

# Eliciting Evidence Strategies

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# ABCD Cards

## Description

The teacher asks or presents a multiple-choice question and waits an appropriate amount of time. Then students individually and simultaneously hold up one or more cards as their response.

## Promotes Learning/Informs Learning

Students answer one or more well-designed, multiple-choice questions that reveal information about their understandings, misunderstandings, and misconceptions.

This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class.

## Implementation

You may choose to orally ask the question or to present it to the class via computer, document camera, or other method. After an appropriate wait time, ask students to display their responses, often with a cue. You may choose to summarize the data or have students summarize. Then use the student responses as evidence of learning to adapt and organize the ensuing discussion/lesson.

You can cheaply make ABCD cards on 4" x 6" white card stock printed with one black, bold-print letter per card. A full set might include the letters A–H plus T. This format allows all students to select not only one correct answer but multiple correct answers, answers to questions that have up to eight answer choices, and answers to true/false questions.

## Tips

In the beginning while you develop the classroom culture for this type of strategy, a quick pair/share can make students feel more comfortable answering publicly. Also consider having students prepare their individual responses and then display them on cue. For longer questions or for true/false questions, consider asking or revealing one answer choice at a time.

This is not data collection for grading purposes. Students can respond to a short question orally, by a show of hands, or by using devices or cards.

You may want to laminate the cards and/or have them attached to the desk on a string.

One option is to print the cards so that each letter is on a different color of card stock. Having cards in different colors may be easier for you to quickly digest the answers. Another option may be to use the same color card stock and make the letters themselves each a different color.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Animoto

<https://animoto.com/>

## Description

This free, online tool gives students the ability to make a short, 30-second shareable video of what they learned in a given lesson.

## Promotes Learning/Informs Learning

This strategy provides information to the teacher about student understanding of the learning target. This strategy also works well for peer assessment and feedback.

## Implementation

This tool works well for any type of student learning, especially for learning that results in a performance, which can be more difficult to assess than a product. Teachers apply for a free, 6-month Animoto Plus account, which allows for up to 50 student accounts. [Note: students under 13 will have to use the teacher account.]

Creating Animoto is a 3 step process:

- Select and upload pictures or video from stock, personal files, or media sites like Flickr, Photobucket or Facebook
- Choose the slideshow music from personal or Animoto files
- Finalize video—Animoto processes the video and sends a link that can be shared

## Tips

The application process can take up to one week, so it is important to plan in advance. The final processing takes “a little” time depending on the length of the video

## Resources

- Creating your First Animoto Video <https://animoto.com/blog/guides/getting-started-animoto>

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# AnswerGarden

<https://answergarden.ch/>

## Description

Teachers can use this free, real-time tool for online brainstorming or polling to see student feedback on questions and topics—their evidence of learning—in the form of a word cloud.

## Promotes Learning/Informs Learning

The use of an all-student response system allows teachers to engage more students quickly, easily, and efficiently.

## Implementation

Set up an account, and then set up the activity. Give students a code to access the activity. Students input their responses via a personal device, and the results show as you refresh the page. This tool offers a variety of modes:

- Classroom—offers an unlimited number of responses, but each responder has only one response
- Moderator—lets you approve answers before they appear
- Brainstorm—offers unlimited answers and unlimited number of times
- Locked—in essence closes the response option

## Tips

In the beginning while you develop the classroom culture for this type of strategy, a quick pair/share can make students feel more comfortable answering publicly. Also consider having students prepare their individual responses and then display them on cue. For longer questions or for true/false questions, consider asking or revealing one answer choice at a time.

This is not data collection for grading purposes. Students can respond to a short question orally, by a show of hands, or by using devices or cards.

You may want to laminate the cards and/or have them attached to the desk on a string.

One option is to print the cards so that each letter is on a different color of card stock. Having cards in different colors may be easier for you to quickly digest the answers. Another option may be to use the same color card stock and make the letters themselves each a different color.

For best use of an all-student response system:

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# Anticipatory Guide

## Description

The teacher generates three to six statements about a topic, some true and some false. These statements are related to key ideas supporting learning targets. Typically used in a pre-/post-assessment, the guide helps identify understandings and misunderstandings, which the teacher uses to adapt the lesson as needed.

## Promotes Learning/Informs Learning

Prior to introducing new learning, the teacher gathers evidence through the strategy that reveals information about students' understandings, misunderstandings, and misconceptions.

In addition to serving as evidence of current understanding, the teacher may use this strategy to activate prior knowledge and build curiosity about a new topic.

## Implementation

You have several ways to construct an anticipatory/anticipation guide, including:

- identifying the major ideas presented in a reading
- considering what beliefs your students are likely to have about the topic
- writing general statements that challenge your students' beliefs
- adding a critical common misconception that you want to surface early on

The students respond to the statements with either a positive or negative response.

- Model the process with students when introducing the strategy, and explain how the evidence (data) will be used pre and post-assessment. Students may complete the guide individually and not share or anonymously record their responses on charts with dots or checks.

Have students complete the anticipatory guide before reading or starting a lesson. Students may work individually, in pairs, or in small groups. Remind students that they should be prepared to discuss and debate their reactions to the statements on the anticipatory guide after they have completed it.

After students finish the guide, encourage a class discussion of students' reactions to the statements. The evidence collection can be anonymous as part of a quick check for you to see if discussion is needed. If the responses reveal confusions, the discussion will indicate who holds what beliefs, and the class can help clarify any confusions through the discussion. Remember, you want to activate their critical thinking about the topic, so dig deeper so students justify their answers. And you might use the discussion to stir curiosity by letting students know that they're going to be surprised about statement X or that they'll learn more about why statement Y is true.

## Tips

The guide is meant to help students uncover their own thinking.

If students are reading a text, have them do so with their anticipatory guide responses fresh in their minds so they can react to the text as they read or during the lesson. Encourage students to mark or write down where the text or facts support their initial reaction to statements or cause them to rethink those reactions.

Consider whether responses should be anonymous. If only one student, for example, has a critical misconception, collecting data anonymously would not identify that student.

Have a class discussion after reading or at the end of the lesson. Ask students if any of them changed their position on any of the statements. Encourage students to share how they reacted to the text, given their initial responses captured in the anticipatory guide. Make sure students share examples from the text or the lesson showing where their initial responses were either supported or challenged.

# Backchannel Chat

<https://backchannelchat.com/>

## Description

Similar to TodaysMeet, this digital tool offers a teacher-moderated version of Twitter™. It can be used to supplement or replace verbal discussion, offering more modalities and the opportunity for all voices to be heard without delay.

## Promotes Learning/Informs Learning

Some of the aspects of this tool that make it different from just a regular verbal discussion include the ability for everyone to contribute at the same time, the opportunity to respond to someone (or not), and the possibility of responding to a specific point someone makes in real time (instead of waiting until the student has finished and, potentially, three other classmates have also raised their hands to speak).

Class discussions help make students' thinking visible in order to help the teacher more easily identify the source of students' confusion. Class discussions allow students to uncover their own thinking and challenge themselves to support or explain their reasoning, which also helps them deepen and broaden their thinking. Class discussions let students hear the thinking of others to address possible confusions.

## Implementation

Log in and create a free account. Explain to students the purpose of a backchannel conversation, and link it to their use of social media. Have students pick an avatar. Teach the lesson. As the lesson progresses, have students comment, discuss, and question in Backchannel. Students can mark messages that have meaning for them, producing additional data for you about the focus of the conversation.

## Tips

Encourage students to revisit these chats, as well as information their peers offer, as sources of notes from the lesson.

An extension of the in-the-moment conversation might be to capture the chat, create a word cloud, and see what surfaces as a focus of the conversation.

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# Basketball Discussions

## Description

Questions and responses move from teacher to student, to student to student, and so on, rather than from teacher to student and back to teacher. The teacher uses a “basketball-style” approach (as opposed to the traditional “ping-pong” approach), intervening only as needed to redirect or heighten a point.

## Promotes Learning/Informs Learning

Students are often more comfortable engaging in a discussion that is not entirely teacher led. This also engages more students than the usual handful who normally answer the majority of questions in a typical classroom.

This strategy promotes all students in active thinking about the topic because they are not sure who will be the next to speak.

Class discussions help make students’ thinking visible in order to help the teacher more easily identify the source of students’ confusion. Class discussions allow students to uncover their own thinking and challenge them to support or explain their reasoning, which also helps them deepen and broaden their thinking. Class discussions let students hear more of their classmates’ thinking without the teacher’s input.

## Implementation

After asking a discussion question or giving a prompt, use a randomizer strategy to elicit an initial response from a student. Once that student has responded, direct the attention and opportunity to respond to another student, rather than back to you. This continues to develop student reflection and promote additional discussion.

Sometimes, especially when this is a new strategy, you may need to facilitate the question being “thrown” to another student. For example, you might prompt another student to respond by asking, What do you think of Kathy’s answer?; What could we add to Tamika’s answer?; or Juan said this\_\_\_, and Omar said this\_\_\_; how could we bring those ideas together?

## Tips

It is helpful in some classes, particularly when introducing this technique or at the beginning of the school year, to actually toss a small softball, foam ball, ball of yarn, or bean bag from student to student, and only the student who holds the ball or bean bag may speak.

Additional tips include the following:

Arrange chairs so students face one another (typically, students have their backs to most of their classmates).

Stand off to the side to encourage students to look at one another.

To add another layer, impress upon students the importance of listening to one another by asking that they first paraphrase what their classmate has said before they respond.

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# Buffer Zone

## Description

- The teacher leaves a two or three-day window before a unit test (or other major test) for review and/or to uncover any student misconceptions. Instead of doing normal class work right up to the time of the test, the teacher reserves time for review and reteaching. This review can take various forms such as individual, small-group, or whole-class review.

## Promotes Learning/Informs Learning

The use of this strategy emphasizes assessment as a tool for learning rather than for grading. It provides time for students to get additional help where needed.

## Implementation

Offer choices as to how students can seek assistance (e.g., help from peer, self-guided strategies, small group with teacher), and then let them choose how to get the help they need.

## Tips

Pacing guides seldom leave room for reviewing and reteaching topics that students have demonstrated they are having trouble with. For this time to be used to greatest advantage, consider giving an informal pre-test.

For students who have already mastered the material, you will need to have challenge/enrichment activities for them to work on while you are providing feedback.

# Carousel Brainstorming

## Description

This strategy involves small-group collaboration, making individuals responsible for the learning of their small group as well as for the whole class. During the carousel, participants have the opportunity to offer additional knowledge, feedback, and comments and to ask questions.

## Promotes Learning/Informs Learning

Brainstorming encourages engagement and out-of-the box thinking. Because it is a nonevaluative activity, students should feel freer to offer ideas and tap into thinking about possibilities rather than provide a correct answer. Class discussions help make students' thinking visible in order to help the teacher more easily identify students' confusion and its sources. Class discussions allow students to uncover their own thinking and challenge them to support or explain their reasoning, which also helps them deepen and broaden their thinking. Class discussions let students hear the thinking of others to address possible confusions.

## Implementation

Create task groups of four to five. Give each group a different color marker that will travel with the group so its work can be identified on each chart. Next, direct group members to a starting point at one of the charts. Be sure a starting recorder is identified in each group. Each group brainstorms information related to the question/topic on the chart heading. After an appropriate interval, signal groups to rotate one station to the right.

Note that the recording task may also rotate at this point. As students move to a different chart, they should read earlier comments, adding new ideas or agreeing with and marking ideas already there. Students repeat the process at each station until groups are in front of their starting chart. Groups review the information on their original chart and prepare any questions that might occur to them.

The charts created can stay on the wall for you to go back to after class for further analysis to inform instruction the next day.

## Tips

Suggest that groups use a brainstorm-and-pass pattern (give an idea or pass) to ensure inclusion of all members.

An added benefit is the opportunity to get up and move around.

## Variations:

Have the group generate the chart headings based on their questions, interests, or concerns related to the topic. When they return to their original chart, have groups categorize the information recorded there.

Create a random rotation by adding one more chart than the number of groups. A group can then move to any open chart when it is ready.

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# Cinquain (Modified)

## Description

This five-line stanza can be used as a way to summarize a reading or learning.

## Promotes Learning/Informs Learning

This strategy lets the teacher know how well students understand the learning target. In addition to providing evidence, this is also helpful as a processing strategy to summarize learning or text.

## Implementation

After a lesson, assign students to create a cinquain to summarize their learning. Students can work in pairs or individually.

This stanza is composed of five lines that do not rhyme, with each line containing a differing number of words.

The first line = one word;

- second line = two words;
- third line = three words;
- fourth line = four words;
- and fifth line = one word.

While you may collect the cinquains, you may also wish to have students share them out loud. By hearing the thinking of others, students may address confusions, adjust, or solidify their thinking.

## Tips

Consider displaying an example on a piece of chart paper to get thinking started.

# Class Polls

## Description

The teacher surveys the class for students' attitudes toward (affect) or thinking about (cognition) a certain topic. The teacher quickly and efficiently asks students what their opinion or "gut feeling" is toward a specific topic/idea.

## Promotes Learning/Informs Learning

Students answer one or more well-designed questions that reveal information about their understandings, misunderstandings, and misconceptions.

This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class.

## Implementation

Ask or present a question, and wait an appropriate amount of time. Then students individually and simultaneously use hand-held devices (low\* or high tech) to indicate their response, or they may add their responses to a chart posted in the room (using sticky notes or colored dots prepared or selected ahead of time).

Then use the student responses as evidence of learning to adapt and organize the ensuing discussion/lesson.

\*low tech = ABCD Cards, individual response boards, etc.

## Tips

You may choose to orally ask the question or to present it to the class on a device.

In the beginning, consider having students respond anonymously, later moving to public responses. This is not data collection for grading purposes.

A wide variety of technology tools support this strategy such as Mentimeter and Poll Everywhere.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

# Clickers

## Description

The teacher asks or presents a multiple-choice question and waits an appropriate amount of time. Then students individually and simultaneously use hand-held devices to indicate their response.

## Promotes Learning/Informs Learning

Students answer one or more well-designed, multiple-choice questions that reveal information about their understandings, misunderstandings, and misconceptions.

This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class.

## Implementation

Ask or present a question, and wait an appropriate amount of time. Then students individually and simultaneously use hand-held devices to indicate their response.

Use the student responses as evidence of learning to adapt and organize the ensuing discussion/lesson.

## Tips

You may choose to orally ask the question or to present it to the class via a device.

Explore the options for data sharing that your tool offers. In the beginning, consider having students respond anonymously, later moving to public responses. This is not data collection for grading purposes.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

# Colleague-Generated Questions

## Description

Fellow teachers share and/or write questions to be used in classroom discussions or activities. Teachers will then have a collection of questions to use rather than having to create all of them on their own.

## Promotes Learning/Informs Learning

Writing questions with colleagues can benefit the teachers in developing their understanding of how students learn a particular topic, which aids in their planning and instruction. Students answer one or more well-designed questions that reveal information about their understandings, misunderstandings, and misconceptions.

## Implementation

Teachers may have tried out the questions in one classroom, or the questions may be brand new to all, with teachers reporting back on how well they worked. Teachers sometime build time to develop questions into a regular schedule (such as during team or grade-level meetings), or they may schedule in extra time, perhaps as part of a Professional Learning Community meeting or during common prep times.

With other teachers, find time to collaborate, think about, and generate questions regarding a topic, lesson, or concept that you can subsequently use in whole-class or small-group discussions, for lesson summaries/reviews, or as entrance/exit ticket questions. Formulating quality questions that make students think takes time and thought. It makes sense, then, to share quality questions and the responsibility for developing them among a group of colleagues. Once developed, you can use these questions year after year.

## Tips

Some schools use a shared space (e.g., curriculum map, shared drive, Google Docs™) to archive questions for future use.

# Counting Off

## Description

The teacher uses random number selection to call on students to respond to questions or add to a class discussion.

## Promotes Learning/Informs Learning

This strategy engages all students in active thinking about the topic because they are not sure who will be the next to speak. This strategy makes student's thinking visible in order to help the teacher more easily identify students' confusion and its sources. This strategy allows students to uncover their own thinking and challenges them to support or explain their reasoning, which also helps them deepen and broaden their thinking.

This strategy lets students hear the thinking of others to address possible confusions.

## Implementation

Be sure to pose the question before you begin counting! You want all students to formulate their answers before identifying who will be called on to share theirs.

Count the number of tables (example is eight). Ask a student to pick a number from one to eight. Then count each table, and at table eight, proceed to count each person from one to eight. (If there are fewer than eight people, count people more than once.) The number eight person is the one who responds. For the next question, ask the responder to pick another number from one to eight, and repeat the process.

## Tips

Some students who normally answer lots of questions and others who answer very few may initially be disconcerted with this technique. However, it can quickly become effective, reasonable, and nonthreatening if you implement it at the beginning of the school year so that it becomes a part of the culture of learning.

Students enjoy participating by picking numbers to see who gets to respond to the question.

Use the term "randomizer" to search for additional strategies for this purpose.

# Diagnostic Questions

## Description

The teacher asks a question that is focused on common misconceptions related to the topic. A diagnostic question provides the teacher with quick, “on-the-fly” information that he or she can use to immediately inform instruction.

## Promotes Learning/Informs Learning

For this type of question, the teacher is efficiently eliciting evidence of understanding of a concept. This strategy provides evidence to the teacher that reveals information about students’ understandings, misunderstandings, and misconceptions.

## Implementation

When creating questions, carefully choose distracters (plausible wrong answer choices) that will provide you with information about student thinking. The distracters should represent many of the typical misconceptions that students tend to have. The correct answer should also be “interpretable”—that is, that the student got it correct for the right reasons.

If using an open-ended diagnostic question, brainstorm all the possible responses you may get and what each response would indicate about misconceptions/confusions.

Once you create a question, select an all-student response system in order to take the appropriate instructional action for all students.

## Tips

If you ask a diagnostic question during a lesson (see the section on Hinge-Point Questions), consider asking a multiple-choice question to quickly analyze the results. In this case, be prepared with activities that would be appropriate for students who respond to each choice.

A question requiring students to construct an answer also takes time to analyze, so consider posing it at the end of the lesson using an all-student response system, like an exit ticket, so you can respond instructionally the next day.



# Discussion Questions

## Description

The teacher asks a question to purposefully generate a discussion. By speaking and listening to one another, students clarify and improve their thinking.

## Promotes Learning/Informs Learning

By engaging students in a discussion about several correct solutions to a problem or question, the teacher can raise the cognitive level of the activity.

This strategy makes students' thinking visible in order to help the teacher more easily identify students' confusion and its sources. This strategy allows students to uncover their own thinking and challenges them to support or explain their reasoning, which also helps them deepen and broaden their thinking. This strategy lets students hear the thinking of others to address possible confusions.

## Implementation

Discussion questions are designed to elicit student thinking, rather than just an answer. In some cases, a discussion question builds off of a diagnostic question to give you more clarity on the thinking behind answer choices.

These questions often contain more than one correct answer, or else they contain a hierarchy of correct answers—each one demonstrating a higher level of understanding than the next. They require considering all options, taking a stance, and defending that stance.

In order for the discussion that comes from these types of questions to be effective for all, employ a randomizer strategy (for example, Opportunity Sticks).

## Tips

A randomizer strategy more likely engages all students in active thinking about the topic because they are not sure who will be the next to speak.

# End-of-Lesson Student Review

## Description

The teacher selects a student(s) to review the lesson that the class just completed and to report to the class on the learning he or she achieved in the lesson.

## Promotes Learning/Informs Learning

This strategy allows students to uncover their own thinking and challenges them to support or explain their reasoning, which also helps them deepen and broaden their thinking. This strategy lets students hear the thinking of others in order to address possible confusions.

Sharing evidence of learning with peers allows students the freedom to test what they think they have learned.

## Implementation

Select a student(s) to review the lesson that the class just completed. When this is a well-established and valued routine for the class, students volunteer to do the review, and you strategically select the reviewer. If the reviewer leaves something out or misstates something, other students chime in, in a respectful way. A connection to the learning targets and success criteria shared at the start of lesson should be either implicit or explicit.

As an extension, ask students to explain how they know something was learned.

## Tips

Part of the culture of learning that you carefully implement from the beginning of the school year assures students that this type of participation does not constitute your “picking on” a particular student but that it is an effective and reasonable method to help all students’ thinking go deeper and/or wider.

# Entrance Tickets

## Description

The teacher asks a question at the beginning of a lesson, and students write responses and hand them in. The teacher then uses the responses to assess initial understanding of a topic to be discussed in that day's lesson or as a short summary of understanding of the previous day's lesson.

## Promotes Learning/Informs Learning

This strategy lets the teacher know how well students understand the learning target. The teacher designs the lesson knowing that he or she will be collecting evidence of student learning at the beginning of the lesson to improve both teaching and learning during the lesson.

## Implementation

These tickets can be 3" x 5" index cards, small strips of paper, or something similar to generate brief, concise responses. Place the question on the board or display it via a device so that students can begin to formulate an answer as soon as they enter the classroom.

Design the question so it is easily interpreted and analyzed. Allow time for you and/or the students to analyze the responses, and adjust the lesson accordingly (or make a conscious decision to leave the current plan as is).

## Tips

Responses may include names or be anonymous.

Ask students to summarize and share the results of the Entrance Tickets. Letting students review the data (evidence) and help think about next steps is one way to model this process for their self-reflection.

# Exit Tickets

## Description

The teacher asks a question at the end of a lesson, and students write responses and hand them in before they leave the classroom. The teacher uses the exit tickets to assess student learning or understanding of a key concept or idea from the lesson.

## Promotes Learning/Informs Learning

This strategy lets the teacher know how well students understand the learning target. The teacher uses this information about possible misconceptions or confusions to improve the teaching and learning in the next lesson so it better meets the learning needs of all students.

## Implementation

Formulate the question ahead of time knowing that you will collect the resulting information about student learning at the end of the lesson and use it to improve the teaching and learning in the subsequent lesson. Design the question so it is easily interpreted and analyzed. Allow yourself time to analyze the responses, and adjust the next day's lesson accordingly (or make a conscious decision to leave current plan as is).

These tickets can be 3" x 5" index cards, small strips of paper, or something similar to generate brief, concise responses. Ask the question orally, place it on the board, or use technology to display it. Every student turns in an answer on an exit ticket before he or she exits the classroom.

## Tips

Responses may include names or be anonymous.

At the start of the next lesson, ask students to summarize and share the results of the exit tickets. Providing students opportunities to review the data (evidence) and help think about next steps is one way to model this process for their self-reflection.

# First Word/Last Word

## Description

Students work in small groups to generate full thoughts that begin with each letter in a designated word. The word focuses the exploration of the content topic.

## Promotes Learning/Informs Learning

This strategy allows students to surface and/or organize concepts, principles, and understandings about a topic area. It allows students to uncover their own thinking and challenges them to support or explain their reasoning, which also helps them deepen and broaden their thinking. This strategy lets students hear the thinking of others in order to address possible confusions.

Sharing evidence of learning with peers allows students the freedom to test what they think they have learned.

## Implementation

Learners work in small groups to generate full thoughts that begin with each letter in a designated word. The word focuses the exploration of the topic.

Each group determines a recorder, and the recorders create a chart or paper to capture ideas. After a few minutes, refocus the groups, and ask for them to share a few ideas.

## Tips

To save time, assign different letters within the word to different groups. Rather than placing sheets at the table, have groups publicly record on chart paper.

Have the group determine the anchor word.

# Fist to Five

## Description

Students signal their level of understanding of a topic or lesson to the teacher by using their fingers and fist.

## Promotes Learning/Informs Learning

This strategy lets teachers check understanding at any point in a lesson. It is particularly useful when the teacher teaches new material, introduces a new procedure, or gives directions. It allows the teacher to make adjustments on the fly based on the responses of students.

## Implementation

Ask your students to demonstrate their current understanding to gain a quick sense of how students are progressing in the lesson, and make appropriate adjustments to the instruction based on that information.

Students signal their level of understanding using their fingers and fist.

For example:

fist = don't understand at all;

1 = I need help;

2 = could use more practice;

3 = understand pretty well;

4 = completely understand;

5 = can help someone else.

## Tips

For this strategy to work well, students need to have a thorough grasp of the learning targets and success criteria.

You may use this strategy to assess content or emotions related to the learning.

Some teachers post a chart in the room to remind students how many fingers to hold up.

You might give students the opportunity to test the accuracy of their self assessment by, for example, asking a number 5 to help a number 1 or 2.

# Five Card Flickr™

<https://www.flickr.com/>

## Description

Designed to foster visual thinking, this digital tool uses the tag feature from photos in Flickr™. Students summarize their learning by choosing five photos to create the “story” of what they have learned.

## Promotes Learning/Informs Learning

The teacher is efficiently eliciting evidence of understanding of a concept in a way that is engaging for students.

This strategy provides evidence to the teacher that reveals information about students’ understandings, misunderstandings, and misconceptions. When students have to represent their thinking in a visual way, it often requires them to use higher-order thinking skills (e.g., synthesis, compare/contrast) to find accurate representations.

## Implementation

Determine the learning to be summarized, and provide students access to the tool’s website. Using the Play a Round tab on the Flickr™ site, students choose photos to summarize what they have learned. After they select five images, students fill in a title, their name, and an explanation of the “story.” Finally, students save the stories and share the URL with you.

## Tips

If you are in a 1:1 setting, one way to have all students view the summaries of learning may be to have a gallery walk within the classroom. Have each student open his or her Five Card Flickr™, and then students rotate and review.

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# ForAllRubrics

<https://www.forallrubrics.com/>

## Description

This digital tool is free and allows teachers to import, create, and score rubrics on an iPad®, tablet, or smartphone.

## Promotes Learning/Informs Learning

ForAllRubrics allows students to access teacher-created rubrics at all stages of the learning process—from clarifying expectations to providing criteria for revision. For teachers, it is a digital tool for providing valuable feedback and collecting evidence of student strengths and needs.

## Implementation

After creating an account, input student names into either the website or a CSV file, and from there, you can either import prior rubrics you created or customize one offered at the site.

Next, you can either email or print individual student rubrics.

## Tips

You may collect data offline, automatically compute scores, and print or save the rubrics as a PDF or spreadsheet. You can also link the data with other collection sources like PowerSchool™.

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# Gallery Walk

## Description

Student groups collaborate to display their thinking on a topic using a poster/chart and then hang it on the wall for other students to review.

## Promotes Learning/Informs Learning

This strategy makes student's thinking visible in order to help the teacher more easily identify the source of students' confusion. It allows students to uncover their own thinking and challenges them to support or explain their reasoning, which also helps them deepen and broaden their thinking. Letting students hear the thinking of others helps address possible confusions.

This strategy involves small-group collaboration, making individuals responsible for the learning of their small group as well as of the whole class. It promotes higher-order thinking and communication skills.

Sharing evidence of learning with a peer allows students the freedom to test what they think they have learned.

## Implementation

Divide the class into small groups. Assign an aspect of the topic to each group. Each group charts its thinking. When all are done, small groups rotate around the room reviewing and discussing each chart and sometimes making comments. When the rotation is complete, you may facilitate a debriefing in one of several ways:

- with a prompt(s), such as What was your biggest aha?, How was your learning enhanced?, or What questions do you have?
- with a summary from each group synthesizing its work and connecting it to the work of other groups

This strategy is similar to a class discussion in purpose, but is done in written form and therefore encourages more students to engage and supports thinking with peers.

## Tips

Post chart paper strategically around the room so that there is enough space separating groups for them to hear their own conversations. Offer each group a differently colored marker to easily associate comments with a specific group. You may want to suggest a way for groups to indicate when they are in agreement with a point a previous group has made.

# Gingerbread People

## Description

This strategy allows students to use an analogy to respond to questions and share personal reactions to the current topic.

## Promotes Learning/Informs Learning

Connecting familiar information with a new topic increases the retention and retrieval of information. Using the strategy as a pre-assessment, teachers can identify learning needs and make explicit connections for students prior to beginning instruction on a new topic.

## Implementation

Hand out paper gingerbread people. Place questions on the appropriate body part on each person (or on a table template). Examples include What gives you indigestion? (stomach), What drives you crazy? (head), What do you love? (heart), What do you want to bring? (leg), What do you want to let go of? (hand), and What do you want to take away? (leg). Each student answers one or more of the questions. Each gingerbread person can be written on and posted.

## Tips

Each student can have a gingerbread person, or each table or the entire room can share one. When you use this strategy as a pre-assessment activity, you may revisit these questions at the end of the lesson or topic to see how post-lesson responses might differ.

Some topics may have several analogies that help explain them best. Adapt the questions or the shape needed to suit the analogy.

# Google™ Forms

[https://workspace.google.com/intl/en\\_us/products/forms/](https://workspace.google.com/intl/en_us/products/forms/)

## Description

Google Forms is a Google Drive™ app that allows you to create polls and surveys to use in real time with smartphones, tablets, and laptops.

## Promotes Learning/Informs Learning

Students answer one or more well-designed questions that reveal information about their understandings, misunderstandings, and misconceptions.

This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class.

## Implementation

Ask or present a question, and wait an appropriate amount of time. Then students individually and simultaneously use a device (e.g., computer, tablet) to indicate their responses using the Google Form.

Then use the student responses as evidence of learning to adapt and organize the ensuing discussion/lesson.

## Tips

In the beginning you may find it useful to have students respond after discussing with a peer or small group, later moving to individual public responses. This is not data collection for grading purposes.

Keep in mind that multiple question types are available and that you can view results in real time and analyze them later in a spreadsheet.

There is a drop-down box listing the question types available, including short answer, paragraph, multiple choice, drop-down, linear scale, and multiple-choice grid.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- the teacher can quickly assess the answers in less than 30 seconds

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# GoSoapBox

<https://www.gosoapbox.com/>

## Description

Free for fewer than 30 students, this all-student response system works with the bring your own device (BYOD) model. The teacher asks or presents a multiple-choice question and waits an appropriate amount of time. Then students individually and simultaneously use devices to log their response for display.

## Promotes Learning/Informs Learning

Students answer one or more well-designed, multiple-choice questions that reveal information about their understandings, misunderstandings, and misconceptions.

This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand, while engaging all students in the class.

## Implementation

Sign up for an account with GoSoapBox. Students do not need an account because you will provide a code for the question(s). Students use their device to respond to the poll or to post questions. Poll responses are displayed in real time.

Students may also use GoSoapBox as a method to traffic light their learning using their devices.

## Tips

You can also create quizzes and polls using this tool. At the end of the quiz, students receive feedback regarding correct and incorrect responses. If the response is incorrect, the tool tells them the correct answer.

Students can submit questions and vote on them using this tool. Responses can be shared anonymously.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Group Tantalizers

## Description

This randomizer strategy uses ABCD Cards and Opportunity Sticks to engage small groups of students to answer questions in class.

## Promotes Learning/Informs Learning

This approach is a way of ensuring that all members of a group, not just the note taker or spokesperson, are accountable since they know the teacher could randomly call on any of them to answer.

## Implementation

For this randomizer strategy, group students for an activity or lesson, place group letters (e.g., A, B, C) on craft sticks or tongue depressors, and give each small group a short form that lists several (five to eight) simple survey questions to complete.

The students in small groups respond to every survey question by placing a student's name next to each question (e.g., Who lives the farthest from school? or Whose favorite subject is science?). The tantalizer questions are short and easy to respond to. By the time the students complete the tantalizers, each student's name should be listed at least once on the form. This step is not related to the content of the lesson but serves the method that you use to set up the ability to ask content questions randomly. It also allows students to get to know each other and be more comfortable as a group.

Next, when you ask a content question related to the activity or lesson, wait an appropriate amount of time, pull a group stick at random, and ask the student in that group whose name is next to one of the survey questions to answer.

Example: Pull Juan's stick. Ask Juan's group, Juan, who in your group lives the farthest away? That person is then the person who answers the content question.

As a result, more students are engaged, not just the typical handful who tend to answer the majority of questions.

## Tips

At the beginning of the school year, you can use this strategy to help students learn more about one another and foster better group dynamics. It may also be used throughout the year.

Some students who normally answer lots of questions and others who answer very few may initially be disconcerted with this technique. However, it can quickly become effective, reasonable, and nonthreatening if you implement it at the beginning of the school year so that it becomes a part of the culture of learning. Most students come to enjoy and respect the randomness embedded in this technique, because it speaks to their sense of fairness.

Use the term "randomizer" to search for additional strategies for this purpose.

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# Higher-Order Thinking Questions

## Description

Higher-order questions will involve more analysis, comparing and contrasting, and evaluation. Higher-order questions can come in many formats, including open or closed-ended questions, constructed response, or well-constructed, multiple-choice questions. The teacher poses questions that get the students to think more deeply or on a higher level about a topic or idea—that is, moving beyond recall or simply reproducing the words or thoughts of others.

## Promotes Learning/Informs Learning

Teachers ask higher-order thinking questions to help students develop their thinking skills and use them as tools to process their thoughts.

Students answer one or more well-designed questions that reveal information about their understandings, misunderstandings, and misconceptions.

Higher-order thinking skills help prepare students to function in a workplace where the emphasis is on using information rather than on just recalling facts.

## Implementation

Because of the thinking time needed to answer higher-order questions, and the likely complexity of the answers and ensuing discussions, asking fewer and more thought-provoking questions in a typical lesson is helpful.

## Tips

Planning questions in advance is one way to generate questions that will take students' thinking to the next level. Align questions with the learning targets and the success criteria

# Hinge-Point Questions

## Description

The teacher asks a diagnostic question at the critical juncture of a lesson to help him or her determine which of two or more instructional pathways to take with the remainder of the lesson.

## Promotes Learning/Informs Learning

This strategy provides evidence to the teacher that reveals information about students' understandings, misunderstandings, and misconceptions. For this type of question, the teacher is eliciting evidence of understanding of a concept at a point when he or she should adjust instruction during the lesson based on students' responses.

## Implementation

Select or write a well-designed hinge-point question, and thoroughly map out paths the lesson may take, depending on the student responses. A hinge-point question is based on the one concept in a lesson that is critical for students to understand before you move on in that lesson. To ensure understanding, word the question so that all students with the correct answer "got it" for the right reason.

## Tips

Collect and reuse these questions each year. The experiences you've had with other students will enrich your planning about possible pathways.

Some parameters to consider include the following:

Use a hinge-point question within a single topic that you normally teach within a single lesson.

Plan the lesson to go one of two or more ways depending on students' understanding, as revealed in their answers to the question.

Ask the hinge-point question about midway through the lesson.

Use an all-student response system

Use any format for a hinge-point question as long as:

- it takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

The correct answer can be correct only for the right reasons, rather than a random guess or an answer tied to partial understanding or misunderstanding.

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# Hot-Seat Questioning

## Description

The teacher asks a series of questions of one student in order to probe more deeply into a topic or idea.

## Promotes Learning/Informs Learning

Research suggests that the follow-up question or questions are often keys to getting at deeper student understanding, or the lack thereof.

## Implementation

Use hot-seat questioning with one student to further probe a topic or idea for the benefit of the class. To ensure that all students are engaged in the process, you might ask other students to summarize or react to their classmate's response, or to assist them with or elaborate on their response.

## Tips

Part of the culture of learning that you carefully implement from the beginning of the school year assures students that this type of questioning does not constitute your "picking on" a particular student; rather it is an effective and reasonable method to help all students' thinking go deeper and/or wider.

Idea Brainstorm and Carousel Idea\_Brainstorm.jpg

## Description

Students work at stations in small groups brainstorming specific ideas or responses for a few minutes. Then, the groups move to the next station to add new ideas to those already devised by the last group at that station.

## Promotes Learning/Informs Learning

As a carousel strategy, this one focuses on generating thinking. It allows students to concur with or build on the ideas of others. Capturing learning publicly at workstations provides both the teacher and students insights into student thinking about the topic under discussion.

## Implementation

Students work at stations in groups of three to five; each group brainstorms specific ideas for three to five minutes. Then, the groups move to the next station to add new ideas to those that the last group already devised. The carousel continues until every group has visited each station. Groups then return to their original station to review the entire list of ideas they find there.



## Tips

As an adaptation, each group can leave one student behind to serve as a docent or reporter as it moves on to the next station to explain and clarify the group's ideas.

This strategy is most effective when you pose questions eliciting several ideas or kinds of ideas at the same time. Groups can simply reflect on the range of ideas generated, or you can ask them to do something with the ideas.

# Individual Response Boards

## Description

The teacher asks or presents a question and waits an appropriate amount of time while students write responses on whiteboards (or other response boards), and then the students individually and simultaneously hold up their boards for the teacher to see.

## Promotes Learning/Informs Learning

Students answer one or more well-designed questions that reveal information about their understandings, misunderstandings, and misconceptions. This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class.

## Implementation

You may choose to orally ask the questions or to present them digitally or written on the board. Students answer one or more well-designed questions that reveal information about their understandings and misunderstandings, which you then use to adapt the lesson as needed. Students wait for a cue from you to display their responses simultaneously. You and the students discuss the data and potential next steps.

## Tips

Take advantage of the possibility that a whiteboard provides to graph/sketch a response and to probe deeper with a question. This distinguishes it from some of the other all-student response systems. You can simulate a response board with a white sheet of card stock inserted into a clear, plastic transparency sleeve or a plastic plate. You will need to offer a dry-erase marker and a wiper tissue/cloth. For other purposes such as graphing or geography, you can insert a sheet of graph paper or a map of the area into the plastic sleeve.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

# Jot!

<https://apps.apple.com/us/app/jot-whiteboard-free/id371937922>

## Description

Use this digital tool like individual whiteboards to express ideas and elicit evidence of student understanding. The teacher asks or presents a multiple-choice question and waits an appropriate amount of time. Then students individually and simultaneously respond.

## Promotes Learning/Informs Learning

Students answer one or more well-designed, multiple-choice questions that reveal information about their understandings, misunderstandings, and misconceptions.

This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class.

## Implementation

You may choose to orally ask the question or to present it to the class via computer, document camera, or other method. After an appropriate wait time, ask students to display their responses, often with a cue. You can summarize the data or have students summarize. Then use the student responses as evidence of learning to adapt and organize the ensuing discussion/lesson.

## Tips

This app is available in a free version and a version with a minimal charge. It requires iOS 5.0 or later.

In the beginning while you develop the classroom culture for this type of strategy, a quick pair/share can make students feel more comfortable answering publicly.

This is not data collection for grading purposes.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Kahoot!™

<https://kahoot.com/>

## Description

This free digital tool provides a game-based, all-student response system allowing teachers to create quizzes using any content.

## Promotes Learning/Informs Learning

Students answer one or more well-designed, multiple-choice questions that reveal information about their understandings, misunderstandings, and misconceptions.

This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class.

## Implementation

Create an account, and enter your multiple-choice questions and answers in advance. Students use their smart devices to answer the questions, which are displayed on a shared screen in the classroom. Both correct responses and speed contribute to the points awarded to participants.

As motivation, the tool displays a leaderboard with the top five players after each question.

Use the student responses as evidence of learning to adapt and organize the ensuing discussion/lesson.

## Tips

You can use this tool during all facets of learning to gather pre-, mid-, and post-learning data from students. Because quizzes can be repeated, students are able to self assess and prepare based on their personal responses. Kahoot! is an ideal tool for review as well.

Asking a few practice questions when introducing this tool helps students get used to it.

Create quizzes in advance. You can add videos, images, and diagrams to questions.

Student login is anonymous based on a chosen nickname, or you can assign a login that allows only the individual student and you to know who the player is.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Keep the Question Going

## Description

The teacher poses a question to one student and then engages additional students to offer more information or an opinion regarding the other students' responses.

## Promotes Learning/Informs Learning

Probing students' thinking with additional questions helps keep all students engaged because they must consider whether they agree or disagree and be able to explain why.

## Implementation

When first using this strategy, explain to students that they will provide more information or opinions on what their peers say. Ask one student a question, and then ask another student if that answer seems reasonable or correct and why. Then, ask a third student to paraphrase the responses and determine whether there truly is agreement or not.

To deepen their thinking, prompt students with something like, Could you say a bit more about that? or What specifically do you agree or disagree with, and what is your reasoning?

## Tips

Foster a culture of learning in which all members of the classroom learning team support one another and value all information shared.

Establishing standard prompts to use for probing or passing the question to another student will help routinize the use of this strategy.

# Know/Think I Know/Want to Know Chart?

## Description

This strategy is reminiscent of a Know/Want to Know/Learned chart. The major difference is that the focus with this strategy is on getting students activated for learning. A subtler, but noteworthy, difference is that the teacher asks students to consider whether they truly know something or think they know something. Teasing out uncertainty might result in additional valuable feedback from students. The teacher begins a session by focusing attention and energy on a specific content or topic—a fact, a data point, or an idea—and extends the exploration to include inferences, interpretations, multiple perspectives, and implications or predictions based on the point of focus.

## Promotes Learning/Informs Learning

This strategy scaffolds a sequence of thinking processes, increasing the depth of exploration of individual points. Beginning with a discrete piece of information, group members elaborate, extend, and explore, increasing understanding as they do so. This strategy provides a means to extend the exploration of a specific topic or content area.

## Implementation

Set this strategy up as a chart with columns for each category: Know, Think I Know, and Want to Know. Explain the function of each column to students. Distinguish the Know from the Think I Know so students will include ideas and information even if they are a bit tentative or unsure. Individuals complete their own recording sheet first.

After a few minutes, have talk partners or small groups share their thinking. Students should begin by looking at what is collectively in their Know and Think I Know columns. Through the process of comparing, students will probably be able to more accurately categorize some of their thinking. Next, groups can create a collective list of Want to Know items, prioritizing and preparing to share with the whole class. After a few more minutes, ask small groups to share their Want to Know lists, and create a master list for the whole class.

## Tips

Consider using this as a pre-assessment or at the beginning of a lesson.

Model the use of columns for the full group.

Have groups use public recording on chart paper to focus their work.

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# Lino

<http://en.linoit.com/>

## Description

This free digital tool serves as a virtual bulletin board allowing students and teachers to communicate with each other. Students can use the virtual sticky notes for asking questions or commenting about their learning.

## Promotes Learning/Informs Learning

This strategy allows students to uncover their own thinking and challenges them to support or explain their reasoning, which also helps them deepen and broaden their thinking. This strategy lets students hear the thinking of others in order to address possible confusions.

Sharing evidence of learning with peers allows students the freedom to test what they think they have learned.

## Implementation

Sign up to use the service. Instructions for each type of device walk the user through the process of creating and manipulating sticky notes and canvases.

To check in on your students' learning, you can use this strategy as Entrance/Exit Tickets or as a question/answer board. You can also use it as a calendar and set it up to send reminders.

## Tips

The strategy works on a PC, iPad®/iPhone®, or Android™ device.

It will take a few trials to use this effectively for multiple purposes.

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# Mentimeter

<https://www.mentimeter.com/>

## Description

This digital tool allows the teacher to quickly collect data from students. The teacher presents a multiple-choice question and waits an appropriate amount of time. Then students individually and simultaneously indicate their response.

## Promotes Learning/Informs Learning

Students answer one or more well-designed, multiple-choice questions that reveal information about their understandings, misunderstandings, and misconceptions.

This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class.

## Implementation

Create a question or questions in Mentimeter, and post a code (URL) for students to access the questions. Students use smart devices or computers to respond to questions. Results are displayed in real time or can be hidden until everyone has finished.

Then use the student responses as evidence of learning to adapt and organize the ensuing discussion/lesson.

## Tips

Having students discuss the data and assist in planning next steps teaches them to take more ownership of their learning.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Misconception Questions

## Description

The teacher asks a question designed explicitly to elicit specific student misconceptions that are commonly associated with a particular topic, so that he or she can identify and remediate those misconceptions.

## Promotes Learning/Informs Learning

This type of question is a diagnostic question, purposefully designed to quickly uncover specific student misconceptions or partial understandings, as opposed to discussion questions that take up more class time and serve to deepen and/or broaden student thinking.

## Implementation

Plan and formulate questions related to specific misconceptions tied to the content you are teaching. Pose questions to students, and then collect and analyze the data.

These questions are often, but not always, in a multiple-choice format. This format allows the students to quickly respond, usually with ABCD Cards or individual response boards, and lets you efficiently analyze the responses to see what students do and do not understand. Then address the misconceptions that the questions have revealed by using this information to adapt your teaching and learning in real time.

## Tips

If you have taught specific content before with previous classes, reference your notes about frequent misconceptions.

## **MIP (Most Important Point)**

### **Description**

This strategy lets students share the significant ideas from the learning and provides feedback to the teacher about what the group members found important.

### **Promotes Learning/Informs Learning**

This time-efficient strategy for reinforcing the learning for individuals and the class provides an opportunity for each student to surface and express significant ideas related to the topic and to hear the ideas generated by others.

It also provides feedback to the teacher about what the class retains and/or values.

### **Implementation**

Ask students to individually produce a key point or significant idea they derived from the lesson: what they consider to be the MIP. After a few minutes, have students share their MIP with a partner or with their table group.

### **Tips**

Use this information to adapt what happens during the lesson or in planning for the next lesson.

# Naiku

<https://www.naiku.net/>

## Description

Teachers can quickly create quizzes that students can answer using their personal device.

## Promotes Learning/Informs Learning

As a check for understanding, this tool provides teachers a quick and efficient way to know where students are in their learning and to begin to make a plan for necessary support for each learner.

## Implementation

Create an account, and set up your class.

You are able to create, upload, share, or link assessments. You can also create custom curriculum maps that include specific standards, learning targets, assessments, and other features.

Moreover, you can assign different assessments to different students and use the tool to observe student progress as they take assessments.

This tool also has a quick question feature that gives you a chance to ask questions in the moment and that uses the student login as a clicker device.

You can use this tool for checking for understanding before and after a lesson. Students have the ability to give feedback/insight on why they chose certain answers and also rate their confidence on the question.

## Tips

This tool offers a 30-day free trial. The upgraded tool lets you set up collaboration teams and additional reporting tools.

Naiku offers an abundance of tutorials and samples to guide with the process.

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# Name Cards

## Description

The teacher places students' names on index cards. He or she asks a question, waits an appropriate amount of time, and then pulls a name or names at random to answer.

## Promotes Learning/Informs Learning

By posing the question first and using a randomizer to identify a student to respond, the teacher engages more students, not just the typical handful who tend to answer the majority of questions.

Class discussions help make students' thinking visible in order to help the teacher more easily identify the source of students' confusion. They allow students to uncover their own thinking and challenge them to support or explain their reasoning, which also helps them deepen and broaden their thinking. Additionally, class discussions let students hear the thinking of others to address possible confusions.

## Implementation

First ask a question, and then randomly pull a name card for a student to answer the question. You can pull additional cards to get more students to respond to the same question or to probe deeper into a student response.

Remember to put the card back in the stack so that the student doesn't feel as if he or she is off the hook for the rest of the lesson. A variety of digital tools are available to support this strategy.

## Tips

Some students who normally answer lots of questions and others who answer very few may initially be disconcerted with this technique. However, it can quickly become effective, reasonable, and nonthreatening if you implement it at the beginning of the school year so that it becomes a part of the classroom culture of learning. Most students come to enjoy and respect the randomness embedded in this strategy, because it speaks to their sense of fairness.

This works well with 3" x 5" index cards or something similar. Some teachers also use the name cards to keep notes about students.

Use the term "randomizer" to search for additional strategies for this purpose.

# NearpodSM

<https://nearpod.com/>

## Description

This digital tool allows teachers to create interactive multimedia presentations that incorporate polls, quizzes, and open-ended questions.

## Promotes Learning/Informs Learning

Students answer one or more well-designed questions that reveal information about their understandings, misunderstandings, and misconceptions.

The use of an all-student response system allows the teacher to gather more evidence of learning from more students more easily and efficiently.

## Implementation

Create an account, and load a question(s). Then share the question with students. Students respond using smart devices.

Then use the student responses as evidence of learning to adapt and organize the ensuing discussion/lesson.

## Tips

Free accounts are available for teachers with a class size of up to 30.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# No Hands Up Except to Ask a Question

## Description

The teacher calls on students to answer questions. He or she may call on any student or students. For their part, the students raise their hands only if they have a question to ask.

## Promotes Learning/Informs Learning

One benefit of this strategy is that when students raise their hands only to ask questions, these tend to be more on topic and well thought out.

This strategy also engages more students than the usual handful who normally answer the majority of questions in a typical classroom.

This strategy promotes all students in active thinking about the topic because they are not sure who will be the next to speak.

Class discussions help make students' thinking visible in order to help the teacher more easily identify the source of students' confusion. They allow students to uncover their own thinking and challenge them to support or explain their reasoning, which also helps them deepen and broaden their thinking. Additionally, class discussions let students hear the thinking of others to address possible confusions.

## Implementation

Students raise their hands only to ask question rather than to respond to them. Ask a question, and then call on students using a randomizer technique.

Use the no-hands-up rule, calling on a wide range of students through random selection (see Opportunity Sticks/Name Cards) or some other strategic technique. As a result, more students are engaged, not just the typical handful who tend to answer the majority of questions.

This strategy may result in more questions (and engagement) from students—maybe initially to protect themselves from being asked a question. But eventually the strategy encourages students to be more critical thinkers.

## Tips

Some students who normally answer lots of questions and others who answer very few may initially be disconcerted with this technique. However, it can quickly become effective, reasonable, and nonthreatening if you implement it at the beginning of the school year so that it becomes a part of the culture of learning.

Take time with students to explain the strategy, how it works, and why the class is using it.

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# Opportunity Sticks

## Description

The teacher places students' names on craft sticks/tongue depressors. He or she asks a question, waits an appropriate amount of time, and then pulls a name or names at random to respond to a question/prompt or contribute to class discussion.

## Promotes Learning/Informs Learning

By posing the question first and using a randomizer to identify a student to respond, the teacher engages more students, not just the typical handful who tend to answer the majority of questions.

Class discussions help make students' thinking visible in order to help the teacher more easily identify the source of students' confusion. They allow students to uncover their own thinking and challenge them to support or explain their reasoning, which also helps them deepen and broaden their thinking. Additionally, class discussions let students hear the thinking of others to address possible confusions.

## Implementation

First ask a question, and then randomly pull a stick for a student to answer the question. You can pull additional sticks to get more students to respond to the same question or to probe deeper into a student response.

Remember to put the stick back in the container so that the student doesn't feel as if he or she is off the hook for the rest of the lesson. A variety of digital tools are available to support this strategy.

## Tips

Some students who normally answer lots of questions and others who answer very few may initially be disconcerted with this technique. However, it can quickly become effective, reasonable, and nonthreatening if you implement it from the beginning of the school year so that it becomes a part of the classroom culture of learning. Most students come to enjoy and respect the randomness embedded in this technique, because it speaks to their sense of fairness.

Use the term "randomizer" to search for additional strategies for this purpose.

# PadletSM

<https://padlet.com/>

## Description

This digital tool provides a blank digital wall for sharing evidence of learning, questions, and collaboration.

## Promotes Learning/Informs Learning

Students are often more comfortable engaging in a discussion that is not entirely teacher led. This type of discussion also engages more students than the usual handful who normally answer the majority of questions in a typical classroom.

Class discussions help make students' thinking visible in order to help the teacher more easily identify the source of students' confusion. They allow students to uncover their own thinking and challenge them to support or explain their reasoning, which also helps them deepen and broaden their thinking. Additionally, class discussions let students hear the thinking of others to address possible confusions.

## Implementation

Create an account, and set up a Padlet for use by your students. Give students the URL to the board. Students can post questions, an entrance or exit ticket, or other evidence of learning and respond to questions via smart devices at any time.

This tool supports synchronous or asynchronous work. Use it to brainstorm, organize ideas, or gather initial thinking or responses to a question.

## Tips

This tool supports multimedia; you can paste photos, links, or documents on these walls as well as create notes.

A more secure version for use in schools is available for a fee.

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# Pear Deck™

<https://www.peardeck.com/>

## Description

Pear Deck provides opportunities for teachers to prepare questions for revealing what students have learned and for moving the learning forward through a presentation format. Teachers plan and build interactive presentations in which each student can participate from his or her own smart device.

## Promotes Learning/Informs Learning

Pear Deck lets students participate in interactive assessments that promote understanding and reflection. It provides the teacher with in-the-moment student responses that can guide further instruction and, if the teacher chooses, provides students with information about what their classmates are thinking.

## Implementation

Create an account. From this account, you can create interactive presentations and assessments.

When using a presentation, give students an access code. Students access the presentation, which might include questions or just be a series of questions posed before, during, or after instruction. Students respond to the questions, and results are displayed in real time.

Question formats include:

- draggable questions (i.e., agree/disagree)
- drawing questions (i.e., creating a graph or picture)
- free-response questions
- multiple-choice questions

## Tips

Google Drive™ is the recommended platform to create the account.

The tool offers limited free usage (some response features are not available). It offers unique question types.

This might be a good tool for asking Hinge-Point Questions.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Pick Me!

<http://www.classeapps.com/>

## Description

Pick Me! is an easy-to-use app for the iPod®, iPad®, and iPhone® that facilitates random student selection.

## Promotes Learning/Informs Learning

This digital tool promotes learning by increasing engagement through its randomizing capabilities and informs learning by allowing the teacher to access and review the individual student performance.

## Implementation

Download the app, create an account, and upload a class list. Then ask a question, and, using the app, allow the roller dial to randomly select a student to respond. In the app, you can record a thumbs up or down for correct and incorrect responses. Because the data are saved and may be exported to your email, not only may you respond immediately in class, but you may also consider future adjustments on further review of the data.

## Tips

This app costs \$1.99.

You can organize this app by class for convenience. Input student names via a CSV file stored in DropBox™.

Keep in mind that there is a Remove if Correct setting that you can turn on or off. To ensure that all students remain engaged, it's best for students to expect that you may still call on them in the future.

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# Plickers™

<https://get.plickers.com/>

## Description

As an all-student response system, this free digital tool allows teachers to collect real-time evidence of learning without the need for student devices. Students are given a “bar code” that is unique to them, and they display their code in response to questions posed.

## Promotes Learning/Informs Learning

Using an all-student response system allows teachers to quickly and efficiently gather more evidence of learning from more students. The fact that each student’s bar code looks different ensures that he or she is not influenced by classmates’ answers.

## Implementation

Only one device is required. Download the app, and sign up to use it. Then print a standard Plickers card set for students to use to respond to questions posed in class. Add your class to the app (up to 63 students). Then create and add your questions.

In response to a multiple-choice or true/false question, students hold up their Plickers card rotated in a way that reflects their answer choice. Use the camera on your smart device to scan student responses and receive instant feedback. Results may be displayed, with different levels of anonymity, to students using the website. The app also generates a scoresheet for progress monitoring purposes.

## Tips

Teachers may choose to laminate the cards or have students paste or tape them to the outside of their work folders.

Card sets range in size from 40 to 63 cards and come in two sizes of cards and two font sizes.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Poll Everywhere

<https://www.polleverywhere.com/>

## Description

This digital tool provides a quick and easy way to create online polls, quizzes, and questions. Students use smart devices to provide their answers, and teachers can cull information for reports.

## Promotes Learning/Informs Learning

Students answer one or more well-designed questions that reveal information about their understandings, misunderstandings, and misconceptions.

Polls serve as an all-student response system that facilitates teachers gathering more evidence of learning from more students easily and efficiently. Using these data to adjust and monitor instruction helps the teacher and the students plan what's next.

## Implementation

Use this tool to create questions in advance or on the fly. Create an account, and enter your question(s). Supply students with the URL they can use to answer the question(s) using a computer or mobile device. Results are displayed in real time on a screen.

Use this tool to pre-assess, solicit opinions, and engage discussion.

## Tips

Free accounts are limited to 40 respondents.

Investigate different question types and options for sharing results in different ways (e.g., real time, after the poll is closed).

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Pose-Pause-Pounce-Bounce

## Description

This randomizer strategy is a combination of calling on students randomly and having students respond to or build on the previous student's response.

## Promotes Learning/Informs Learning

Students are often more comfortable engaging in a discussion that is not entirely teacher led. This strategy engages more students than the usual handful who normally answer the majority of questions in a typical classroom.

This strategy promotes all students in active thinking about the topic because they are not sure who will be the next to speak, and the pause provides them with more processing time.

Class discussions help make students' thinking visible in order to help the teacher more easily identify the source of students' confusion. They allow students to uncover their own thinking and challenge them to support or explain their reasoning, which also helps them deepen and broaden their thinking. Additionally, class discussions let students hear the thinking of others to address possible confusions.

## Implementation

Pose the question, pause for at least five seconds, "pounce" on one student at random, and then "bounce" that student's answer to another student (picked randomly), asking What did you think of that answer and why?

Making student choices random means paying attention to who gets called on and how often.

## Tips

You may want to consider combining other randomizer strategies with this one for choosing who is "pounced" on and who is "bounced" to.

You may also choose to vary the question you pose after bouncing a student's answer. Some alternatives include What was your classmate's response, and what is your reaction to it? or What would you add, subtract, or change?

# Postcards from the Edge

## Description

Postcards from the Edge is a unique way for students to share background knowledge related to current content.

## Promotes Learning/Informs Learning

This strategy encourages students to make personal connections by creating analogies based on their background knowledge of and experiences with the content. Making connections to their background by making analogies can be useful in connecting to new learning.

## Implementation

You might typically use this strategy as a pre-assessment. Pose a question related to the topic, and then distribute fun, random postcards. Each student picks one that relates to his or her experience in or knowledge about the topic. Students then share their connections.

You can also use this strategy as a summarizing tool.

## Tips

Collect a variety of postcards (e.g., photographs of individuals, artwork, scenery, quotes), or cut out pictures from magazines and use them in the same way.

# Question Formulation Technique (QFT)

## Description

The teacher shares a statement that prompts students to generate a list of questions. Students and teachers then work together to decide where the questions fit into the lesson.

## Promotes Learning/Informs Learning

This strategy prompts students to think about what they know and want to know about a topic. It helps deepen and expand student thinking, and the resulting questions serve as a resource to guide learning.

## Implementation

Step 1: Design a question focus (QFocus) in the form of a statement or as a visual. The QFocus serves as the focus for student questions so students can, on their own, identify and explore a wide range of themes and ideas.

Step 2: Students produce questions without assistance from you. The four rules are to ask as many questions as they can; to not stop to discuss, judge, or answer any of the questions; to write down every question exactly as it was stated; and to change any statements into questions.

Step 3: Students improve their questions by analyzing the differences between open and closed-ended questions and by practicing changing one type to the other.

Step 4: Students prioritize their questions using criteria or guidelines you provide.

Step 5: Together with students, decide on next steps and how to use the questions.

Step 6: Students reflect on what they have learned by producing, improving, and prioritizing their questions. Making the QFT completely transparent helps students see what they have done and how it contributed to their thinking and learning.

## Tips

Consider working with a colleague to generate some sample questions.

Consider these questions as you plan to use this strategy:

What might be in your criteria?

Do you want to ensure there is an assortment of questions at different levels of thinking?

Do you want to see a progression of increasing difficulty/complexity?

Should some questions be designed clearly for individual thinking and some for thinking with a partner?

The QFocus is different from many traditional prompts because it is not a teacher's question. It serves, instead, as the focus for student questions so students can, on their own, identify and explore a wide range of themes and ideas. The QFocus:

- has a clear focus
- is not a question
- provokes and stimulates new lines of thinking
- doesn't reveal teacher preference or bias, for examples:
- pollution harms Chinese residents
- smoking pot has health benefits
- text titles

Keep classification simple, for example:

- closed—one-word response
- open—requires more explanation



# Question without a Question

## Description

The teacher makes a statement related to the topic or makes a statement about a student's response to a question. These statements are used in lieu of questions to probe student thinking.

## Promotes Learning/Informs Learning

Making a statement and pausing for comment allows students time to think and determine, what if anything, that they want to say.

## Implementation

Plan statements to use as questions prior to the start of the lesson. Pose a statement to the class (orally or displayed). Next, pause and then randomly call on a student to express an opinion.

For example, when using ABCD Cards, you might say to a student, You chose A. Typically students will begin to explain their response.

## Tips

When using this strategy with the whole class (instead of just responding to one student), you may effectively combine the strategy with all-student response systems. Use this as a way to check in on why students chose the response they did.

For example: Share a statement like a rectangle is a square, and all students indicate whether they agree or disagree using thumbs up or thumbs down. Then, move into a discussion by probing further with individual students by simply stating You disagreed. Then pause while each student prepares to defend his or her position.

As a variation, you may also provide the answer as a statement and then have students formulate the question.

Search for “all-student response systems” for complementary strategies.

# Quizlet™

<https://quizlet.com/>

## Description

This digital tool allows teachers to create quizzes and study games that are engaging and accessible online and via a mobile device.

## Promotes Learning/Informs Learning

Quizlet promotes and informs learning through the manipulation of interactive learning sets that students can study, share, and discuss. Competition among the teams may benefit student engagement.

## Implementation

Create an account, and set up your questions to be used with students. Then share the login code with the class. Students, in teams, use smart devices to respond to the question(s).

The program allows the account holder/users to:

- create flashcards
- track correct/incorrect responses
- spell from audio presentation
- test from the flashcard study sets
- play games against the clock to match flashcards
- type answers as terms and definitions

## Tips

You may group students into teams. Both correct answers and speed of response are considered, but accuracy is more important.

Teachers may create up to eight classes for free.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Random Name/Word Picker

<https://www.classtools.net/random-name-picker/>

## Description

This digital tool allows the teacher to input a class list and facilitates random name picking.

## Promotes Learning/Informs Learning

This tool engages more students than the usual handful who normally answer the majority of questions in a typical classroom. This strategy promotes all students in active thinking about the topic because they are not sure who will be the next to speak.

Class discussions help make students' thinking visible in order to help the teacher more easily identify the source of students' confusion. They allow students to uncover their own thinking and challenge them to support or explain their reasoning, which also helps them deepen and broaden their thinking. Additionally, class discussions let students hear the thinking of others to address possible confusions.

## Implementation

Input a class list or key ideas into the tool. The tool uses a spinning wheel interface to select from the class list or key ideas.

## Tips

You can also add a list of keywords and use the tool to review content or elicit evidence of learning.

Use the term “randomizer” to search for additional strategies for this purpose.

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# Randomly

<https://apps.apple.com/us/app/randomly-call-on-student-split/id843986848>

## Description

This app helps the teacher pick a student from the class. It also uses turn-based selection so every student is selected once before any student is picked again. It also offers a totally random selection process.

## Promotes Learning/Informs Learning

Students are often more comfortable engaging in a discussion that is not entirely teacher led. This also engages more students than the usual handful who normally answer the majority of questions in a typical classroom. This strategy promotes all students in active thinking about the topic because they are not sure who will be the next to speak.

## Implementation

Enter the class name, and add the student names, and then the app is ready to use.

You can choose Anyone or Uncalled, and the screen displays a randomly chosen student name.

For purposes of formative assessment, we suggest using the Anyone setting all or part of the time to keep students actively engaged; because students don't know if they will be called on again, they must pay attention to each question asked.

The Uncalled option setting may be useful, for example, when the randomizer has called on several students more than once.

## Tips

You can also use the tool to create random groups. It can even vocally call out the chosen student's name.

You can use the app on an iPad® or iPhone®.

It supports multiple classes and has a number of selection options.

Use the term “randomizer” to search for additional strategies for this purpose.

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# Random Reporter

## Description

The teacher randomly picks a reporter after group work is completed to summarize or explain results from the group to the whole class.

## Promotes Learning/Informs Learning

The fact that students are selected at random encourages greater student engagement. Additionally, the summarizing task calls on higher-level thinking that includes synthesizing and distilling what is most important.

## Implementation

Explain ahead of time that you plan to use this strategy, and offer clear guidance and structure so that every student engages in the group work and that virtually every student is prepared to effectively report out.

You can select random reporters in a variety of ways. One method is to assign each table or group a number and then have members of the group count off. Draw two numbers randomly: one identifies the group, and one identifies the reporter. Another method is to draw a number, say three, to represent the reporter, and the number three in each group reports out.

## Tips

Some students may be disconcerted initially with this technique. However, if you implement it at the beginning of the school year, it will become a part of the culture of learning. Most students soon come to enjoy and respect the randomness embedded in this strategy because it speaks to their sense of fairness.

Another way to select the random reporter is to use the results of a Group Tantalizers list. Each group member's name should appear at least once on the list next to a question.

Use the term “randomizer” to search for additional strategies for this purpose.

# Scattervox

<http://www.scattervox.com/>

## Description

This digital polling tool makes each question two-dimensional by having respondents use quadrants for their responses, thus creating a scatter plot.

## Promotes Learning/Informs Learning

The use of an all-student response system makes collecting more evidence of learning from more students more efficient. Teachers and students can respond to the data in real time, making adjustments to instruction and learning.

The fact that each answer reflects a student's thinking along two dimensions adds a level of complexity to the thinking required.

## Implementation

Determine the question and two aspects you want students to respond to. You can either create the poll in advance or log in and create the poll just in time. Share a link to the poll with students. Students access the poll using smart devices, enter their choices on the grid, and submit their responses. Results are viewed in real time.

Both you and the students can use the data to determine next steps in learning.

## Tips

Scattervox is appropriate for pre and post-assessment, checking for understanding and misconceptions during the learning, and for moving learning forward.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Share One

## Description

At any point in the learning, the teacher has students pair up to share something that has impacted them from the learning.

## Promotes Learning/Informs Learning

Sharing evidence of learning with a peer allows students the freedom to test what they think they have learned.

This strategy lets students hear the thinking of others in order to address possible confusions.

## Implementation

At either a pre-determined point or a moment of need in the lesson, have students make a note about one idea to share by providing a prompt. Prompts may include ideas like:

- most important concept or idea shared so far
- most useful thing learned so far
- a question that is bugging them

Students take their note and find another student with whom to share. Use a variety of methods for determining talk partners.

## Tips

After students have had an opportunity to share with a peer, you may wish to have a few students share with the whole group what they discussed. Selecting pairs to share who had a disagreement or who had very different responses might lead to particularly valuable discussions. The discussion can provide you with information about any remaining confusions or misconceptions that you can clear up before moving on.

# Socrative

<https://www.socrative.com/>

## Description

This digital tool allows teachers to design questions and quizzes for students based on their classroom needs.

## Promotes Learning/Informs Learning

The use of an all-student response system makes collecting more evidence of learning from more students more efficient. Teachers and students can respond to the data in real time, making adjustments to instruction and learning.

The use of Socrative enables teachers to instantly grade, group, and use visuals of student results to identify additional learning opportunities.

## Implementation

Create an account on any device in Socrative, and enter a quiz, question, or poll. Students connect through the app or join your room online with the code you provide to respond to the question(s). Results are available in real time.

You may discuss the data with students to help determine what next steps should be.

Reporting is particularly robust, offering whole-class overview, student-specific results, or question-by-question breakdown.

## Tips

This digital tool allows you to create quizzes, polls, exit tickets, and “space races” for student engagement. Apps are available from Apple, Chrome™, and Google Play™.

The student and teacher apps are different downloads.

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

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# Student-Developed Questions

## Description

Students develop questions to deepen their own understanding and that of their peers related to the content under study.

## Promotes Learning/Informs Learning

The students explore their understanding or confusions and make their thinking visible by generating questions. The class benefits from student-owned questions that use language that may be easier to understand because peers wrote them.

## Implementation

Give all students time to think about and generate questions regarding a topic, lesson, or concept that they can subsequently use, for example, in discussions (general, whole class, or small group), for lesson summaries/reviews, or as exit ticket questions or classroom tests.

Provide guidance as needed. You can use question prompts, tools, or specific strategies to help teach students how to generate good questions. This process also provides information to you about student learning, which you may use to modify and adapt future instruction.

Once you develop the questions:

- if they are diagnostic questions, select (or enlist the students to help select) an all-student response system to collect the data
- if they are discussion questions, select (or enlist the students to help select) a randomizer strategy to collect the data and engage students in discussion

## Tips

One adaptation may be to have students generate both a question and answer about what he or she has learned so far. Then ask one or two peers to answer the question.

# Synectic

## Description

Students use images to create an analogy about the focus of the learning.

## Promotes Learning/Informs Learning

This strategy is useful as a pre-assessment or to spark conversation about a topic and establish readiness for further exploration. The teacher may also use it as a way to summarize the learning that has occurred.

## Implementation

Students work in small groups. Display a visual image on the screen, or supply picture cards on each table (these can be the same image or different illustrations at each table). Explain that the task is for each individual to complete the stem: This topic is like this image because . . .

Students individually complete the stem and then share with their small group. After the small-group discussions occur, ask students to share with the whole class. If you use the strategy as a pre-assessment, you may want to record student responses to revisit them at the end of the lesson/unit to check in on connections and growth. If you use it as a summary of learning, you can verify that the class has met the learning targets or success criteria by listening to students explain why they chose particular images. The language of the learning targets and success criteria, as well as direct connections to the content, should surface in these explanations.

## Tips

A number of the technology tools listed in this toolkit allow images as well as open-ended responses to be used. Poll Everywhere is one example.

## Variations:

In addition to making comparisons, groups may also generate contrasts: This topic is not like this image because . . .

Give groups a category or an individual item (without illustration) for brainstorming comparisons. This topic is like this item because . . . or This topic is like something in this category because . . .

Place an object or several objects on each table, and ask each group to make comparisons, or have them use something from their book bags or backpacks.

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# Tagxedo

<http://www.tagxedo.com/>

## Description

This free digital tool is a word cloud generator that allows teachers to examine student consensus and facilitate dialogue. Teachers gather text from students to load into the tool, or students may load their own text.

## Promotes Learning/Informs Learning

Teachers can quickly pinpoint major patterns of content that students understand and identify areas that they need to explore further to uncover misconceptions or confusions.

The dialogue that follows lets students hear the thinking of others in order to address possible confusions.

## Implementation

Identify a source text to import into the word cloud generator. You can collect results from student assignments, responses to questions, backchannel chats, or discussions as a text document and upload it to the tool. The words are sized proportionally to the frequency of occurrence. Look for words directly related to learning targets, success criteria, or the content in general.

Students can take the text from their own work and load it into the tool as well. Having students load their own text might provide a quick check for them to see if they are talking about what is important in the content or not.

## Tips

This tool allows you to change the shape of the cloud and the colors of the text.

Remember that the word cloud uses words, not phrases, as building blocks. If you enter a phrase, the tool will break it into multiple words.

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# T-Chart

## Description

This graphic organizer is used for brainstorming or listing two facets of a topic.

## Promotes Learning/Informs Learning

The visual display makes students' thought process visible in order to help the teacher more easily identify the source of students' confusion. Students uncover their own thinking and are challenged to support or explain their reasoning, which also helps them deepen and broaden their thinking.

Additionally, this strategy lets students hear the thinking of others to address possible confusions.

## Implementation

Create small groups of four to six, providing each group with colored markers and a recording sheet or blank notepaper for recording its self-assessment. Given the matrix display, ask participants to generate ideas to respond to the prompts. When groups have posted all responses and completed the graphic organizer, organize a whole-class exploration of the data.

Facets might include:

- advantages and disadvantages
- facts about two related topics
- pros and cons
- facts and opinions
- problems and solutions

## Tips

This strategy facilitates the public display of shared ideas or learning.

# Tease Out

## Description

A student gives an answer to a question that needs improvement or elaboration, so the teacher says, Wait a minute until we see what others think. This strategy engages the rest of the class while keeping the first student listening and thinking.

## Promotes Learning/Informs Learning

To engage more students in the thinking, the teacher does not immediately respond to the first answer. Students who offer alternative answers are using higher-order thinking skills such as analysis, evaluation, and divergent thinking.

## Implementation

Pose a question to the class, and, using a randomizer, identify a student to respond. The student's response needs elaboration or improvement or may be incorrect. Then gather additional answers from a few other students, and ask the first student, Which answer do you like best? Why? This technique avoids fixating negatively on one student and provides the first student the opportunity to learn from peers and perhaps change his or her initial response.

## Tips

Part of the culture of learning that supports formative assessment assures students that this type of questioning does not constitute your "picking on" a particular student but that it is an effective and reasonable method to help all students' thinking go deeper and/or wider.

# 30-Second Share

## Description

Students have 30 seconds to share what they have learned in a lesson.

## Promotes Learning/Informs Learning

This strategy provides a way to quickly and immediately assess student learning and connections to content. Providing this short period of time challenges students to summarize succinctly.

## Implementation

Several students take a turn to report something learned in the lesson. Many (sometimes all) students share something that they learned in the lesson just completed, usually in 30 seconds or less. When this is a well-established and valued routine for the class, everything shared is usually on target. If a student misstates something, other students may correct him or her in a nonthreatening way. The connections to the learning and targets stated at the beginning of the lesson should be implicit or explicit.

## Tips

When you implement this strategy at the beginning of the school year, it becomes part of the culture of learning. This assures students that this type of participation does not constitute your “picking on” a particular student. It is an effective and reasonable method to help all students’ thinking go deeper and/or wider.

You may want to combine this strategy with a randomizer tool to select the students who will report out.

Use the term “randomizer” to search for additional strategies for this purpose.

# Three As Plus One

## Description

Students read an identifying piece of text and explore their values, beliefs, and assumptions related to the text.

## Promotes Learning/Informs Learning

This strategy lets students explore values, beliefs, and assumptions related to content while exercising and developing paraphrasing and inquiry skills in a small group. The teacher can see and hear what students understand and connect to in the content taught.

## Implementation

Review the strategy before students begin by announcing that they will be reading or watching a video and reflecting on four questions:

- What do they agree with?
- What might they argue with or for?
- What might they aspire to or act on?
- What is an aha from this content?

After students read or watch, they respond individually to each of the questions. Then small groups (or the whole group) share their answers to the first question. After a few minutes or after all group members have responded, groups move on to the next question, and so forth.

## Tips

You can use this activity with reading passages or video clips.

Sharing in small groups allows all voices to be heard more efficiently.

## 3-2-1 (Three-Two-One)

### Description

To summarize their learning, students respond to three different prompts providing information, questions, or actions.

### Promotes Learning/Informs Learning

Teachers can use this strategy with a wide variety of topics to summarize understanding and increase retention and transfer of new information at a lesson's close.

### Implementation

Students complete an exit ticket on which they respond to three prompts to elicit evidence of learning from the lesson. An example of prompts might be 3 things they want to practice, 2 things from the lesson they expect to be on the test, and 1 thing from the lesson they enjoyed. The students turn these in to you as they end the lesson or leave the class. You can then use these responses to modify or adapt your future instruction.

Students can record responses on an index card, sticky note, or graphic organizer.

A variation of this strategy might be to direct individuals to complete their 3-2-1 recording sheets. After a few minutes, table groups then share and explore their ideas, using a round-robin process to ensure balanced participation. After several minutes, ask each group to choose some aspect of the conversation to share with the full group. Give groups a couple of minutes to organize their reports.

### Tips

A structured worksheet, individual think time, and shared exchange increase focus and engagement. This strategy is also effective at the start of a session to activate readiness.

To save time, you can prepare 3-2-1 worksheets in advance.



# Thumbs Up

## Description

Students signal their level of understanding of a topic or lesson to the teacher by using thumbs up (get it), down (do not get it), or sideways (not sure).

## Promotes Learning/Informs Learning

Students' responses to prompts about the content of a lesson reveal information about students' understandings, misunderstandings, and misconceptions.

This is an example of an all-student response system that helps the teacher quickly get a sense of what students know or understand while engaging all students in the class.

## Implementation

Ask students to demonstrate their current understanding to gain a quick sense of how students are progressing in the lesson and to make appropriate adjustments to the instruction on the basis of that information.

For this strategy to work well, students need to have a thorough grasp of the learning targets and success criteria.

## Tips

Explaining why you're using this strategy helps encourage students to be honest and self-reflective.

A variation to using just thumbs is to use whole hands: hand up (get it), hand flat (not there yet), or hand down (need help).

For best use of an all-student response system:

- the question takes no longer than 30 seconds to a minute to ask or present
- students respond in 2 minutes or less
- every student can respond simultaneously
- you can quickly assess the answers in less than 30 seconds

# **Tweet/Twitter™**

<https://twitter.com>

## **Description**

Students distill what is important about the learning concisely into 140 characters.

## **Promotes Learning/Informs Learning**

Teachers can quickly pinpoint major patterns of content that students understand and identify areas that they need to explore further to uncover misconceptions or confusions.

## **Implementation**

Ask students to summarize their learning on a piece of paper as if they were Tweeting (staying within the 140-character limitation). Without talking, students may respond to another person's Tweet on the paper or wall.

## **Tips**

Depending on the age of the students, you may set up a hashtag in Twitter to which students may post their learning, or they may post tweets within the classroom on a wall.

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# Two-Tiered Probe

## Description

This strategy is a combination of asking a selected response question and having students respond with an all-student response system followed by individual response board justification.

## Promotes Learning/Informs Learning

This probing method allows teachers to gather initial responses and to glimpse student thinking behind the response.

## Implementation

This is a two-step process. For the first step, pose a multiple-choice question to the class, and have the students respond with cards, hand signals, or hand-held devices. For step two, ask students to use individual response boards to explain their thinking for choosing the response they did.

## Tips

Remember when introducing a new strategy that students learn more easily when using a familiar combination of tools.

# Wait Time/Think Time

## Description

This strategy is about pausing to let students process a question before responding and then allowing time after their response to process the answer.

## Promotes Learning/Informs Learning

Students reflect and consider their own thinking before formulating their responses. This often leads to students clarifying their own thinking before they share. Pausing after a student responds (and before the student elaborates on it or others respond) promotes even more deep thought and reflection.

This strategy encourages class discussion and peer support in learning.

This strategy helps make students' thinking visible in order to help the teacher more easily identify the source of students' confusion. It allows students to uncover their own thinking and challenges them to support or explain their reasoning, which also helps them deepen and broaden their thinking. Additionally, the strategy lets students hear the thinking of others to address possible confusions.

## Implementation

**Wait Time:** After asking a question, wait before calling on a student or students for an answer to give them time to think before responding. Use extended Wait Time (three to five seconds) in a consistent and effective way by giving students ample time to frame a thoughtful response to the particular question. For example, recall questions require a shorter wait time than conceptual questions.

**Think Time:** During Think Time 1, students are formulating their answers to the question you posed. After students respond, stay attentive and silent for a few seconds before asking the next question to give both students and you time to think about the question and responses. Students have time to consider expanding or elaborating on their initial responses, and you have time to thoughtfully interpret student responses. This period is Think Time 2. Gear the length of Think Time 2 to the amount of time students need to frame a thoughtful elaboration.

You can effectively combine this strategy with a method of randomly calling on students to increase student engagement.

## Tips

Think Time is sometimes referred to as the “second Wait Time.” A key idea with Think Time is to learn to listen interpretively (for understanding of what the student has said), instead of evaluating the answer to see if it “matches” your expected answer.

Teachers and students need to shift the way we think about Wait Time to consider it Think Time. “Think Time 1” occurs after you pose the question so students can formulate their responses. “Think Time 2” occurs after a student responds so that he or she can elaborate on the response or others can respond.

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# Wait Watchers

## Description

A student or students act as timers to help the teacher increase Wait Time/Think Time and to use it routinely.

## Promotes Learning/Informs Learning

This strategy is very useful when developing a classroom culture for learning; it specifically establishes a culture of thinking before responding in the classroom.

Involving students in this way shows that the teacher values the thinking of all students enough to devote time and structure to ensuring that thinking happens.

Students become more aware of how much time they spend on thinking about an answer before giving it.

## Implementation

First, explain the importance of having all students actively think about a question or prompt before they respond. Being transparent in classroom routines like Wait Time that promote and foster a growth mindset improves understanding. You may couple this explanation with examples of what happens when Wait Time is and isn't used.

A student (or colleague) can use a simple timing device to clock your Wait Time after each question. The students can record the results on a time sheet for a specified period of time or until you are satisfied with the results.

Ensure that the student or students involved as Wait Watchers have a thorough understanding of the Wait Time interval before they begin to “watch.”

## Tips

The role of Wait Watcher may help students who tend to call out answers right away break that behavior pattern and contribute to the benefit of the class.

Rotate the student who is serving in the time-keeper role, since he or she may not be considering the actual question while serving as a Wait Watcher.

# What About Today

## Description

Learners create summary statements based on the learning from the day using sentence stems.

## Promotes Learning/Informs Learning

Having learners explain what they learned and placing it in context (“here’s why it’s important”) is essential for building knowledge of a topic over time. This also promotes cross-curricular connections as learning develops, which is building the connections habits we want learners to build.

## Implementation

Draft sentence stems ahead of the learning event and provide 10 minutes at the end for learners to complete them.

## Tips

Explain to learners at the beginning of the learning event that they will be summarizing at the end.

Examples

“Here’s what (I am learning)”

“So what (it’s important because)”

“Now what (as a result of my experience in this lesson, I will)”

# Where Do You Stand?

## Description

The teacher provides students with two options and has them physically move to stand in one of two places based on what they know. A potential third option is “don’t know.”

## Promotes Learning/Informs Learning

This strategy is useful for identifying preconceived notions, assumptions, background knowledge, and information gaps. It also moves students to become instructional resources for one another. Physical movement encourages more blood flow throughout the body (including the brain).

## Implementation

Letting students see whom they physically stand with and whom they don’t stand with provides peer resources to tap into later. It also allows for members of the like-minded group to share their thoughts with one another to solidify their common stance.

Topics might be polarizing such as Are you pro-/anti-guns? or more simple such as Camels store water in their humps, true or false.

## Tips

As a variation, you may offer a continuum that allows students to stand anywhere along a designated line to reflect the degree to which they agree or disagree.

# Whole-Class Graphing

## Description

These survey strategies help teachers and students assess needs, attitudes, or knowledge. The teacher poses a question and asks each student to record his or her thoughts on a chart that everyone can see or asks each student to physically move to a designated location within the classroom.

## Promotes Learning/Informs Learning

These strategies let students share their feelings about a topic, give teachers quick data to modify instruction, and tell students that their ideas, beliefs, and feelings are valued.

## Implementation

Prepare the chart or mark places in the room. Pose a question to the students or make a statement. Students indicate their responses on the chart or by moving to the appropriate point in the classroom. Distinguish pre/post learning with different colored marks. Once everyone has placed his or her mark on the chart, the teacher and the class analyze the results, and determine next steps.

In place of charts, have students stand in lines to represent where they would fall on the scale. The use of a scatterplot allows you to collect pieces of data at the same time. You can also use chart paper or have students stand between axes.

## Tips

You can use these whole-class graphing tools on chart paper or have students physically move in the classroom. If students physically move, consider using tape to mark the floor, or stretch string between walls.

A consensogram is a chart that shows the frequency of distribution of responses, measures a group's perceptions, and allows individuals to view their responses in relation to the whole group. Observing where most of the stickers/colored marks are or where actual students are lined up shows consensus on the topic, allowing you to assess degree of knowledge on the issue.

A histogram is a graphical display of data using bars of different heights, based on the frequency that each variable occurs. An example might be having students physically stand in rows that show transportation methods for getting to school: walking, riding the bus, riding in a car, riding a bicycle, or other. You can then use these frequency data to create bar graphs.

A scatterplot is a type of plot or mathematical diagram that allows the investigation of the possible relationship between two variables. If the points are color-coded, you can increase the number of displayed variables to three. An example might be having students weigh in on causes of the Civil War showing where both the North and South fell regarding economics and leadership.

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# Wordle™

<http://www.wordle.net/>

## Description

This digital tool generates word clouds from any entered text to help aggregate responses and facilitate discussion.

## Promotes Learning/Informs Learning

Creating a word cloud offers another modality for students to access learning. It offers a visual representation of what the class is thinking about.

## Implementation

You can generate a word cloud in multiple ways, including collecting words from students early in a section of learning (to surface assumptions or uncover prior knowledge) or near the end of a section (to assess/summarize). To limit the influence of students' thinking on one another, you may want to ask students to jot down their words before sharing and then do a round robin. Have students, individually or in small groups, create their own word clouds related to a particular topic.

From the resulting word cloud, invite students to react to what they see: Are you surprised at what was mentioned most frequently? How does this help you to make sense of the topic?

## Tips

Remember that the word cloud uses words, not phrases, as building blocks. If users enter a phrase, the tool will break it apart into multiple words.

Users can format the word cloud in a variety of ways. The tool automatically gives greater prominence to words that appear more frequently.

If you are collecting input from students digitally, you can simply copy and paste chunks of text to quickly create your Wordle.

