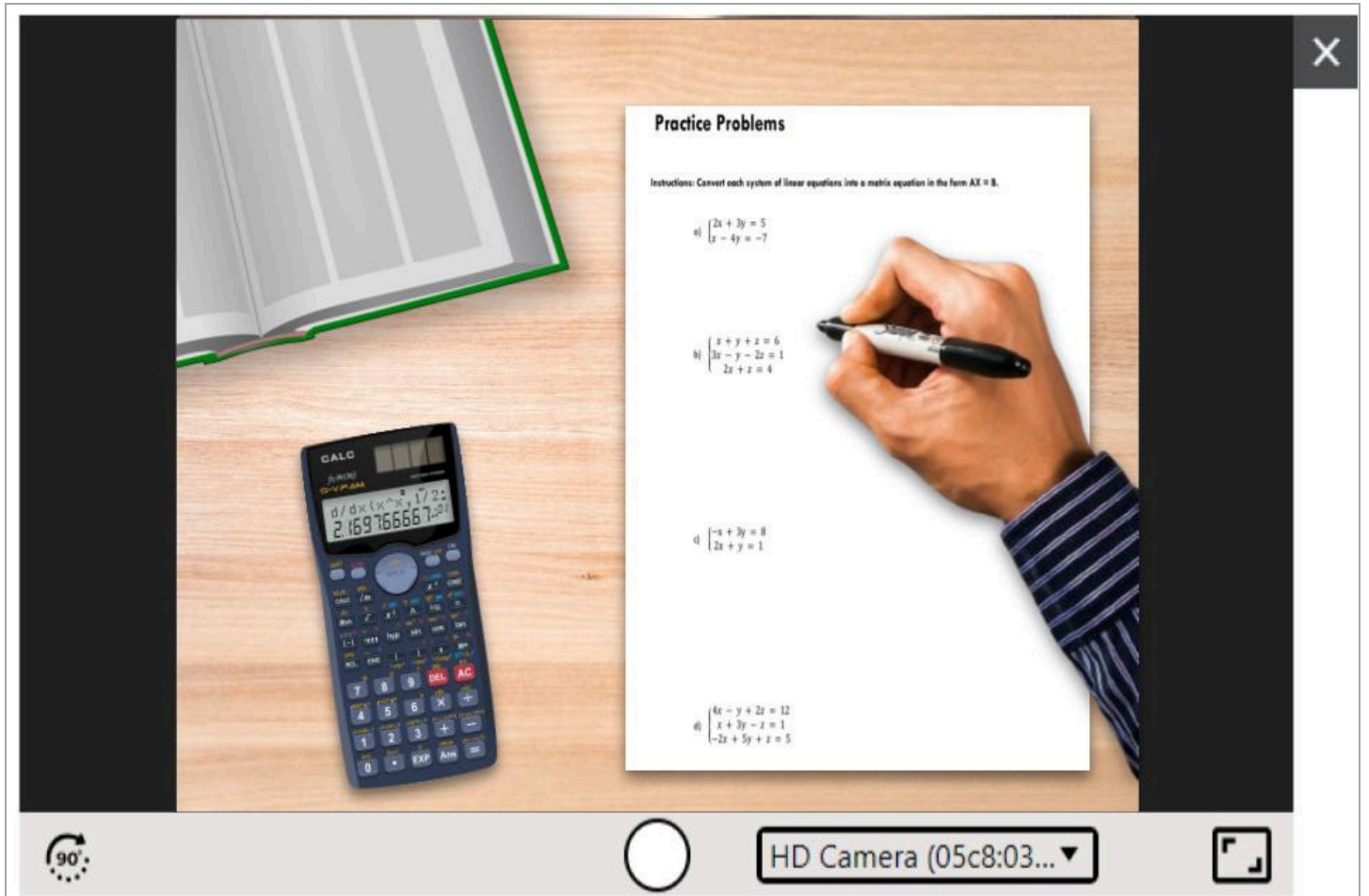
- To write the quadratic formula $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$:
1. Input $x =$.
 2. Use the fraction template button to create a fraction.
 3. In the numerator, input $-b \pm \sqrt{b^2 - 4ac}$.
 4. In the denominator, input $2a$.
- Once you've entered your equation or expression, press the "Done" button to complete the input, which will finalize the formula for use or submission



7.8 Camera

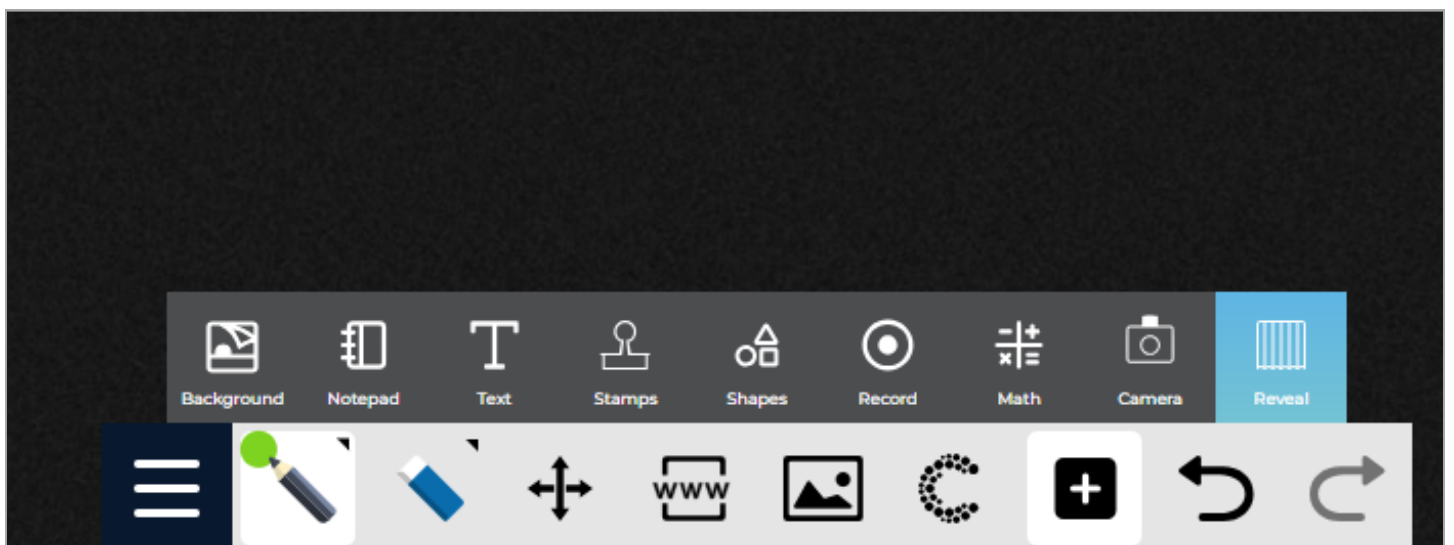
Camera: The camera will allow users to connect to a document camera or their web camera. The dropdown is used to select the camera input. The full screen icon will center and

enlarge the camera and the rotate icon will change the camera orientation. To take a snapshot from the camera, choose the circle icon.



7.9 Hide/Reveal

Hide/ Reveal: The hide tool allows you to conceal the entire Symphony whiteboard page. To reveal portions, simply drag the hide tool to a new position. Select "reveal" to remove the hide tool and view the entire page.



8. Undo

Undo the last action on the Symphony whiteboard.

9. Redo

Return an undone action to the Symphony whiteboard.

Sending Symphony whiteboards to students

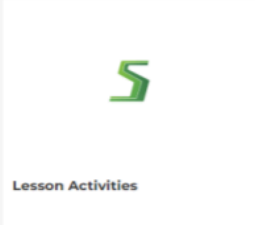
Symphony whiteboards are a fantastic tool for direct instruction, by allowing teachers to incorporate a variety of media and tools. They are also incredibly powerful for student collaboration, assessment, and creation.

To send a Symphony whiteboard to students, choose the “Send to Students” option in the three-line menu. This will then navigate to your Chorus classes. Select a class, then choose the percentage metrics (1) if you wish to make the Symphony whiteboard a gradable assessment. You can also determine which students will receive the Symphony whiteboard (2), the due date (3), and the send date (4).

Whiteboard > Send as assignment


Send Symphony whiteboard

You have chosen this Symphony whiteboard to send to your student(s)



Lesson Activities

1 Set percentage cut-offs for this assessment



10 20 30 35 40 50 60 70 80 80 90 100

● Does not meet expectation
● Meets expectation
● Exceeds expectation

Selected class: Chorus Class- Section 1 [Select a different class?](#)

Select students

[Add a new student](#) (+)

[Select all](#) [Uncheck all](#) 2

- Charlie
- Emma
- Patrick
- Mary Beth
- Henry
- Elizabeth
- Laura
- Nicholas
- Asa

Send date:
On this date, this lesson activity will be sent to the selected student(s).
10/04/2024 3

Due date:
On this date, this lesson activity is due to be submitted by the selected student(s).
4

[Send the assignment](#)

Review student progress for Symphony whiteboards

From the "Class" drop-down menu, choose "Review progress" to view completed Symphony whiteboard assignments. The Symphony whiteboards will be designated with a separate icon.

Class > Review progress > Chorus class- section 1

Review progress

Here you find the assignments and assessments that you have sent to your class(es) and student(s).

[← Review a different class](#)

All lesson activities ▾

Chorus Class- Section 1 - 10 assignment(s) / 26 student(s)


Assignment names ↑↓	Does not meet expectation	Meets expectation ↑↓	Exceeds expectation ↑↓	Average class score	Send date ↑↓	Due date ↑↓	Opened/total
Are Hotdogs a Sandwich? A Lesson on Opinions	0% (0)	30% (3)	70% (7)	85%	Nov 23, 2022 9:49 AM	Nov 23, 2022 7:00 PM	10 / 25
Earth's Spheres	-	-	-	-	Sep 3, 2024 7:48 AM	-	0 / 1
Economy	50% (5)	0% (0)	50% (5)	75%	Nov 23, 2022 9:53 AM	Nov 23, 2022 7:00 PM	10 / 25
Ecosystems	33.3% (1)	0% (0)	66.7% (2)	68.7%	Sep 4, 2024 8:57 AM	-	-
Exploring Figurative Language	0% (0)	0% (0)	100% (1)	75%	Aug 13, 2024 5:32 AM	-	1 / 25
SCIENCE EXAMPLE	-	-	-	-	Sep 3, 2024 7:52 AM	-	-

Selecting the Symphony assignment will allow you to see student performance. Students who have completed the assignment will have the status of “Review,” while students who have not completed the assignment will have the status of “Awaiting student response.”

Review progress: ECOSYSTEMS

Here you find the assignments and assessments that you have sent to your class(es) and student(s).

[← Review a different assignment/assessment](#) [Print](#)



ECOSYSTEMS

Class: Chorus Class- Section 1

Due date: -

Opened/total: 7/26

Average time: 2 min 14 sec

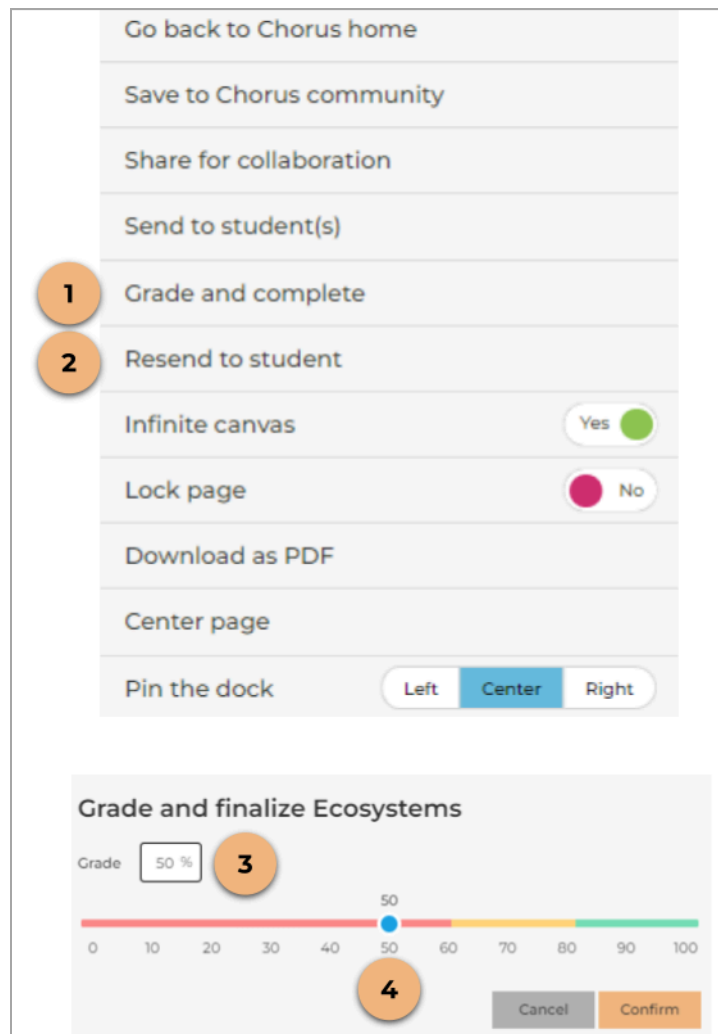
Average class score: 68.7%

Student result list: [Unsend](#) [?](#) [Export results](#)

<input type="checkbox"/>	Student name ↑↓	Attempt ↑↓	Status ↑↓	Score ↑↓	Time ↑↓	Give feedback
<input type="checkbox"/>	Patrick	1	Review	-	6 min 30 sec	Give feedback
<input type="checkbox"/>	Mary Beth	1	Review	-	6 min 27 sec	Give feedback
<input type="checkbox"/>	Henry	1	Review	-	1 hr 31 min 28 sec	Give feedback
<input type="checkbox"/>	Sarah	1	Review	-	17 sec	Give feedback
<input type="checkbox"/>	Charlie	1	Completed	80%	5 min 49 sec	View feedback
<input type="checkbox"/>	Laura	1	Completed	39%	28 sec	Give feedback
<input type="checkbox"/>	Emma	1	Completed	87%	8 min 1 sec	Give feedback
<input type="checkbox"/>	Alex	1	Awaiting student response	-	0 sec	Give feedback
<input type="checkbox"/>	Alexis	1	Awaiting student response	-	0 sec	Give feedback

Select “Review” to view individual student work on the Symphony whiteboard assignment. You will be able to add any annotations, text, and other tool items to the student’s Symphony whiteboard.


From the three-line menu, you can grade the Symphony whiteboard assignment (1), or return it to the student (2) for additional revisions. When choosing “Grade and complete” an additional popup will appear to provide a score for the student. You can type the percentage grade (3) or adjust the slider (4) to grade. Select “Confirm” to set the grade and allow students to view their score.



Feedback can be provided to students after completing the Symphony whiteboard assignment from the “Give feedback” section when reviewing the assignment. Feedback options include written text, recorded audio, and recorded video.

The red circle (1) is used to record either audio or video feedback. The square (2), which becomes orange when recording, is used to stop the recording. The orange play icon (3) is used to preview and play the recorded feedback. If you are satisfied with your recorded audio or video feedback, choose the “Save and send” icon (4).

Assessment result:

Correct answers:  -

Score: -

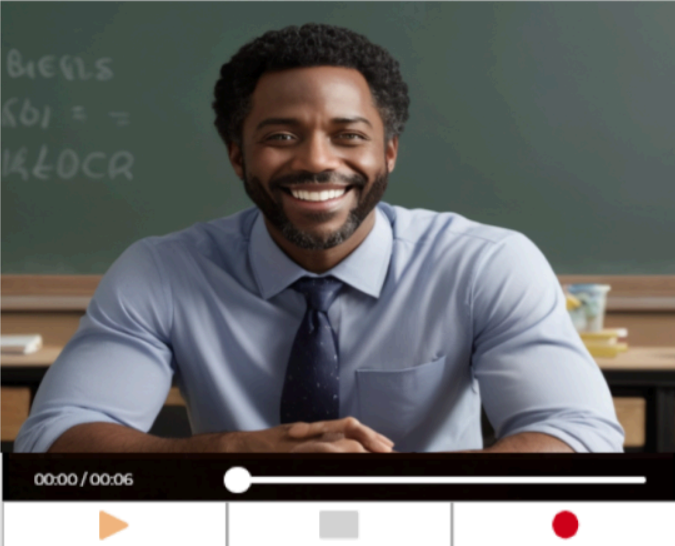
3 2 1

Record voice feedback to student: (Record audio up to 60 seconds)

▶ □ ●

Cancel Save and send

Record video feedback to student: (Record video up to 60 seconds) 4



00:00 / 00:06

▶ □ ●

Cancel Save and send

Messages

There are no messages yet.

Send message

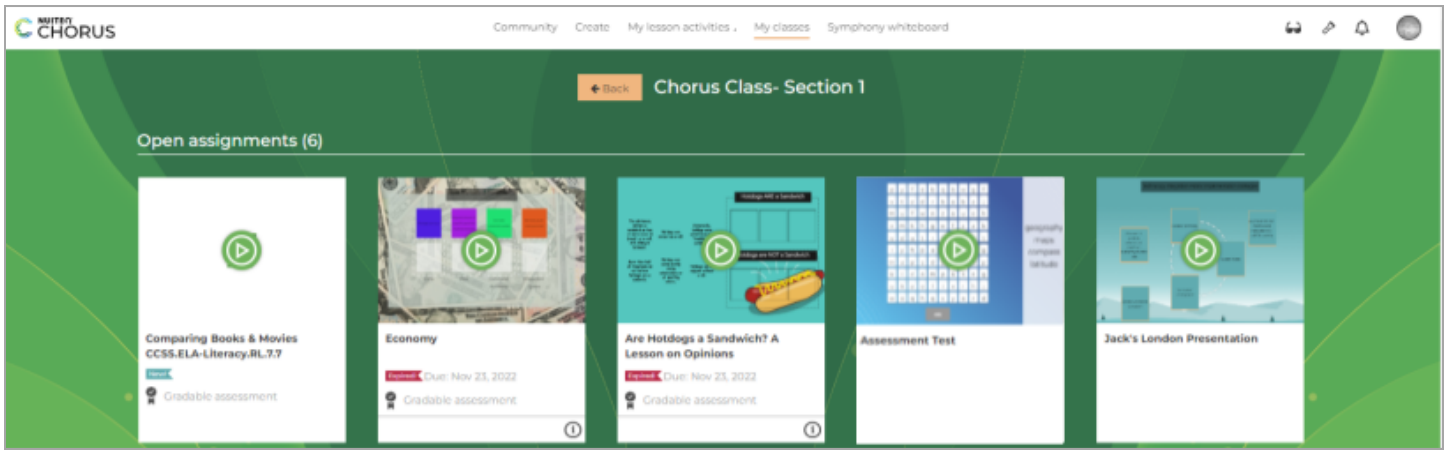
Good job!

90

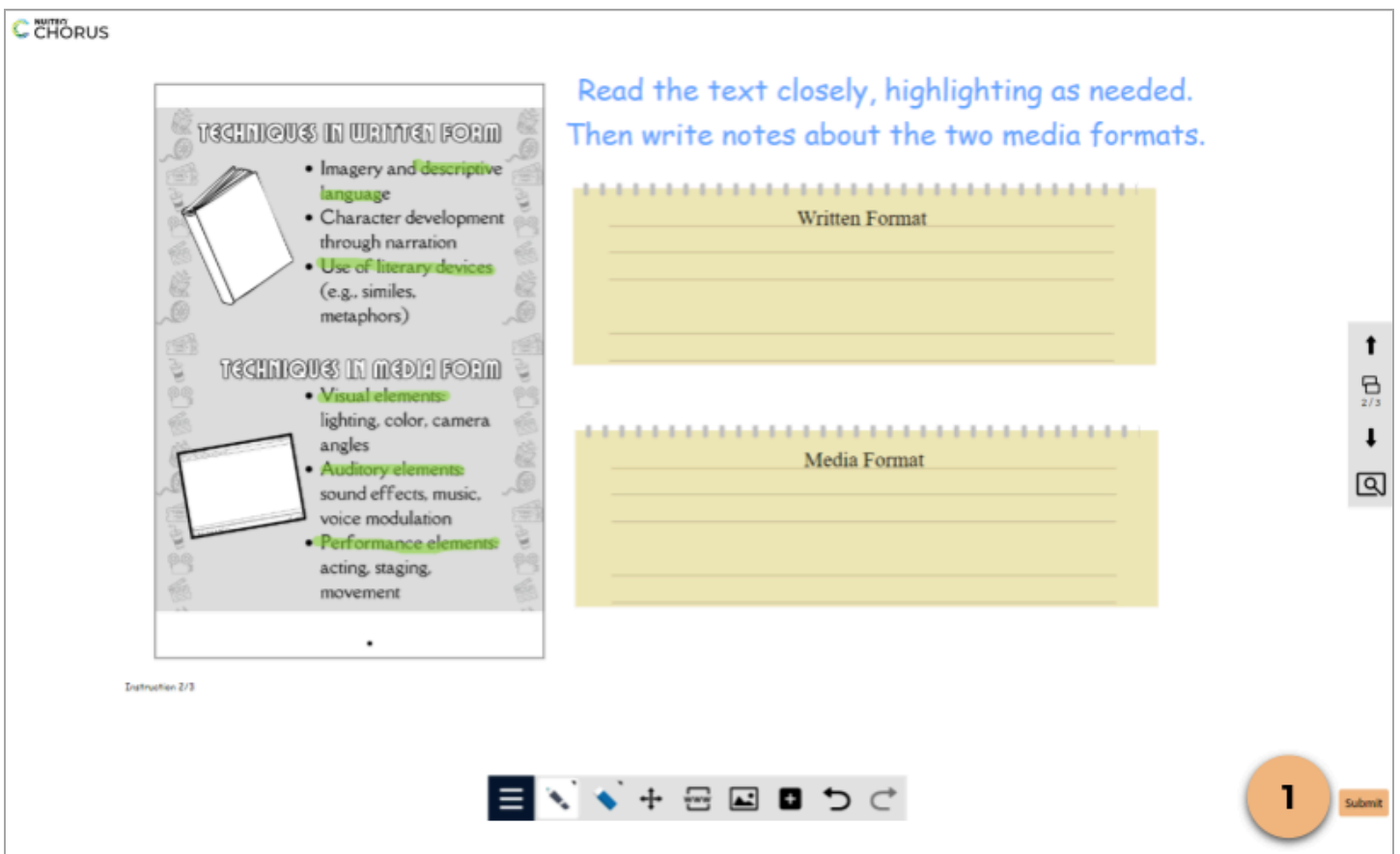
Send

The Student Dashboard

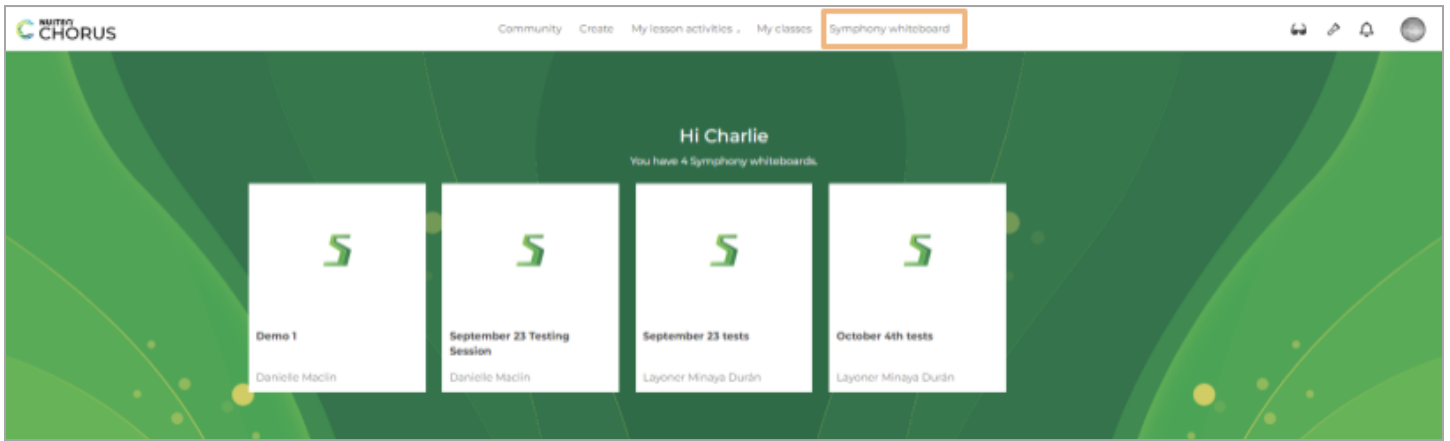
Symphony whiteboards can be sent to students as gradable assessments. From the student's perspective, they will see the Symphony whiteboard as part of their Chorus classes.



Students can interact with and manipulate items on the Symphony whiteboard, then select the “submit” button (1) to share the assignment with their teacher.



Symphony whiteboards that have been shared for collaboration are located in the “Symphony whiteboard” dashboard from the top menu. When a Symphony whiteboard is shared for collaboration, students can manipulate items, add annotations, and use additional tools in real-time with other students.



The Chorus community

Within the Chorus community, Symphony whiteboards can be found using the search filters. Select "Lesson activity types" (1) from the dropdown. Then choose "Symphony" to view all Symphony whiteboards that have been shared with the Community. Once a Symphony whiteboard from the Community is opened a copy will exist in your "Symphony whiteboard" dashboard.

