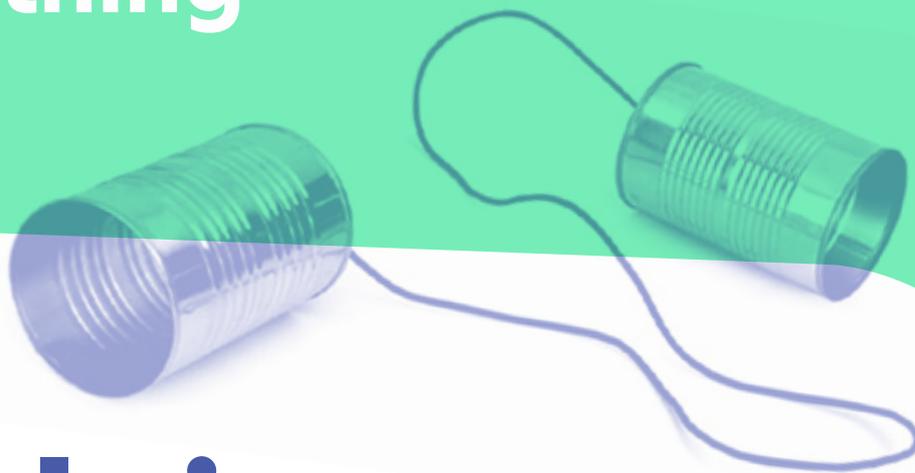
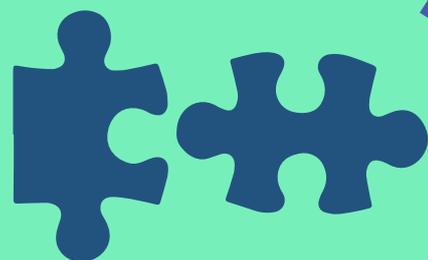
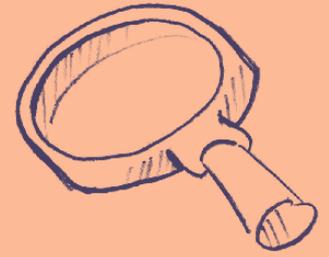


**Explain
Everything**



Explain Everything: Formative Assessment and Screencasting

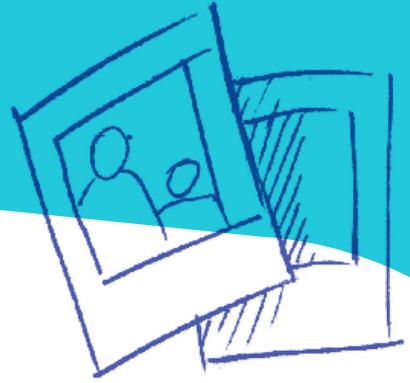




Explain Everything: Formative Assessment and Screencasting

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About the Author



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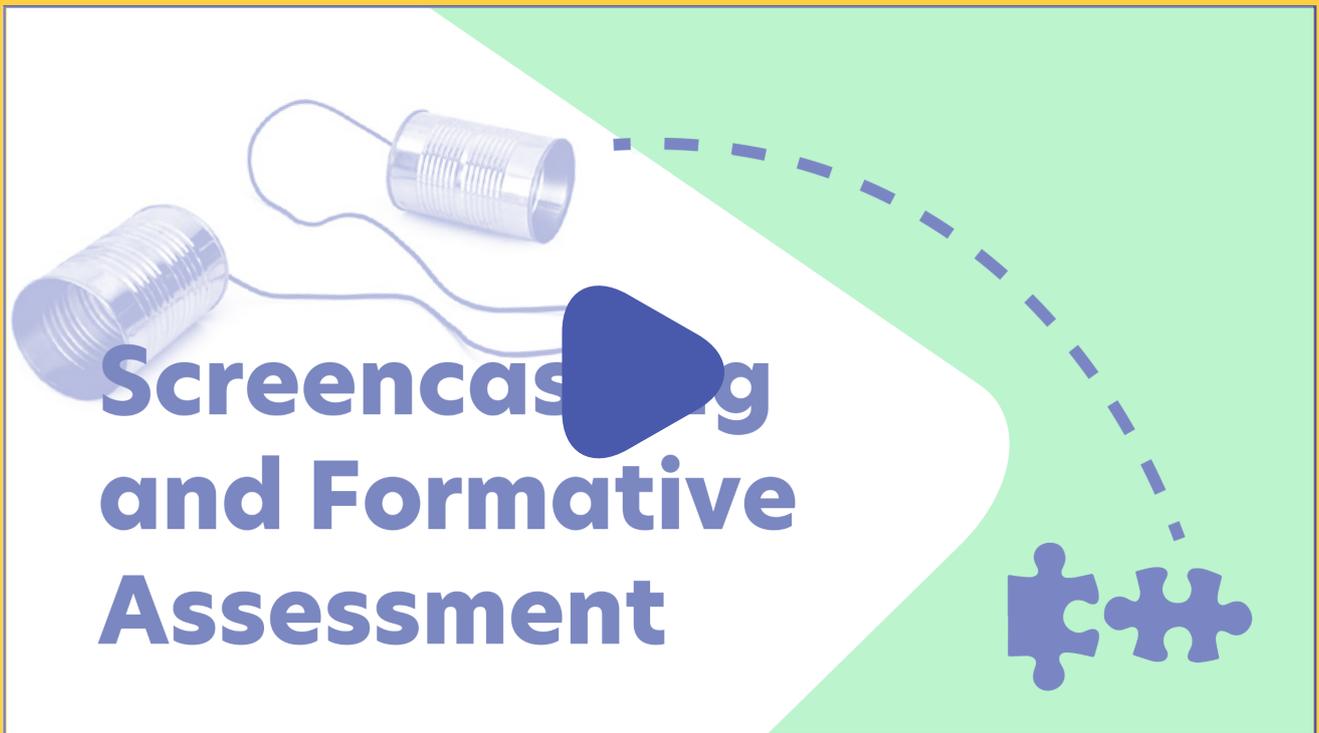
Distinguished Educator



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To learn more check out Explain Everything: Formative Assessment and Screencasting on [Apple Books.](#)

iPad screencasting as a qualitative formative assessment tool



**Screencasting
and Formative
Assessment**

<https://youtu.be/a2dVeZBXgRA>

Student screencasting on the iPad provides a multimedia and multimodal approach for capturing understanding and making thinking visible.



**Formative
Assessment and
Screencasting**

In the right settings with the right tools, amazing things can happen. My one best thing is screencasting as a formative assessment tool for making students' thinking more visible. Screencasting is the multimedia process of capturing a device's video output with audio narration.

I use screencasting as a regular part of my middle school math classes, and I have worked with many teachers and students in a variety of disciplines, levels, and settings. In this book, I share three use cases for screencasting in a formative assessment context using Explain Everything. The Resources section at the end has links and information on other screencasting tools.

When I write about formative assessment, I am not describing metrics or clickers or mini-quizzes. I am describing the day-to-day interactions, moments, and experiences shared between a teacher and student that inform the teacher about where the student is in his or her learning journey. These highly contextual and nuanced phenomena are impossible to quantify and difficult to capture. I like to think of it as qualitative formative assessment.

There are many tools available that make this process possible on a variety of devices, but the following pages highlight one particular app, Explain Everything.

Why screencasting?

Besides being an accessible and natural way to create and share, screencasts offer several other exciting affordances that emerge when students are engaged in creating a screencast.

Unprompted self -assessment.

Students who are creating screencasts will often play back, listen to, and watch their creation. They then go back and revise and refine their thinking, articulation, and conveyance. This happens naturally, whether or not a teacher prompts or encourages it. This phenomenon occurs because the technology and learning environment support it. Students intrinsically seek to gain and represent clear understanding. They make deep connections with the material with which they engage by creating and re-creating the screencast media artifacts.

Diminishing novelty, continued engagement.

At first for many, screencasting is a novel experience and an engaging hook. When a screencasting activity is grounded in a meaningful assignment that resonates with students, they remain engaged with the use of the tool despite the diminishing novelty.

Guided independent student work.

The screencast production environment enables teachers to walk around, check in with students, and have individual conversations with them about works in progress. These conversations usually lead

to suggestions for clarity, guidance, or next steps. When students are expected to produce individual creations, they share their work with others without prompting. If students are working in pairs, teachers still are untethered and able to roam the room and allow students to share their work during the class. Sometimes this sharing produces feedback; sometimes it provides assurance that the students are on a correct path. If a student and teacher do not have a face-to-face interaction, teachers are still able to see student processes by viewing the screencast videos at a later point.

Process over polish.

Screencasting provides a means to see the process of learning, and allows students to create a meaningful product of learning that does not have to be perfect or polished. Not all screencasts have to be beautifully designed productions. Instead, they are simply representations of thoughts or ideas whose creation bridges both distance and time.

The three use cases that follow show how these affordances can emerge in different contexts and settings.

Use Case Examples



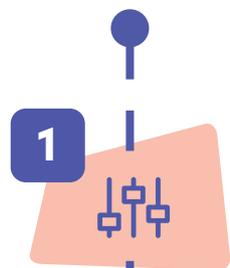
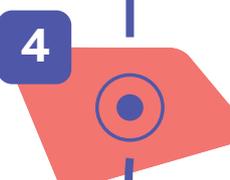
Use Case Example 1

Subject: Language Arts—Nonfiction Reading

Level: Second Grade Step one 3

City, State, Country: Montclair, New Jersey, USA

Activity instructions for students

- **Step One**
Select a non-fiction reading book from the shelves.
- **Step Two**
Open Explain Everything and start a new blank project.
- **Step Three**
Take a photograph of the book cover.
- **Step Four**
Press Record and talk about what you already know about the book and what you would like to learn more about.



Optional

Use the laser pointer or the draw tool to draw attention to specific areas of your book cover photograph.

5



Step Five

Pause the recording.

6



Step Six

Read your book.



Optional

If you find a page that has information about something you wanted to learn about, create a new slide, take a photograph of the page, press record, and retell what you learned from the page.

7



Step Seven

Save the project, and export it via email to your teacher's Evernote account.

Use screencasting to apply and practice nonfiction reading strategy.

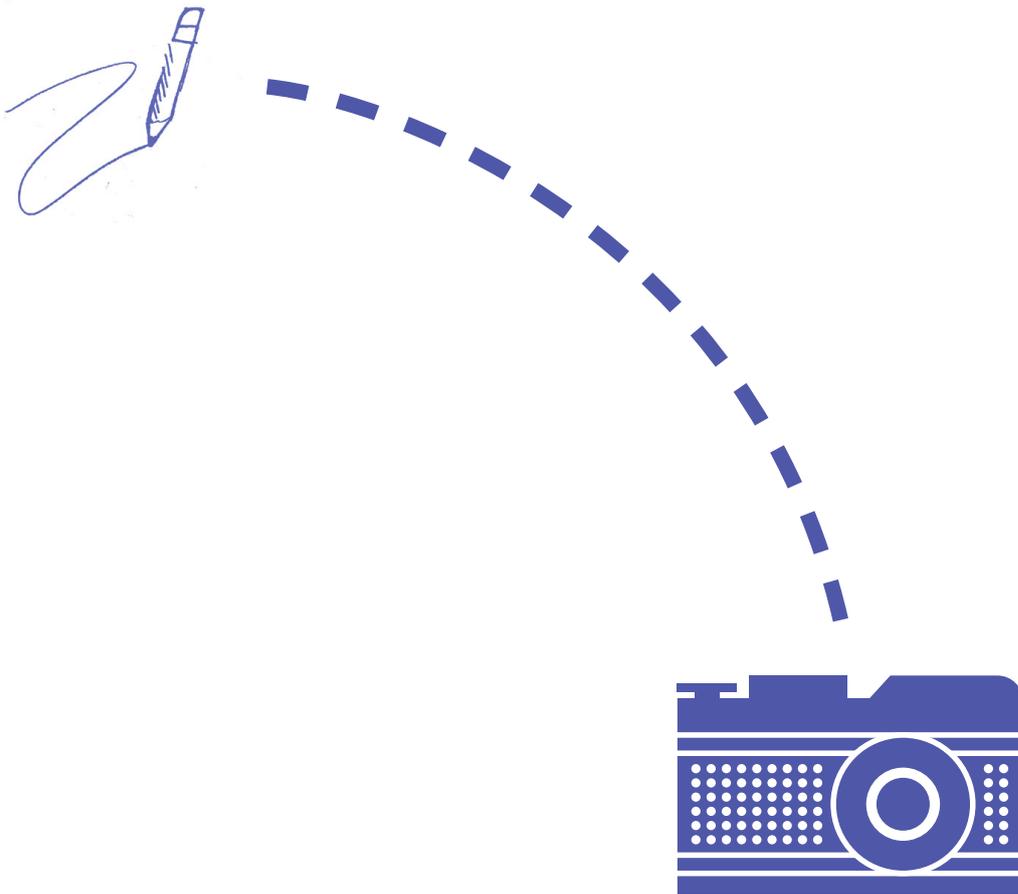
A second-grade teacher with whom I worked talked about a reading strategy for nonfiction books that she shares with her second-grade students each year. Before reading a book, she asks students to look at the cover and state or think about what they already know about the subject and then what they would like to learn about it. Only after performing this warm-up thought exercise should students open the book and begin reading. She talked about how with a large group of students, it is difficult to meet with them individually and check how they are understanding and applying this strategy, even if several class periods are dedicated to working on it.

The teacher saw screencasting as a way to capture and mediate a dialogue—where students could practice the strategy and she would be able to see what all students were working on, regardless of whether she was able to connect with them face to face during a given class period.

The teacher did the screencasting activity with students in six class periods within a three-week timeframe. It was one approach mixed in with many other learning activities. When students were creating screencasts, it helped the teacher identify misconceptions by students, their level of reading comprehension, and their ability to independently follow structured steps. When she needed to help one or two students for most of a class period, she was still able to view the creations of other students and assess their current level of progress, despite not being physically next to them at that moment.

For example, early in the exploration of this strategy, the teacher recommended that students share not only what they knew about a subject but also how they knew about it. She asked them to begin a sentence with “I know this because...” Throughout the intervention, students had a tough time framing their thoughts in this manner. But based on what she learned from the videos, the teacher was able to focus on helping them connect with this approach.

Screencasting as an assessment tool can be applied and transferred to a variety of disciplines and age levels. Simply taking a picture of something, pressing Record, and talking about it, even informally, creates a rich artifact of learning.



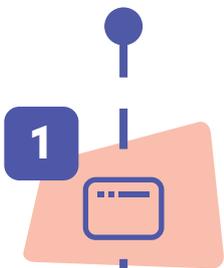
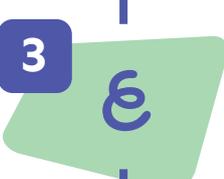
Use Case Example 2

Subject: Fraction Equivalence and Operations

Level: Fifth Grade

City, State, Country: New York, New York, USA

Activity instructions for students

- **Step One**
Open Safari and navigate to my course page.
- **Step Two**
Find the Explain Everything Activity. PDF file for today and open it.
- **Step Three**
On the top right screen choose Open In -> Explain Everything
- **Step Four**
Read the instructions, choose a problem and create a screencast response.



Step Five

Pause the recording when you are complete.



Step Six

Save the screencast to your Photo Roll.



Step Seven

Go back to my course page and upload the file to today's file Dropbox.



Use screencasting to demonstrate understanding of fraction equivalence and operations.

I worked with a fifth-grade math teacher who taught a unit on fraction equivalence and operations. She described a personal challenge she felt in assessing students' conceptual understanding of these topics. On static paper-and-pencil worksheets, quizzes, or tests, many of her previous students provided the correct answer and even showed correct steps that were taken to get that answer. However, she knew from conversations and interactions with some of these students that there was a gap in their conceptual understanding.

This teacher also described a desire to continue to address differentiation in her classes. She did not want her stronger students spending time doing problems that did not advance their conceptual understanding, and she did not want her weaker students to spend time attempting problems that were beyond their current abilities to find meaning.

We worked together to design a series of activities where students self-selected one of three problems for which they would construct a screencast. They could write out their solutions in advance and then record the audio, or they could solve the problem and draw their solutions in real time. The teacher provided scaffolding and ideas for best practices—such as using visual representatives, finding a quiet place to record, and writing a script—but students were allowed to engage this task in the ways that were most comfortable for them.

Students produced screencasts five times in a two-week period. The teacher discovered that some students who had not been able to show what they knew on paper tests possessed more conceptual understanding than she thought. For example, one student correctly compared two fractions and provided strong rationale for her solution, but the problem that was given asked her to add the fractions, not compare them. From this, the teacher knew that this student possessed the mathematical ability to think through the problem and she had simply misread the instructions.

Some students were able to provide correct answers to fraction comparisons but were not able to provide rationale for their solutions.

Some of the stronger students would often have difficulty articulating their thinking, but she was able to support them by focusing on mathematical communication.

The screencasting activity leveraged new perspectives on the students' thinking. It enabled the teacher to provide individual and contextualized feedback and guidance instead of simply marking a score on a static series of problems.

This type of interven

host it in an accessible location, and instruct students to open it in the screencasting app. The production time can range from 5 minutes to a class period, depending on the depth and needs.

Differentiated problem choices for students

Using clock fractions, a fraction track, rectangles/fraction sticks, show and explain which fraction in one of the sets below is greater. Remember, you need to show your written work while also recording your explanation. You should draw pictures to help you with your explanation. You can choose which set of fractions you wish to compare (a, b, or c).

a. $\frac{2}{5}$ or $\frac{1}{4}$

b. $\frac{3}{8}$ or $\frac{3}{5}$

c. $\frac{5}{6}$ or $\frac{7}{8}$

Each day, the teacher gave students problems of varying difficulty to choose from their screencast.

Use Case Example 3

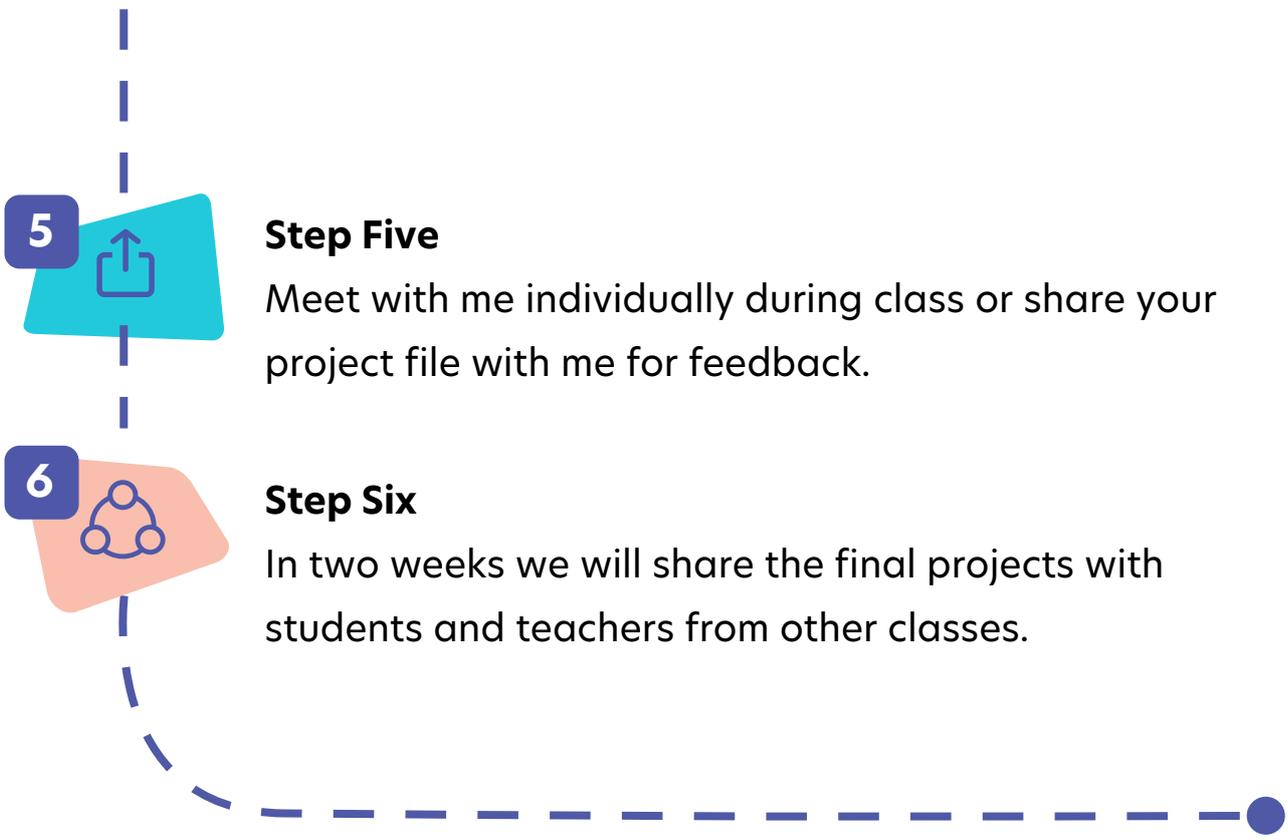
Subject: Description, Analysis, and Reflection

Level: Seventh Grade

City, State, Country: Morristown, New Jersey, USA

Activity instructions for students





5

Step Five

Meet with me individually during class or share your project file with me for feedback.

6

Step Six

In two weeks we will share the final projects with students and teachers from other classes.

Students created a reflective, descriptive, and analytical screencast about a meaningful moment or set of moments from the year.

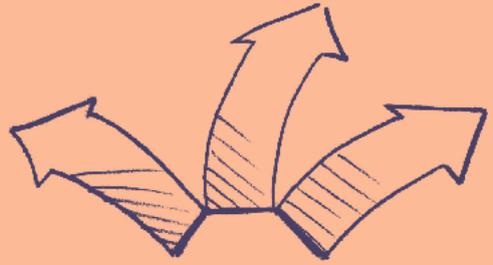
This final example is from a project in a seventh-grade English class. One of the teacher's main themes for the year was description and analysis in both reading and writing. He had been trying to think of a culminating end-of-year project for his students that would not only allow them to demonstrate their description and analysis abilities but also to reflect on what resonated with them during the school year. He mentioned that when his students were doing writing projects, the times he valued most were when the students were conferring individually with him about their ideas and progress, and when they were sharing and reviewing works with their peers.

We designed an intervention in which students would have several weeks to design a screencast production about a meaningful moment

or set of moments from their year. During the design phase, students would individually meet with the teacher for feedback and guidance, and would be encouraged to share ideas with their classmates—though each student would ultimately be responsible for producing his or her own video. The teacher provided lots of class time to work. At the end of each class, he asked his students to save their works in progress and share them with him. That way, he could gain an understanding of where students were if he had not had time to touch base with them that day.

The students produced thoughtful screencasts. The teacher was excited about what he learned from students about their interests and favorite moments. The activity also allowed him to reflect on his own practice and how a small thing he may have done in his class resonated with a student enough that the student highlighted it as a meaningful moment. For example, one student, whom the teacher felt he had not reached and who didn't appear to connect with the course, shared how the simple activity of writing a poem about a photograph helped him become better at describing things, despite his lack of confidence in writing poetry.

The final productions were wonderful, but the teacher also valued the time spent guiding the students and hearing their thoughts and ideas. The screencasting activity helped create an environment that made it possible for the teacher to engage students in this way, while also allowing them to create artifacts of their learning that they were proud of.



Resources

Apps

Explain Everything

Mail

Safari

Websites

Explain Everything

Constructivist Toolkit

Cloud Storage Services Used in

Evernote (Example 1)

Finalsite LMS (Example 2)

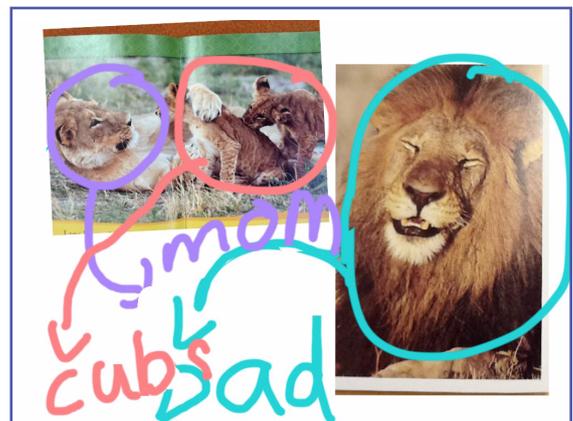
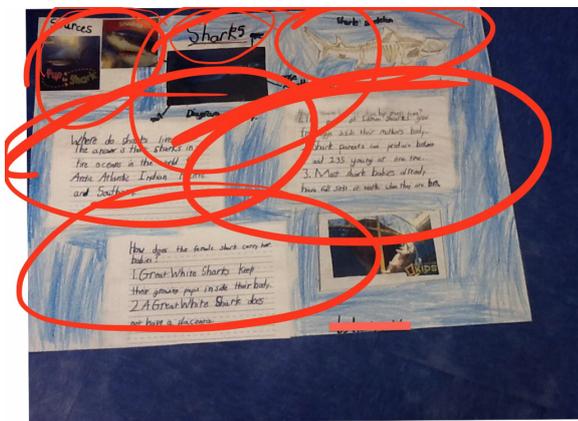
WebDAV for OS X Server (Example 3)



Final

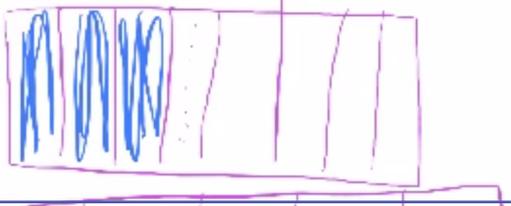
Thoughts

Screencasting on its own does not transform a learning environment. However with thoughtful planning, creative instruction, and a supportive environment students can make their thinking visible in screencasting, and teachers can provide better feedback and guidance as they lead students towards their learning goals.

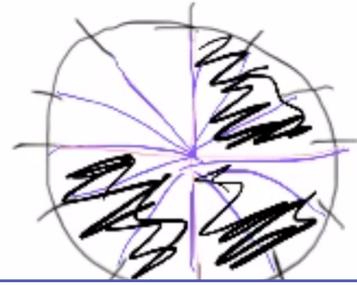


Remember, you need to show your written work while also recording your explanation. You should draw pictures to help you with your explanation. You can choose which set of fractions you wish to compare (a, b, or c).

a. $\frac{2}{5}$ or $\frac{1}{4}$ b. $\frac{3}{8}$ or $\frac{3}{5}$ c. $\frac{5}{6}$ or $\frac{7}{8}$

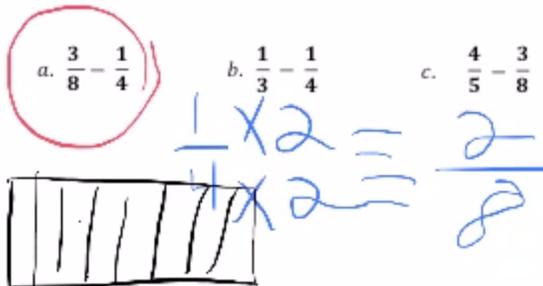


a. $\frac{1}{12}$ and $\frac{3}{4}$



Using clock fractions, a fraction track, rectangles/fraction sticks, find the difference of a fraction pair below. Remember, you need to show your written work while also recording your explanation. You should draw pictures to help you with your explanation. You can choose which set of fractions you wish to explain (a, b, or c).

a. $\frac{3}{8} - \frac{1}{4}$ b. $\frac{1}{3} - \frac{1}{4}$ c. $\frac{4}{5} - \frac{3}{8}$



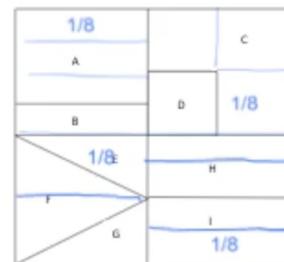
$$\frac{1}{3} \times 3 = \frac{3}{9}$$

$$\frac{3}{3} \times 3 = \frac{9}{9}$$

The Red WheelBarrow.

Meaning
Significance

Check to be sure that the sum of the fractions is 1.



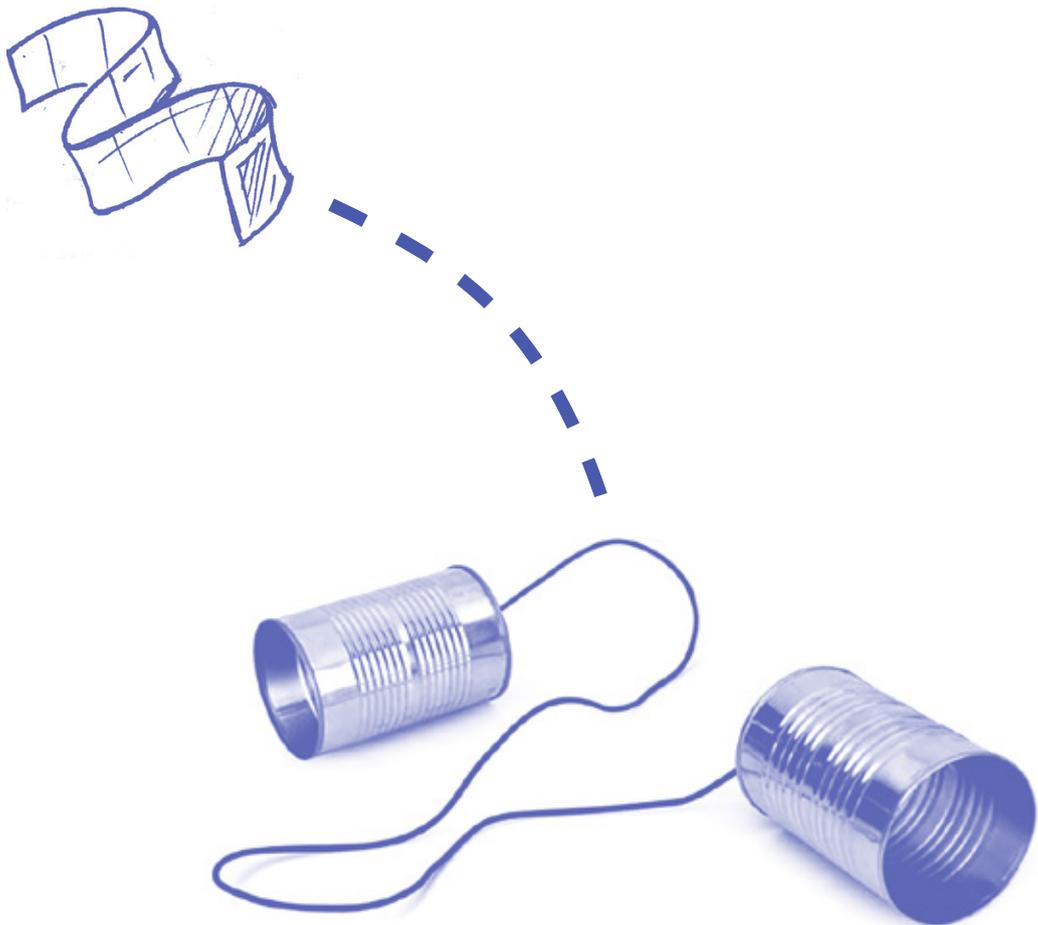
Explain how you found the fraction for the part labeled F.
it was bigger than the other ones so I said I will try to cut it in half because it was two of the 1/4 cut together so it was



The boy in oranges brings the girl to a pharmacy. He asks her if she wants chocolate. She accepts the offer. She picks out two that are worth ten cents. The boy only has five cents. but he take it to the register and puts the chocolate five cents and the orange.

Poetry

The Eagle The Shady Tree The Red Wheelbarrow

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