

# Online Tools for Storyline and Remote Teaching and Learning

Supporting Students' Science Learning in the Era of COVID-19

Crowd sourced in collaboration with OpenSciEd

## Definitions:

**Anchoring phenomana:** Is the routine that is used to kick off a unit of study and drive student motivation throughout the unit. The purpose of the Anchoring Phenomenon Routine is to build a shared mission for a learning community to motivate students in figuring out phenomena or solving design problems.

**Discourse:** Is the glue that holds learning together. Building understanding and consensus for sensemaking occur throughout an investigation.

**Navigation During Investigation:** Is intended as a support for working with students to motivate the next step in an investigation of a phenomenon or in the search for a solution to an engineering design problem.

**Problematizing:** The problematizing routine is useful when an investigation of a question leaves some aspects of the question unanswered.

Storyline Process or Routine	Sub-routine process	App Name	Brief description of how this tool can be used for this phase of storylining	Free Version?	Synchronous	Asynchronous	limits to free version? Notes on what additional features with paid version	Security (open to all or teacher managed)
1 Establishing Norms	N/A	Padlet	Use a virtual whiteboard with stickies to get consensus on some shared norms that way, grouping ideas together.	Y	X	X	upgrade for more than 7 padlets at a time, folders, etc.	
1 Establishing Norms	N/A	Pinup	Use a virtual whiteboard with stickies to get consensus on some shared norms that way, grouping ideas together.	Y	X	X	subscribe for more than 3 users; more than 3 boards; more storage space; exporting boards	Pins are anonymous; use privacy settings for direct link
Anchoring Phenomenon	A: Constructing driving question board	Google JamBoar	Students can write their individual questions in a private space, push them to a common space, and then compare theirs to others. The tool makes it easy to rearrange stickies into groups and add text to create labels for categories of questions.	Y	X	X	completely free	managed with Google account; student icon is visible while in the app, but once they exit the entries are anonymous, so teachers should require students to self-identify
Anchoring Phenomenon	A: Noticing and wondering	Padlet	Students can present their ideas; in Padlet, each student has a different color that can help track individual students' ideas	Y	X	X	upgrade for more than 7 padlets at a time, folders, etc.	
Anchoring Phenomenon	A: Noticing and wondering	Pinup	Students can write their noticings and wonderings in a private space, push them to a common space, and then compare theirs to others	Y	X	X	subscribe for more than 3 users; more than 3 boards; more storage space; exporting boards	
Anchoring Phenomenon	A: Noticing and wondering	Vialogues	students can annotate phenomenon videos (youtube, vimeo, or teacher uploaded) with their noticings and wonderings.	Y		X	completely free	teacher managed via email invite

<u>Anchoring Phenomenon</u>	A: Noticing and wondering	VideoAnt	students can annotate phenomenon videos (if a youtube video) with their noticings and wonderings.	Y		X	completely free	teacher managed
<u>Anchoring Phenomenon</u>	A: Presenting the phenomenon	Flipgrid	Record a phenomenon and ask probing questions and have students generate questions. Students can then videotape their replies and questions. Then students and teachers can comment on the replies.	Y		X	free and unlimited; also free phone app	teacher managed; can limit to school emails, IDs, or send QR code
<u>Discourse - Building Knowledge</u>	D: Consensus Building	Poll Everywhere	Use as a live tool to ask students to say what they think and then vote up or down peer ideas.	Y	X			teacher managed; can delete student responses
<u>Discourse - Building Knowledge</u>	D: Consensus Building	Pinup	Students share their thinking and and teacher groups like ideas.	Y		X	completely free	Pins are anonymous; use privacy settings for direct link
<u>Discourse - Building Knowledge</u>	D: Consensus Building	PearDeck	Create slides that present students with various modes/explanations and then ask students to select/add thinking.	Y		X	free Google app	recommended fo ages 4-12; conforms to GSuite products
<u>Discourse - Building Knowledge</u>	D: Consensus Building	Google Form	Use Google Forms to construct a brief assessmet focused on "what we figured out."	Y		X	completely free	managed with Google account
<u>Discourse - Building Knowledge</u>	D: Initial Ideas	Google JamBoard	Students can write their individual questions in a private space, push them to a common space, and then compare theirs to others. The tool makes it easy to rearrange stickies into groups and add text to create labels for categories of questions.	Y	X		completely free	managed with Google account; student icon is visible while in the app, but once they exit the entries are anonymous, so teachers should require students to self-identify
<u>Discourse - Building Knowledge</u>	D: Initial Ideas	Google Form	Use Google Forms to construct a brief assessmet focused on "what we figured out."	Y	X		completely free	managed with Google account
<u>Discourse - Building Knowledge</u>	D: Initial Ideas	nearpod	Allows students to post and respond to their peers. Easy-to-use tool for creating interactive lesson plans, presentations, assessments, and digital content. Nearpod allows teachers to create digital lesson plans, share it with students during class, and track individual progress.		X		some materials within system have a cost. Use code DISTANCE50 in the Lesson Library to receive \$50 of resources	the teacher delivers as a "live session" that is assigned a unique PIN. Students then enter the PIN, teacher controls the progression of slides and the built-in interactions with students
<u>Discourse - Building Knowledge</u>	D: Initial Ideas	Kialo	Students can make their thinking visible and use evidence to support their argument. Others can weigh in and support or reject and share their evidence.	Y	X	X	completely free	<a href="#">Privacy/access information</a>
<u>Discourse - Building Knowledge</u>	D: Initial Ideas	Padlet		Y		X		
Navigation During Investigation	N: Looking forward: What do we need to investigate next?	GoogleDocs	Similar to slides this with facilitate discussion and act as a notebook/poster to revisit. Use to list new evidence and questions.	Y	X	X	completely free	managed with Google account
Navigation During Investigation	N: Taking stock: What we figured out today regarding the day's phenomenon/problem	GoogleDocs	Similar to slides this with facilitate discussion and act as a notebook/poster to revisit. Use to list new evidence and questions.	Y	X	X	completely free	managed with Google account
Navigation During Investigation	N: Looking back: Reviewing or discussing what we need to investigate today	Flipgrid	Create a short clip reminding students waht they figured out last time. Students can see each other's responses.	Y		X	free and unlimited; also free phone app	teacher managed; can limit to school emails, IDs, or send QR code; parent consent is required under age 13
Navigation During Investigation	N: Looking back: Reviewing or discussing what we need to investigate today	Google Slides	Use a slide deck to keep a record of prior, current, and future concepts and questions. Can be used for summarizing class progress tracker.	Y		X	completely free	managed with Google account

