Collection of Student Talk Strategies & Routines

2023-2024 Version

The digital version of this tool is available at: **bit.ly/GUHSDStudentTalk**
Student-facing slides are available at: **bit.ly/GUHSDStudentTalkSlides**

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Developing Consensus:	**Emphasizing Listening, as well as Speaking:**	**Talking with Diverse Partners:**
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SECTION 2: Supporting Discourse with Scaffolds and Task Design

- Sentence starters printable posters
- Sentence starters by purpose
- Teacher Talk Moves for Productive Discourse
- Roles for Equity from AST

SECTION 3: Subject-Specific Resources

Multilingual Learners (ELs) Science

This collection has been curated by GUHSD specialists. Sources include SDAIE, San Francisco Unified School District's Multilingual Pathways Department, STEM Teaching Tools, Ambitious Science Teaching, EduProtocols, New Visions OER Curriculum, and CPM's Study Team and Teaching Strategies. | Updated July 2023

SECTION 1: Strategies and Routines

4 Corners

Argumentation

10-25 minutes

What & How:

1. Create four signs representing four different opinions or responses (e.g., “Strongly Agree,” “Agree,” “Disagree,” and “Strongly Disagree”), and post them in the classroom.
2. Provide students with a claim, statement, or problem, and give them independent think time. (Consider using a note-taker with claim and reasons/evidence.)
3. Ask students to “commit to a corner” and gather next to the sign that best represents their response.
4. Allow a few minutes of discussion within each corner for students to elaborate on their reasons or evidence for their choice.
5. Then, have each corner defend their position to the class using evidence and reasoning OR pair students from opposite corners.
6. Finally, provide students the opportunity to change their mind if they were persuaded by classmates’ arguments.

Why:

- This activity engages students through movement and discussion, and can be used as a formative assessment.

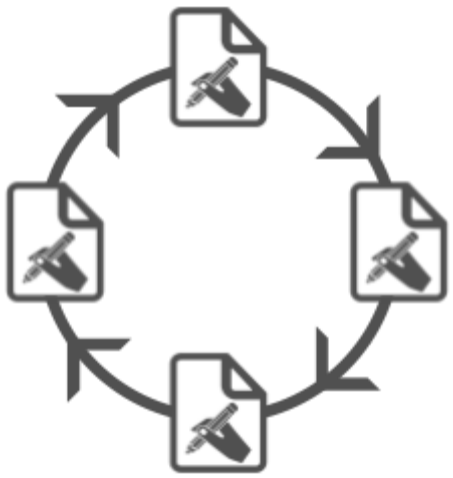
Claim-Evidence-Pass

Argumentation, Speaking & Writing, Generating Ideas

10-20 minutes

What & How:

1. One person in each group writes a claim (can be provided by the teacher or not) at the top of a paper with the pencil in response to a recent observation of a phenomenon. *(alternative: use group whiteboards)*
2. The student who just wrote passes paper and pencil to the left.
3. The person with the paper writes one piece of evidence that supports the claim under the claim. The other students in the group can support each writer by **offering and talking** about ideas, but the writer on each turn gets to make the ultimate decision about what to write.
4. The paper and pencil are passed to the left and the process continues until the group is out of evidence. Students can also add counter-evidence if designated.



Why:

- This activity is recommended when generating students’ initial or final explanations.
- Emphasize that this is about getting good ideas on paper, and that misspelling is okay.

Cyber Sandwich

Explaining, Speaking & Writing, Comparing and Contrasting - *Source: EduProtocols*

Time varies, 20-35 minutes

What & How:

The teacher prepares 2 different articles, videos, or other resources that would be productive to compare and contrast.

1. Step 1: Individually, each student in a pair explores one of the two different resources. They each take notes.
2. Step 2: The partners get together to discuss and share what they learned from their resources, comparing and contrasting along the way. They complete a Venn diagram or 3-column chart to outline differences and similarities across both resources.
3. Step 3: Individually, each student in the pair writes a summary of both resources, based on the compare and contrast discussion.

Link to Cyber Sandwich Google Doc Template

Why:

- This activity makes both partners responsible for the information they learned from their resource. It also creates a need for collaboration so that they can effectively share, compare, and contrast the two resources.

Discussion Diamond

Explaining, Developing Consensus - *Source: STEMteachingtools.org/brief/35*

15-25 minutes

What & How:

Each small group or table needs a graphic organizer that looks like the image to the right. This could be on a poster or whiteboard.

1. The teacher poses an open-ended question.
2. Each student will write on one of the triangular “corners” of the organizer. Students get a designated amount of time (e.g., 3 minutes) to think and write their thoughts in their corner.
3. The students take turns explaining their ideas to each other (all students must share).
4. The students discuss what their consensus view might be and write their consensus view in the middle.

Why:

- This activity is recommended for eliciting student argumentation from evidence or experience, and reaching consensus.
- This makes a good formative assessment artifact.
- Coming to a consensus is really hard work and can be really emotional. Remind students that coming to a consensus is about arguing about ideas, not arguing with people. You might have to scaffold participation even further and hold class debriefs about how the argument process itself went for different groups.
- Here is a set of agree/disagree sentence starters for students to use in their consensus talk.

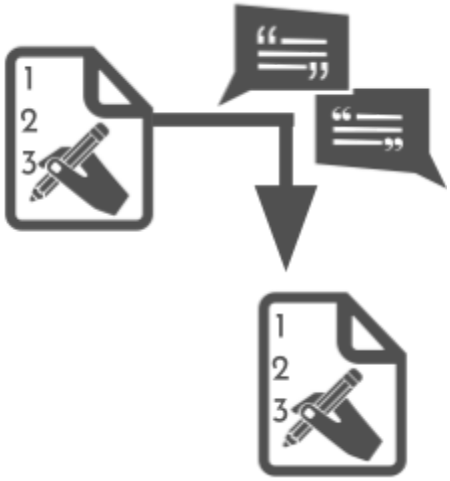
Extended Think, Pair, Share

2-6 minutes

What & How:

1. The teacher poses a question or prompt and signals to all the students to think (point to head, for example.)
2. After sufficient wait time, the teacher signals to students to turn to a partner and pair up.
3. When the teacher indicates "share" students begin sharing their thinking with their partner. Continue "share" so A and B engage in an extended discussion on the topic. Students may add to their notes after hearing their partner's thoughts.

➔ Another variation is Think - Ink - Pair - Share (T.I.P.S.). Students have think time, then jot down their initial ideas individually before pair-share.



Why:

- It allows the necessary think time to organize what they want to share with their partner.
- This conversation structure is extremely helpful for English Learners (ELs). It is helpful if the teacher allows think time and does not simply pose a question and then quickly tell students to "turn and talk."

Four Quadrants / Voting Chips

Argumentation - *Source: STEMteachingtools.org/brief/35*

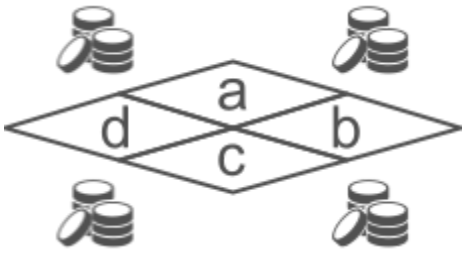
8-15 minutes

What & How:

Print four slightly different models, explanations, or hypotheses. Provide each table with four Bingo chips, beans, or plastic markers.

1. Have a student in each group read the four statements or options aloud to the group and place the paper in the middle of the table.
2. Going in turn, have each student state which of the four statements they most agree with and why, with no interruptions.
3. After hearing each other's thoughts, each team member states their beliefs and places a chip on the statement they most agree with.
4. As a whole room, tally how many chips there are for each option and ask students to clarify or expand on their reasoning to each other. The teacher may ask students if they wish to revise their choice.

Link to digital Google Drawing template for this activity



Why:

- This activity is recommended for eliciting student argumentation from evidence or experience, and revising ideas. It is also a good way for students to attempt to explain, defend, and justify their reasoning.

Gallery Walk with Peer Feedback

Written Interaction

8-15 minutes for peer feedback

What & How:

1. Start with students working on an open-ended task in which they produce a poster, a model, or other product that would benefit from peer feedback.
2. Students rotate to view and add sticky notes with feedback to multiple groups' work. This may be free-form or rotations on a timer. (Consider asking students to put their sticky notes upside-down so that new commenters cannot see the old comments.)

Possible Sentence Starters for Peer Feedback:

Add

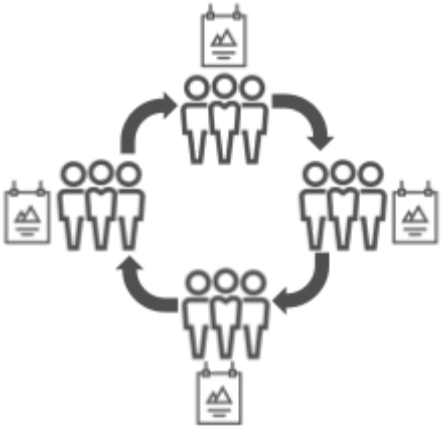
- You may want to add _____ because _____[evidence]_____.
- Adding _____ may make your model more accurate.

Revise

- Consider changing _____ because _____[evidence]_____.
- This model appears to show that _____, however our evidence has shown that _____.

Question

- I am wondering about _____ because _____.
- I think if you included _____, it would help explain _____.



Why:

- Students will have a chance to interact with diverse ideas and work from other students, as well as to give feedback that supports the thinking of other students.

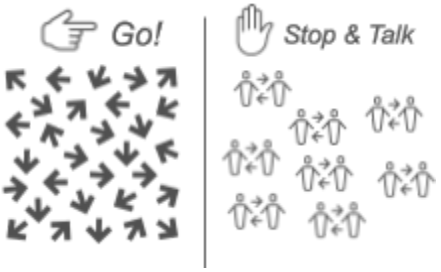
Give One, Get One

Talking with Diverse Partners, Generating Ideas

5-10 minutes

What & How:

3. In this structure, the teacher poses a question, prompt or topic.
4. Then, the whole class moves around the room.
5. At the signal, students find a nearby partner to share and discuss their thinking and hear alternative ideas. They are expected to ask one another for clarification, elaboration or other talk moves.
6. They then jot down their partner's idea along with their name onto a recording sheet and prepare for the next partner.
7. A new signal can be given if additional structure is needed or you can teach your students how to mingle and find a new partner after each sharing/recording session.



Why:

- Students appreciate the movement and ability to choose someone to partner with, which increases motivation.
- All talk moves are used in the structure with the benefit of pushing the students to summarize their partners sharing as they record it before moving on to their next partner.

Hexagonal Thinking

Constructing Explanations, Argumentation

15-20 minutes

What & How:

Teacher Prep – Place pre-determined key concept or vocabulary terms on hexagon shapes. This could be on paper cutouts or digital tiles (e.g., here's a Google Drawing template).

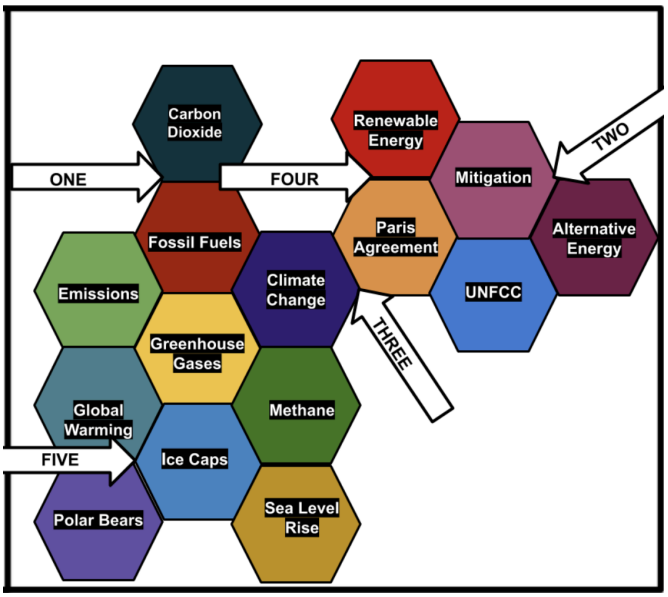
1. In groups of 2-3, students are provided with copies of the concepts/terms on hexagon shapes, on paper or digitally.
2. Student groups build their own diagram of connections between concepts/terms. Each term can make up to 6 connections (or less) with other terms – this is why they are in 6-sided hexagons.
3. Students are encouraged to rearrange as they debate, ask questions, and develop their rationale.
4. Each group may come up with a different configuration of connections between terms. This is okay as long as students can explain and justify their diagram.
5. Next steps can include:
    a. Two groups pair up and explain their rationale for their configuration to each other. Then both groups have an opportunity to revise their diagram if they were persuaded by something the other group said.
    b. A written explanation or justification done as a group or as individuals.

Source: cultofpedagogy.com/hexagonal-thinking/

Why:

- This is an open-ended task that requires deeper student thinking to make connections between concepts.
- Students may have different answers as long as they can explain their rationale.

Examples:



Jigsaw

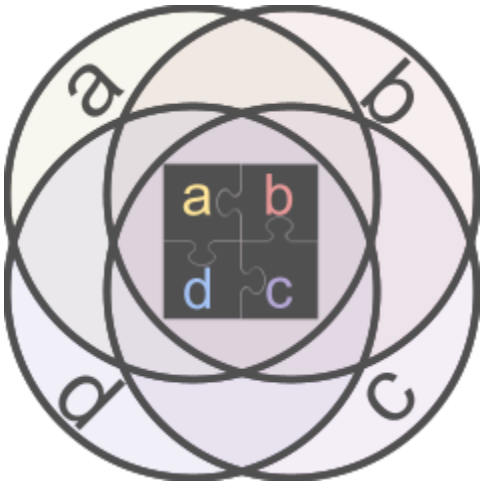
Explaining, Emphasizing Listening, Learning from Multiple Sources

Time varies based on task, 30-60 minutes

What & How:

The teacher prepares 3-4 different resources to share with students (e.g., different articles or videos, topics to research, etc.)

1. Students are assigned an "Expert Group" in which they work together to become experts on a commonly assigned resource or text. The teacher may choose how much structure to provide to students in this phase (e.g., graphic organizer, key vocabulary, guiding questions, or other format).
2. The groups break apart and students move to their "Home Groups" (aka Teaching Groups) where each student is prepared to share the key ideas they've learned with their new group members. Each person in the group brings different knowledge to share, and thus every member is important. Students may benefit from a notes template to support them with listening to what their teammates share.



Why:

- The format of a Jigsaw both supports students in their learning process (they can help each other in their Expert Groups), and challenges students to present and talk about what they have learned (in their Home Groups).

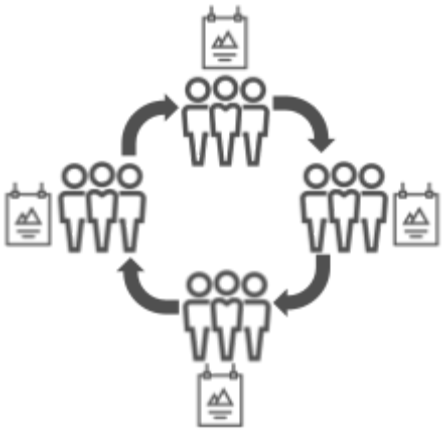
Idea Carousel

Explaining, Generating Ideas - *Source: New Visions Curriculum Resources*

10-20 minutes

What & How:

1. The teacher posts topics on chart paper around the room.
2. Ask participants to go to a topic that interests them most (no more than three people to a group – so some may have to choose 2nd choice).
3. The group brainstorms things you think that you know, questions, or concerns that your group has about this topic, and agrees on key items to add to the chart paper. Divide the chart paper into sections if more than one prompt is given, e.g., things you think that you know and questions.
4. Rotate to the next chart and take your marker to add to the next chart paper. Change which group member is the recorder.



Why:

- This activity is recommended when generating students' initial or final explanations of a model or phenomenon.
- Emphasize that this is about getting good ideas on paper, and that misspelling is okay.

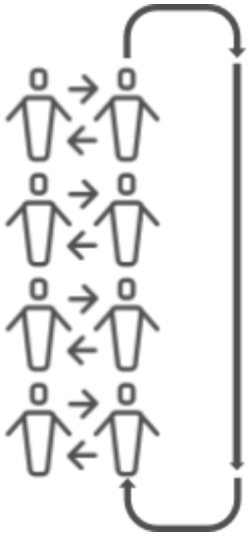
Lines of Communication

Talking with Diverse Partners

5-12 minutes

What & How:

1. In this structure, students form two lines, facing one another in pairs.
    a. A variation is to form two circles, an inside circle and an outside circle, facing one another in pairs.
2. The teacher asks a question, poses a prompt or topic.
3. One side shares their thinking and then the other. To rotate, one side moves down one space while the other line stays still.



Why:

- This particular conversation structure is very helpful when you want students to have multiple opportunities to practice language.
- They will be able to share their thoughts with multiple people in a low-stress arrangement.
- You can vary it by giving a new prompt after each movement of the line.

Numbered Heads

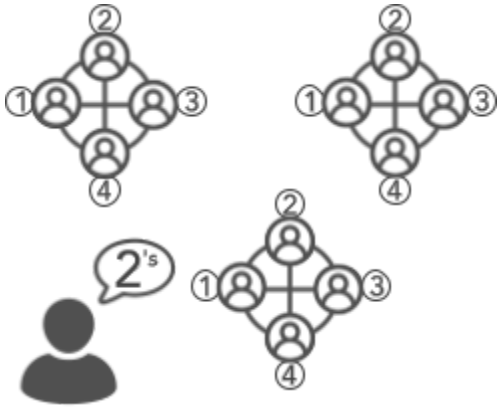
Emphasizing Listening, Sharing Out - *Source: STEMteachingtools.org/brief/35*

Time varies, add to any group activity

What & How:

1. In this structure, students number off (e.g. 1-4) in their group.
2. The teacher gives a prompt, question or topic for discussion.
3. Groups then discuss. All members need to participate and follow along so that they can be ready to share out afterward.
4. The teacher calls on a random number and the person with that number in each group reports out discussion highlights.

(The numbers may also be used to assign a team role, task, or other item that they are responsible for.)



Why:

- This conversation structure allows for a larger discussion group size while still maintaining a lower risk than a whole class discussion.
- The teacher's use of calling on random numbers to report out maintains accountability and allows the teacher to assess both the individual's thinking and also that of the group.

Outside-Inside Circle Reading

Argumentation, Developing Consensus

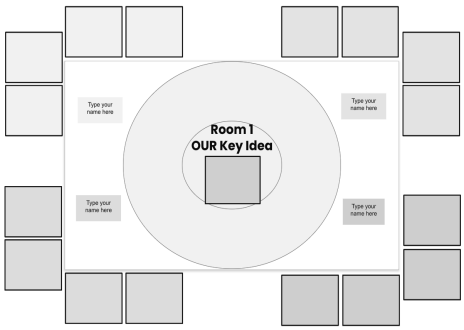
15-25 minutes

What & How:

This strategy is implemented after students individually read a text.

1. While students individually read, they each record 4 "sticky notes" of key take-aways or ideas. Those ideas get placed "outside" the circles.
    a. Not just phrases, write complete sentences.
    b. Teacher may ask for quotes or students' own words.
2. Then, in groups, students negotiate which ~4 of the ideas are most reflective of the key ideas from the article, and therefore get moved to the next inner circle.
    a. Students *must* include at least 1 idea from every group member at this level.
3. Finally, the group must agree upon 1 most central idea that gets moved to the innermost circle, OR the group re-writes their own central idea in the innermost circle.

Link to Google Slides Template



Why:

- To be used after reading a text or another multimedia source material.
- This is a good formative assessment, giving teacher and students an opportunity to see whether they understood the most important key ideas from a text.

Paired Presentation

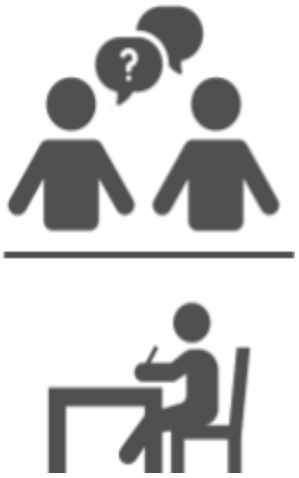
Emphasizing Listening, Constructing Explanations

30-50 minutes

What & How:

1. Provide students with a rich prompt and resources, and ask them to prepare a brief presentation that they will provide for their partner.
2. When ready, students are put into pairs and each student presents to his/her partner, using whatever visuals or supports are desired.
3. During the presentation, the listening partner is able to interact *without writing anything down*:
    a. Ask questions, e.g. solicit clarification
    b. Verbally paraphrase what they heard
4. When the "presentation" time has ended, the student who was listening records a written paraphrase of the presentation from memory.
5. Students switch roles and repeat. (Students can revise and repeat their presentations.)

Link to Paired Presentation Worksheet



Why:

- Allows for presentations in a lower-stakes context.
- Allows both students to play an active role while speaking and listening.

Read - Generate - Sort - Solve

Argumentation, Developing Consensus, Generating Ideas - *Source: New Visions Curriculum Resources*

Read: Individually read over the prompt and any resources or text provided.			
Generate: Individually write ideas or solutions.			
Name 1	Name 2	Name 3	Name 4
Sort: Discuss each idea or solution, and star the most useful.			
Solve: Write a group consensus response to the prompt incorporating the most useful ideas.			

Why:

- This activity allows for both individual think time, and group discussion and consensus. This activity is best used with open-ended prompts that allow for multiple possible responses.

Read 1, Speak 2, Write 3

About 10-15 minutes per round/chunk of text

What & How:

1. Students individually read <u>one</u> chunk of text as assigned by the teacher. Students may be assigned to mark and/or annotate the text.
2. Students "turn and talk" or "pair-share" and each partner shares <u>two</u> takeaways.
3. After talking, students each write a summary with at least <u>three</u> main points or key ideas in their notes.
4. Repeat as necessary with additional chunks of text.

Why:

- This strategy helps students to break up and process a text. It also promotes the cross-population of ideas and helps students learn from each other.

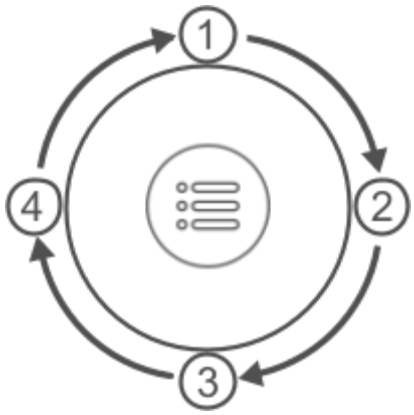
Round Table

Explaining, Generating Ideas - *Source: STEMteachingtools.org/brief/35*

10-20 minutes

What & How:

1. Students sit in a group (size to be determined by teacher).
2. The teacher asks a question with multiple answers.
3. Students go around the circle sharing their perspective, or their answer to a question prompt.
4. Each student is encouraged to offer a different idea than has already been shared.
5. Consider whether you wish to have Talking Chips available to promote equity of voice.



Why:

- The challenge of this talk structure is eliciting multiple ideas. This kind of thinking and pushing for diverse ideas enhances language literacy.
- A variation on this is that each successive person, rather than offering up a new idea, elaborates on the prior idea or provides evidence to support the initial idea. This requires students to listen carefully and filter through the ideas in their heads to share one that is relevant.

Share-Trade / Rumors

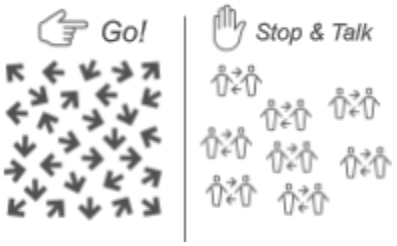
Talking with Diverse Partners, Emphasizing Listening - *Source: STEMteachingtools.org/brief/35*

10-20 minutes

What & How:

1. Provide students with an open-ended prompt. Each student writes their individual thoughts. Students stand up with their ideas on paper and move around the room.
2. Each student forms a pair with someone else by high-fiving.
3. With their partners, students share their ideas and then trade papers.
4. Each student is now responsible for sharing the ideas of the person they just spoke with, even if they don't agree with those ideas. This isn't a time for them to critique their partners' ideas.
5. Students form pairs and exchange three or four times so they see and explain multiple ideas.
6. Students return to their seats and write a final explanation or idea after being exposed to everyone else's ideas.

Similar routine - "Rumors"



Why:

- This activity is recommended when generating diverse ideas or student explanations.
- When students are given an open-ended question, share-trade can help students refine their ideas and their language over time. This structure also helps students utilize a wider variety of language and ideas.
- Finally, this activates students' listening skills, so that they can practice reporting out someone else's idea.

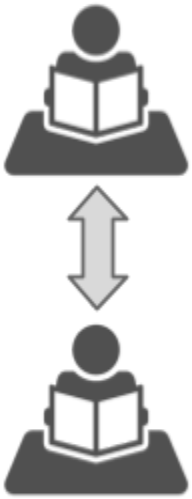
Silent Debate

Written Interaction, Argumentation

10-20 minutes

What & How:

1. Students work in pairs.
2. Partner A is assigned the “pro”/for position and Partner B takes the “con”/against position.
3. A pair shares one sheet of paper. After the prompt is given by the teacher, Parner A starts by writing a “pro” statement at the top.
4. Partner B reads the statement, and responds with a comment, argument, or piece of evidence against it.
5. Repeat the process 3-4 times.



Why:

- This activity can elicit student argumentation skills.
- Here is a set of agree/disagree sentence starters for students to use in their interaction.

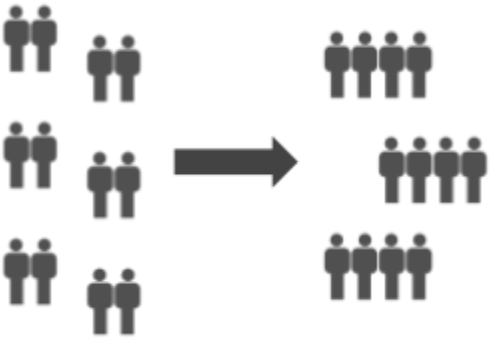
Snowball Discussion

Developing Consensus

10-20 minutes

What & How:

1. Students begin in pairs, responding to a discussion question with just their partner.
2. After the pair has both shared and/or reached consensus, the pair joins another pair to form a group of four.
3. The pairs share their main ideas and/or reach consensus. Next, groups of four join other groups of four to form a group of eight.
4. The teacher determines when to stop the snowball - with groups of 4, 8, or even until the whole class has joined up.



Why:

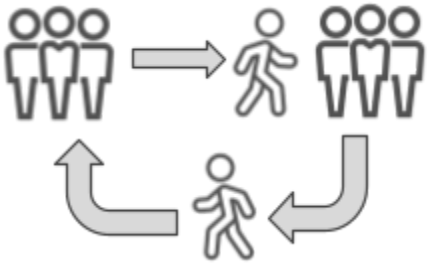
- This activity can elicit student argumentation, or can be focused on reaching consensus.
- Coming to a consensus is really hard work and can be really emotional. Remind students that coming to a consensus is about arguing about ideas, not arguing with people. You might have to scaffold participation even further and hold class debriefs about how the argument process itself went for different groups.
- Here is a set of agree/disagree sentence starters for students to use in their consensus talk.

“Spy” or “Ambassador”

Time varies based on task

What & How:

1. This strategy is for complex group work during which students may need support or cross-population of ideas amongst groups.
2. One option is to have an assigned “spy” in each group. When the team becomes stuck, or needs ideas from other groups, this spy circulates around the classroom silently listening to other teams’ work. They bring ideas back to their own group. The spy is not allowed to talk to other groups.
3. A different option is to have an assigned “ambassador” for each group who does the same thing, but is allowed to ask questions or converse with other groups.



Why:

- This helps reduce student dependency on the teacher, and encourages peer collaboration instead.
- This may help support groups in a particularly challenging group task when you anticipate lots of questions.

Talking Stick

Whole-Group Discussion

Time varies based on task

What & How:

1. This structure is organized much like round table, though students need to simply share their idea, not necessarily a different idea like in round table.
2. Only the person with the talking stick (popsicle stick, stuffed animal, ball) speaks.
3. A recommendation is to use it when students would give short answers, otherwise, it would take a long time to go around the circle and students could lose interest.

Why:

- This is a beginning level structure for larger group settings.
- It is structured carefully so that each person gets a chance to speak and be heard.
- Once the stick has gone around the circle, you can open it up, so that students then begin to go back and forth and challenge or elaborate on students’ ideas.

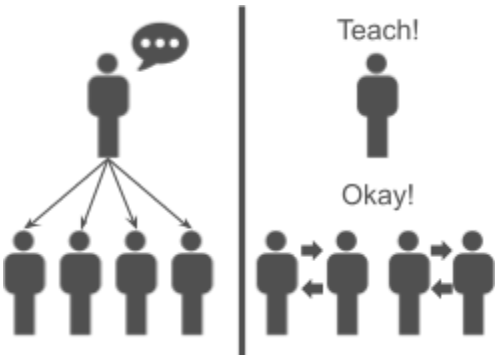
Teach-Okay

Emphasizing Listening, Explaining

1-3 minutes per round

What & How:

1. After the teacher introduces or explains a concept to the class, this is a strategy for students to practice peer-teaching.
2. After the teacher explains something, the teacher says "Teach!" and the class responds with "Okay!" Then pairs of students take turns re-teaching the concept to each other.
3. (It's like a faster-paced version of pair-share that focuses more on re-teaching instead of general sharing.)



Why:

- This version of pair-share helps break up direct instruction, and lets students process through talking. It also promotes student listening skills if they know they need to be prepared to re-teach the concept.

Three Stay, One Stray… (Or Two Stay, Two Stray, etc.)

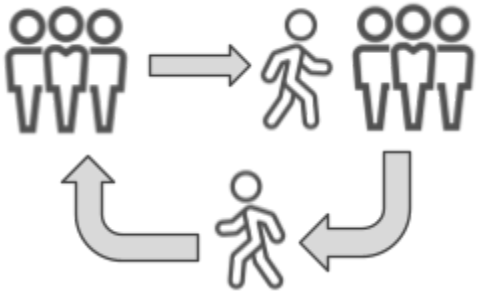
Peer Feedback

10-20 minutes

What & How:

Students sit in four-person teams. Each team has their model and a feedback form at their table. If available, students could use table tents for accepting criticism or praise.

1. One person from each group is designated as the wandering critic. The wandering critic "strays" to another group's model.
2. Each group must explain their model to the visiting critic. The critic can ask questions about the model.
3. The wandering critic returns and tells their group about the model they saw.
4. Steps 1-3 can be repeated with a new critic. Groups can revise their models based on what they've learned



Why:

- This structure allows for exchange of ideas across different student groups. It works well with group modeling. This also supports student argumentation from evidence or experience, and critiquing ideas.
- Variations on this structure may include adjusting the numbers of students who "stay" or "stray." E.g., "One Stay, Three Stray" or "Two Stay, Two Stray."

Source: STEMteachingtools.org/brief/35

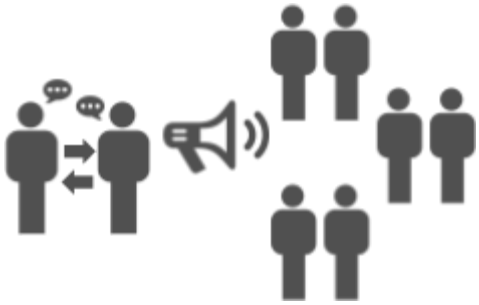
Three Way Interview

Emphasizing Listening, Sharing Out

5-15 minutes

What & How:

1. This structure is much like "think, pair, share", with the added step of partners reporting out for each other.
2. Pairs interview each other and listen carefully to their partner.
3. Reverse roles.
4. The teacher then calls on partnerships and each reports out their partner's response to the larger "group."



Why:

- Interviewing requires students to ask and answer questions that increase the receptive and expressive language load.
- In addition, active listening demands are increased in order to report out their partner's ideas.

Write & Pass

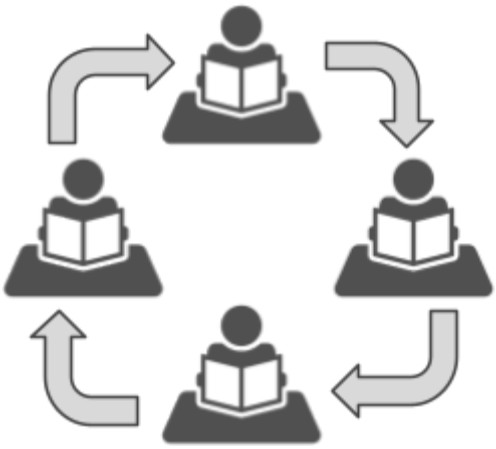
Written Interaction, Peer Feedback - *Source: STEMteachingtools.org/brief/35*

15-30 minutes

What & How:

Students each have a loose piece of paper, a writing utensil, and some phenomenon or demonstration to make sense of. The teacher must have a provocative question that students can each answer.

1. The teacher posts a question that students must answer with an explanation. Students individually write their ideas on a piece of paper.
2. Then the papers are all passed to the left. Each student silently reads their teammate's written ideas.
3. Each student writes suggestions directly onto the original copy to help make their peers' ideas sharper and clearer. (Recommended that the teacher provides structure for peer feedback, e.g., sentence starters)
4. Repeat pass-read-edit with all group members.
5. The original author of each statement reads all their peers' comments and writes a new final product at the bottom.



Why:

- This strategy helps students practice critique and argumentation, and consider ways to revise their thinking.
- It helps if students have had practice giving each other criticism or pushing others' thinking.
- To add more physical activity to the lesson, papers can also be taped to the wall or desks and students can move around to add their thinking.

Vocabulary Buzzwords

Explaining, Emphasizing Listening - *Source: New Visions Curriculum Resources*

15-25 minutes

What & How:

1. Provide individual think time to respond to an open-ended prompt. Students each write down their thoughts.
2. Each student takes a turn reading/explaining their response to the prompt. As students in the group listen, they tally the buzzwords each time they are spoken.
3. Students may have the opportunity to re-write or add to their initial explanations, after hearing the others.

Why:

- Typically to be used after reading a text or viewing a multimedia source material, or while attempting to generate explanations. This prompts students' use of specific key vocabulary terms within their explanations.
- This is a good formative assessment, giving teacher and students an opportunity to see which vocabulary terms may need more review.

SECTION 2: Supporting Discourse with Scaffolds and Task Design

Click here for the document with printable posters

Elaborate and Clarify

Questions

- Please say more…
- What do you mean when you say…?
- Can you elaborate on your idea?
- Can you clarify what you said?

Responses

- I think this means…
- In other words…
- What I mean is…
- I want to say more about…

Agree and Build On

Questions

- Do you agree?
- What do you think?
- How can we build on this idea?
- Who has a similar idea?

Responses

- I would like to add…
- What you said makes me think…
- I agree for a different reason…
- Another example is…

Challenge Ideas

Questions

- What do you think?
- Who has a different idea?
- What are other points of view?
- Who would like to challenge this idea?

Responses

- Another idea is…
- On the other hand…
- I disagree with you because…
- Do you have evidence to support your idea?

Paraphrase

Questions

- Do you understand what I am saying?
- Do you get what I'm saying?
- Do you see my point?
- Can you say back what you just heard?

Responses

- I heard you say…
- What I hear you saying is…
- Let me paraphrase what I heard…
- In other words, you said…

Support Ideas with Evidence

Questions

- What evidence supports your idea?
- Can you give an example from the text?
- What's a real-life example that supports this idea?

Responses

- My evidence is…
- I'm thinking this because…
- One example from the text is…
- On page __, the text says…

Synthesize

Questions

- What have we learned so far?
- What is the main point of our discussion?
- How can we bring our ideas together?
- What key ideas can we take away?

Responses

- The main idea we talked about is…
- We can conclude that…
- The main idea seems to be that…
- Connecting everyone's ideas, we can say that…

Teacher Talk Moves for Productive Student Discourse

Goal One: Help students share, expand, and clarify their own thinking
1. **Time to think:** Partner talk; writing as think time; wait time
2. **Say more:** "Can you say more?" "What do you mean by that?" "Give an example"
3. **So, are you saying...?**: "So, let me see if I've got what you're saying. Are you saying...?" (leaving space for the student to agree or disagree and say more) "I think I heard you say..." "Do I have this right?"

Goal Two: Help students listen carefully to one another
4. **Who can rephrase or repeat?**: "Who can repeat what Javon just said or put it into their own words?" (After a partner talk) "What did your partner say?"

Goal Three: Help students deepen their reasoning
5. **Asking for evidence or reasoning**: "Why do you think that?" "What's your evidence?" "How did you arrive at that conclusion?"
6. **Challenge or Counterexample**: "Does it always work that way?" "How does that idea square with Sonia's example?" "What if it had been a copper cube instead?"

Goal Four: Help students think with others
7. **Agree/Disagree and Why?**: "Do you agree/disagree? (and why?)" "What do people think about what Ian said?" "Does anyone want to respond to that idea?" "Thumbs up if you agree with..."
8. **Add On**: "Who can add onto the idea that Jamal is building?" "Can anyone take that suggestion and push it a little further?" "Who can say something more about this?"
9. **Explaining What Someone Else Means**: "Who can explain what Aisha means when she says that?" "Why do you think he said that?"

Adapted from TERC (2012), Talk Science in the Inquiry Project, and OpenSciEd

Roles and Sentence Starters from *Ambitious Science Teaching*:

To foster group participation, it is helpful to assign roles to students. Roles should **not** be simply about managerial duties (such as note-taker, supply-getter, or timer). Roles **SHOULD** be about all students taking responsibility for different parts of the academic talk that moves everyone's thinking forward. Here are some examples of roles for intellectual work. We list more here than you would assign to a group of students, and you might combine these roles in some cases. What we show below is not "the list" but some suggestions based on our experience in classrooms.

Big ideas person. The BI person pulls the group (occasionally) back to the scientific purpose of the activity (often a group will get too wrapped up in the rote execution of the directions).

- Asks "How does X (something we are studying, reading, investigating, observing, etc.) relate to The Big Idea?"
- Asks: "How does X change the way we're thinking about The Big Idea?"
- Asks: "What is the Big Idea we are trying to understand? Why are we [watching ice melt]?"

Clarifier. This is a role of monitoring everyone's comprehension about one or two key science terms.

- Asks: "Do we know what the word ____ refers to?"
- Asks: **"**Can we put it into our own words?"

Questioner. This person asks probing questions during the activity. These folks listen for questions posed by other group members and then re-voice the questions to make sure that the whole group takes a moment to hear and entertain questions from everyone. This is not a role that students find easy, so it helps to provide them with question stems such as :

- Asks: "What does it mean that ____?"
- Asks: "How do we know that_____?"
- Paraphrases what other have said: "So, what I think you are saying is… Is that right?"
- Asks: "What would happen if we changed ____?"
- Asks: "What's your evidence?"

Skeptic. This person tries to strengthen the group's work by probing for weaknesses in the developing explanation or model.

- Says: "Here's an alternative explanation—is this just as good as the one we have now?"
- Asks: "Does it always work this way (the explanation)?"
- Asks: "How does our idea match up with what we've just learned?"

Progress monitor. This person ask others to periodically take the measure of the group's progress.

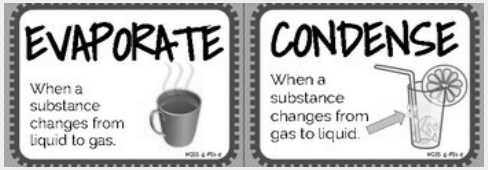
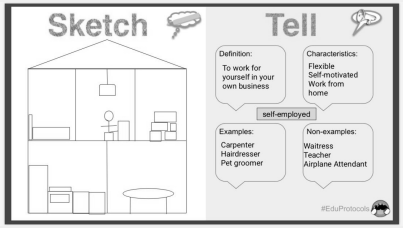
- Asks: "What can we say we've accomplished so far?"
- Asks: "What do we still need to know/do to accomplish this task?"
- Asks: "What can we now add to our explanation that we didn't have before?"
- When you stop by a table to listen in on a group, you should expect this person to be able to communicate the ideas of the group members AND attribute ideas to particular people (giving credit where it is due).

You can sometimes incorporate the "peacekeeper role" into one of the other roles described above.

Peacekeeper. This person monitors airtime of people in the group— this person is allowed to control who has "the floor" with the goal of ensuring that everyone gets a chance to talk and that everyone takes time to listen.

Supporting Multilingual Learners (ELs)

Go to the GUHSD Equitable Access Toolkit for further support:
bit.ly/toolkitELD

	ELD Proficiency Level Continuum					
	Emerging Level		**Expanding Level**		**Bridging Level**	
Collaborative (Interacting)	*If students can…* Respond to questions with **gestures, words, and/or short phrases**. Use **basic social conventions** in conversations.	*Then ask students to…* Respond to questions with **phrases and short sentences**. Participate in **simple, face-to-face** conversations.	*If students can…* Respond to a **variety** of questions using **short sentences**. **Initiate simple** social and academic conversations.	*Then ask students to…* Respond to **more complex** questions using **extended discourse**. **Participate actively** in conversations with **mod./light support**.	*If students can…* Respond to complex questions using **extended and more elaborate discourse**. **Initiate and sustain dialogue** on a variety of grade-level topics.	*Then ask students to…* **Participate fully** in all collaborative conversations in all content areas, with **occasional support**.
Supports & Scaffolds	*"Substantial Support"* ● Provide illustrated wall charts, visuals labeled with vocabulary, and visuals to accompany text ● Model academic language and vocabulary ● Assign roles in group work ● Provide optional sentence frames for interactions ● Ask who, what, when, where, yes/no questions		*"Moderate Support"* ● Model academic language and vocabulary ● Provide optional sentence starters for interactions ● Repeat and expand student responses in a collaborative dialogue ● Require full sentence responses by asking open-ended questions		*"Light Support"* ● Structure conversations with graphic organizers ● Model academic language and vocabulary ● Require the use of academic language ● Provide word banks and other occasional support ● Require full sentence responses by asking open-ended questions ● Require oral summarizing of group work	
Examples	It can be seen in the graph that at _____ hours, the bacterial population is at _____. Additionally, later at _____ hours, the bacterial population has _____ to _____. 		• I noticed that... • Another example is... • So, what you're saying is... • Do you think that...? 		It can be seen in the graph that at _____ _____ Additionally, _____ **Paraphrasing** Put another way, you're saying... So you're saying that... Is it fair to say that you believe... I hear you saying that... **Building On** Y mentioned that... Yes--and furthermore... The author's claim that Z is interesting because...	

Science

Crosscutting Concepts Sentence Starters:

Select only 1 or 2 of these sets, depending on topic

Stability and Change:
- _____ stayed the same, but _____ changed.
- _____ changed because…
- Over a period of time, the system [changed / stayed the same] because…
- When _____ changes, that will cause…
- In order for the system to be stable…

Patterns:
- A pattern I see is…
- I noticed that _____ is [similar to / different from]…
- If this pattern continues, I predict that…
- This pattern allows me to conclude that…

Cause and Effect:
- I think the reason _____ happened is because…
- I know this because…
- _____ [did / did not] cause this to happen because…
- I predict _____ will happen if…
- _____ caused _____ and my evidence is…

Energy and Matter:
- Energy transforms in this system when…
- Matter flows through this system when…
- Although _____ changed, the total matter…
- As the matter moves within this system, it…
- The _____ gets its [energy / matter] from…

Scale, Proportion, and Quantity:
- *Key words: length, weight, mass, volume, temperature, time, ratio*
- If we look at _____ on a [atomic / longer / smaller / larger] scale…
- The proportion of _____ and _____ is…

Systems and System Models:
- The components (parts) of the system include…
- These components are related because…
- The relationship between _____ and _____ is…
- Some [inputs / outputs] of this system are…

Structure and Function:
- The structure affects the function because…
- The structure (shape) of _____ is…
- The function of _____ is…
- Based on its structure, I predict its function is…

Claim, Evidence, Reasoning Sentence Starters:

Claim:
- This graph/data/(other) shows that…
- The claim can be made that…
- The trend/pattern seen here is that…

Evidence:
- Evidence to support this claim includes the fact that…
- Data to support this claim includes…
- On the graph it can be seen that…
- According to the graph, …
- We observed that…

Reasoning:
- The most logical conclusion from this evidence is that…
- This is significant because…
- The fact that ___(re-tell evidence)_____ indicates that…
- These facts, taken together, mean that…
- This ___(evidence/graph/data)____ is irrefutable evidence that… because…
- All of this proves that… because…
- A scientific principle/concept to support this claim is that…
- We know this because…
- Based on this, we can predict that…