

TITLE | BEST PRACTICES FOR BUILDING CLASSROOM CULTURE

CATEGORY | Program

SUB-CATEGORY | Education Outside’s Best Practices for Teaching

OVERVIEW | This document outlines how to build a strong outdoor classroom culture and set students up for a successful learning experience by explaining what to do before, during, and after a lesson to structure, support, and maintain culture.



Category	Best Practice	Description
PRE-LESSON SET-UP	1. Organized Materials	- Garden educator has all materials prepared and ready for student use
	2. Delineated Areas	- Garden educator uses visual markers to clarify the areas of the outdoor garden classroom that will be in use (i.e. flags, chalk, etc.)
	3. Clear and Consistent Agenda and Visuals	- Garden educator has class agenda displayed with consistent language and/or visuals of the activity - Garden educator has visuals prepared such that their use during class is quick and easy
BEGINNING CLASS	4. Incorporates Engaging Invitations	- Garden educator begins class with a ritual or consistent routine - Garden educator uses a story, challenge, or mystery to build curiosity and excitement in students before launching into content; hook is “sticky”
DURING CLASS	5. Incorporates Attention-Getters	- Garden educator consistently uses attention getters that appeal to students - Garden educator uses attention getters appropriately and attempts to achieve 100% attention each time
	6. Incorporates Multiple Learning Modalities	- Garden educator employs multiple learning modalities such as visual, reading/writing, kinesthetic, auditory, and/or songs/chants/catchy phrases
	7. Calm Clear Voice/Clear Language/Varied Tone	- Garden educator uses a calm, well-paced, loud, and clear voice to instruct - Garden educator uses language that is easily understood by students - Garden educator tone varies throughout lesson and keeps students engaged

Category	Best Practice	Description
DURING CLASS	8. Clear Instructions	<ul style="list-style-type: none"> - Garden educator keeps instructions concise - Garden educator anticipates and answers student questions - Garden educator checks for understanding of instructions
	9. Effective Behavior Management	<ul style="list-style-type: none"> - Garden educator positively narrates behavior of students - Garden educator ties appropriate consequences to student behavior - Garden educator effectively manages conflicts between students - Garden educator creatively addresses consistent behavior management challenges
ENDING CLASS	10. Effective Closing & Clean Up	<ul style="list-style-type: none"> - Garden educator gives students time to reflect on lesson - Clean up is efficient and effective
CLASSROOM ROUTINES	11. Garden Agreements	- Garden educator creates garden agreements with students and sets behavior expectations for the year
	12. Thoughtful Transitions	<ul style="list-style-type: none"> - Garden educator uses routines or has provided clear instructions such that students know where to sit upon entering the garden. - Garden educator uses strategies that help students to move quickly through transitions and refocus after a transition is over. - Garden educator uses consistent routines to help students transition out of the garden at the end of a class
	13. Organized & Consistent Materials Distribution	- Garden educator has organized and consistent materials distribution routine with very little disruption to instruction.
	14. Effective Participation Strategies	<ul style="list-style-type: none"> - Garden educator uses techniques that engage the whole class in discussion - Garden educator efficiently makes groups of students
	15. Plan for Early Finishers	- Garden educator has planned for students who finish lesson activities early
	16. Rituals	- Garden educator uses rituals to establish culture and community in the garden

PRE-LESSON SETUP

1. Organized Materials

Expectation:

- Garden educator has all materials prepared and ready for student use

Setting up materials before a lesson can save time for you and minimize student confusion. Once the activities are underway, there is very little ability to ensure a smooth lesson if you are scrambling to find materials.

Examples:

- Find trays (plastic are sturdier, but even aluminum disposable baking trays can work) and set up materials for each group in the trays before class. Students can easily pick up materials and clean up after by putting everything back in the trays.
- Find different tupperware or pencil boxes. Fill one with regular pencils, colored pencils, crayons, etc. for each table/group you have in class. (i.e. for four tables, make four boxes of regular pencils, four boxes with colored pencils, etc.) Label each box with its contents, leaving one set for the less frequently used materials or ones that need supervision (scissors, glue sticks, etc.). Students can pick up boxes and return them easily.



Worksheets, pencils, and clipboards are neatly laid out in designated containers.



It's helpful to put worksheets on clipboards ahead of class for younger students.



Use recycled containers to separate materials.



Trays are useful for materials set-up.



Set up work stations ahead of time.



Use colors to easily distinguish between grades and classes. In this example, each grade has a different color bin and each class within a grade has a different color folder.

2. Delineated Areas

Expectation:

- Garden educator uses visual markers to clarify the areas of the outdoor garden classroom that will be in use (i.e. flags, chalk, etc.)

Visually delineate spaces to set clear expectations for students. Consider where students will be during the entire lesson.

Examples:

- Use flags to mark areas of the garden where students will be harvesting or exploring.
- Write numbers in chalk to show where different groups should meet after dividing the class into groups.
- Paint stirrers can mark areas of the garden that need to be watered (green means “water me!” while red means “I don’t need water!”).
- Cones can be used to show the boundary of the area.



Designate group work stations with labels.



Mark areas where students should line up.

3. Clear and Consistent Agenda and Visuals

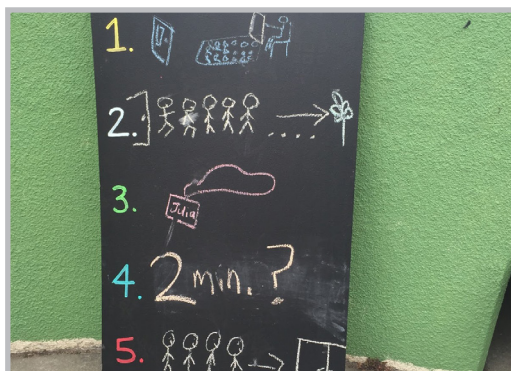
Expectation:

- Garden educator has class agenda displayed with consistent language and/or visuals of the activity
- Garden educator has visuals prepared such that their use during class is quick and easy

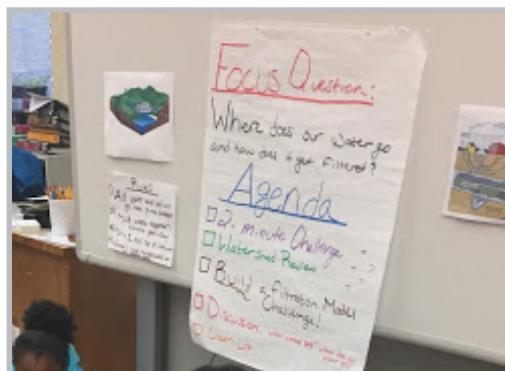
Agendas help students know what to expect and allow you to hold them accountable for staying on task.

Examples:

- Make reusable laminated agenda cards with general titles and blank area to fill in for specific activities.
 - E.x. Two-Minute Challenge / Directions / Closing
- Make permanent agenda cards for each garden station to be reused/ recognized. Duplicates can be placed at the station for reference.
 - E.x. design using plywood with velcro attachments, or tape cards onto whiteboard/chalkboard.
- Daily agenda with pictures (maximum 3-5 broad activities that outline the flow of the day) that is always written in the same spot of the whiteboard each class.
 - Use consistent language and pictures/symbols to build routine.
 - E.x. “Two-minute challenge”, “Storytime”, “Mystery”, “Cooking.”
 - E.x. Use stick figures to represent times when sitting or standing/moving so students have clear expectations.



Use simple pictures to create an agenda.



Write the lesson focus question clearly with the agenda.

BEGINNING CLASS

4. Incorporates Engaging Invitations

Expectation:

- Garden educator begins class with a ritual or consistent routine
- Garden educator uses a story, challenge, or mystery to build curiosity and excitement in students before launching into content; hook is “sticky”

Examples:

- Welcome students to the garden by saying something like “Good morning, scientists!” and have them respond “Good morning, Mr. John!”
- Greet students at the entrance and provide them with an option for how to interact. For example “Good morning scientists. As you enter the garden, you can choose the greeting you’d like, either a handshake, hug, high five or good vibes.”
- See **Rituals** and **Classroom Routines** for additional examples.”

Hook, Mystery, Challenge

What hook, mystery, challenge, or other strategy does the garden educator use to engage students and excite them about the lesson?

Making it Stick

- Starting class with a story or mystery is a great way to engage students from the get-go. See more on *Making it Stick* in the appendix below and the Making it Stick training overview in *Learning & Teaching Outdoors*, linked in the Table of Contents.

Two-Minute Challenge

- Get students moving through the garden with a short, simple two-minute challenge to complete. See *Two-Minute Challenge* in the appendix below.

DURING CLASS

5. Incorporates Attention-Getters

Expectation:

- Garden educator consistently uses attention getters that appeal to students
- Garden educator uses attention getters appropriately and attempts to achieve 100% attention each time

How does the garden educator get the attention of the group to give further instructions or ask students to return to the group?

- Attention-getters should be short, repeatable, and consistent. It's a good idea to have a few that you use so students don't get desensitized to them, but you also want them to be familiar enough to be second nature to the students.
- Using the same attention getter as the classroom teacher can be effective, but it can also be fun to have your own, unique one.
- When asking for student attention, keep trying until you have 100% of students listening--it's okay to do an attention getter a few times, but if you try to keep moving on while students aren't focused, it's more likely those students will distract others rather than joining the group in quiet attention.

Attention-Getter	Grade	Description
"If you can hear me... ...put your hands on your head!" ...make your body look like a tree!" ...show me what a chipmunk with cheeks full of food looks like!"	K-5	A way for students to show they are listening. You can repeat or say new things until you have the attention of the full class.
"Waterfall in 3, 2, 1!"	K-5	When you get to one, students say "Wooshhhhhh" and make a movement similar to rainfall with their hands.
"Hands on top"	K-5	Students respond "Now we stop!" and place their hands on their heads. Good for activities with lots of hands-on or engaging materials.
"Ba ba-da ba ba..."	K-5	Students respond "Ba ba!" to the tune of "Shave and a haircut...two bits." Can do other noises or syllables as well.
Harmonica	K-5	Students freeze and listen or do a movement to indicate they heard the sound.
Quiet Coyote	K-5	Students put up their hands in the shape of a coyote head to match the teacher in silence.

6. Incorporates Multiple Learning Modalities

Expectation:

- Garden educator employs multiple learning modalities such as visuals, movement, and/or songs/chants/catchy phrases

The use of senses is integral to learning. In classroom settings, we frequently receive information through listening, as well as visual observation. Students remember information and experiences better when it is introduced using different modalities. There are four main modalities: auditory, visual, kinesthetic, and tactile. A strong lesson will include all four of these methods of teaching to ensure learning across all modalities.

Modality	Learning through...	Examples
Auditory	Hearing	<ul style="list-style-type: none">- songs- chants- poems/rhymes- lecture- group discussion- skits
Visual	Seeing	<ul style="list-style-type: none">- posters- physical examples (leaves, models, etc.)- written vocab words, instructions or descriptions on the board or on worksheets- reading

Modality	Learning through...	Examples
Kinesthetic	Movement	<ul style="list-style-type: none">- dances- hand motions- body movement (stretching like a tree)
Tactile	Feeling	<ul style="list-style-type: none">- touching objects- taking notes/filling out worksheets during lecture or exploration- sculpting/building

7. Calm Clear Voice/Clear Language/Varied Tone

Expectation:

- Garden educator uses a calm, well-paced, loud, and clear voice to instruct
- Garden educator uses language that is easily understood by students
- Garden educator tone varies throughout lesson and keeps students engaged

Garden educators should practice using their voice, pacing, and tone to engage students and communicate clearly. It's helpful to see this modeled by other educators as a part of training.

8. Clear Instructions

Expectation:

- Garden educator keeps instructions concise
- Garden educator anticipates and/or answers student questions
- Garden educator checks for understanding of instructions

What strategies does the garden educator use to ensure instructions are clear to students? What does the garden educator do if a student doesn't understand?

A great model to use is the why/what/where/when/who guidelines for giving instruction.

- **Why:** Why should they be interested? Get students excited, engaging their wonder or curiosity. Keep it concise!
- **What:** Explain the activity and any important rules. Anticipate questions students might have and answer them in your explanation (*"We will not be picking today, only looking with our eyes"*).
- **Where:** Explain boundaries of activity. Use clear visual markers (cones, fences, etc.) so expectations are clear.
- **When:** Explain timeline and demonstrate:
 - How they will know when to start (i.e. *"When I say 'GARDEN!' you may begin"*)
 - How long they will have for the activity
 - How they will know when to end and what will they do when finished (i.e. *"When I howl like a coyote, come back to the circle with an idea in your head to share with the class"*)
- **Who:** Help students understand how to work with others, or who to go to with a problem.
- **Review:** Go over everything one more time with clear takeaways. Students can help you finish sentences as a way to check for understanding (i.e. *"You will begin when I say...what word?"*)

There are a number of common missteps while giving instructions. They include:

- Giving too many rules and specifications at one time. Students will find it difficult to remember all the details which makes it harder for them to follow the instructions.
- Asking questions in advance of wanting answers. Students will feel the urge to interrupt and may lose focus on what you actually want them to think about.
- Asking students to "think about this" or "think about that." It's usually too vague and abstract of an ask for students, unless they have a visual representation to consider.
- Asking questions in the hopes that they will provide specific answers, i.e. "Who knows what Observation means?" These questions may distract students from the instructions.
- Not explaining the start and end of activity in clear terms. Transitions are much harder for students when they don't know what they look like.

9. Effective Behavior Management

Expectation:

- Garden educator positively narrates behavior of students
- Garden educator ties appropriate consequences to student behavior
- Garden educator effectively manages conflicts between students
- Garden educator creatively addresses consistent behavior management challenges

Examples:

Positive Narration

When students misbehave, it's often because they need a reminder of what the expectations are. The best way to do this is by naming students who are meeting expectations and narrating their behavior. For example: "I see Mackenzie is sitting quietly with her eyes on me. I see Liza has her legs crossed and is facing forward." If there are still students that are not on task, you can correct without naming them: "I am waiting on two students to show me they are ready by putting their eyes on me."

If students are still not following instructions, use a neutral tone and words to correct them. Explain why you are asking for the behavior: "Jimmy, I need silence before I can give instructions so that you will know what to do during the next activity." As a general rule, you should give positive praises before and/or after a correction.

Appropriate Consequences

When consequences are not tied to actions, they are less intuitive for students to comprehend. For example, if the consequence for misbehaving during garden class is to lose recess the next day, students will have a hard time connecting their behavior to that arbitrary result with a time delay. However, if the consequences are tied to actions, it is much more clear how their behavior impacts the result. "If it takes too long for me to explain instructions because students are talking, we will not have time for garden jobs at the end of class today." Students are much more likely to understand and correct their behavior based on that clear, predictable sequence of events.

Managing Conflict

See the Behavior Management training overview in *Learning & Teaching Outdoors*, linked in the Table of Contents, for more ideas on how to resolve these issues.

ENDING CLASS

10. Effective Closing & Clean-Up

Expectation:

- Garden educator gives students time to reflect on lesson
- Clean up is efficient and effective

Closings are important to allow for reflection on what students experienced during class, integration of new information, and sharing with others for retention. Pick one or two closings and use them at the end of every class for consistency. Examples are below.

Closing	Grade	Description
Whisper, Shake, Shout	K-2	At the end of every class, have students whisper their favorite part of the class into their hands, cup their hands to their ears to listen back (so they don't forget), shake it up, and throw it into the air while shouting/whispering their favorite part.
Yes Circle	K-5	Stand close together in a circle and have students share things that happened that day. After each person speaks, the whole group gives a hurrah/exclamation/yes!
Pass the Pulse	K-5	Stand in a circle holding hands. You can ask questions such as, "If you felt curious today when we did X, pass a pulse." Everyone can feel the pulse but no one knows who started it.
Rose, Thorn, and Bud	3-5	Everyone goes around the circle and shares something they were happy with during that day's activity (Rose), something that was difficult (Thorn), and something they look forward to (Bud).

CLASSROOM ROUTINES

11. Garden Agreements

Expectation:

- Garden educator creates garden agreements with students and sets behavior expectations for the year

Garden educators can adopt the agreements their school already uses (such as Be Safe, Be Responsible, Be Respectful) and build off of these with student input to create behavior expectations for the year. Agreements can be enhanced through role-play and skits, see below.

Strategy	Grade	Description
Yes! No! Expected Garden Behaviors	K-1	<ul style="list-style-type: none"> - Meet students in the indoor classroom or the garden. Come with images of expected and unacceptable behavior (example: a student walking/ a student running, a student using the tool safely/unsafely, etc). - Show students images one by one. Have students vote for the expected behavior by clapping when they see the expected behavior and being silent when they see the unacceptable behavior. - When the students “vote” for an expected behavior, have students tape the image to a poster with two columns: one that says Yes! for expected garden behavior and another that says No! for unacceptable garden behavior. - <i>Note: Kindergarteners usually cannot read, so use green for the YES and red for the NO titles of the columns.</i> - Have students show a thumbs up to agree to follow the expected behaviors.
Garden Educator: the Misbehaving Student	K-5	<ul style="list-style-type: none"> - The garden educator performs skits starring their alter-ego, the misbehaving student. - Distribute a clipboard that shows an image of the rule/expected behavior to one student, but tell them not to look at it. - Garden educator portrays rule-breaking/unexpected behavior and the students guess what rule is being broken. Have students drumroll and unveil the rule/expected behavior. - Read the rule aloud and have students demonstrate how to behave appropriately. - Feel free to dramatize and make it a ritual. (Ex: “Ms. Mackenzie the Misbehaving Student is back...and at it again!”)
Garden Tour and Rules Review	K-1	<ul style="list-style-type: none"> - Walk around the garden with students to get to know the different areas within the space while practicing rules (walking, stay on path, etc.)

Strategy	Grade	Description
Rule Charades	1-5	<ul style="list-style-type: none"> - In small groups, students are assigned an EXPECTED or UNACCEPTABLE behavior. Students take turns modeling the behavior and the crowd votes on whether the behavior is EXPECTED or UNACCEPTABLE. - Alternatively, assign groups to an area in the garden (dig zone, seating area, raised beds, etc.) and task them with creating a skit summarizing the rules for the space. Provide students with an outline for the skit (introduction, a student acting incorrectly, someone else showing how to act correctly, ending). Then, tour around to all the areas to watch the skits.

12. Thoughtful Transitions

Expectation:

- When entering the outdoor garden classroom, students know where to sit based on routine or clear instructions
- Students move quickly through transitions and are able to refocus after transition is over
- Students know when class ends

Examples:

Entering the Garden

Having a routine to efficiently enter the garden can help to ensure a prompt start of the lesson. Though it may take a few weeks or months for students to learn the routine, it will save time in the long run once they get it down! When seating students in the outdoor classroom, consider the following approaches. It can be helpful to greet students as they are in line by a door that leads to the garden, or on a line painted on the ground near their seating circle. Ask students to choose a “smart spot” where they feel like they can learn and listen. Prompt students to look at who they are sitting next to and have students move if they think there is a better seat in the classroom for them to learn. Choose seats for students that have trouble following this task.

Transitions During Class

Transitions help keep students focused while moving from one location to another.

Transition	Grade	Description
Animal/Plant Dance	K-3	To mark a transition, the garden educator or students can call out animal or plant names as prompts for dance moves.
Silent Sit Down	K-5	Have students take a deep breath, hold it, sit down, and let it out.
Animal Walk	K-1	Name an animal. Have students move to the next area as that animal would move.
Imaginary School Bus	K-1	Students must find their seats behind garden educator as if they are on an imaginary school bus and the garden educator is the driver. As the garden educator moves to the next location, students wave to the people on the streets that they pass while remaining seated. Students can't get off until the door opens. Students can also clap a rhythm while moving.
Transition Competition	K-5	Time the class to see how fast they can transition and compare to other classes or a record from the previous class.
Check for Completion	K-5	Students raise their hands when they are finished and have their work checked by a teacher before being dismissed.

Exiting the Garden

Exiting the garden is just as important as entering; the routine lets students know it's time to leave, giving the garden educator time to clean up and the teacher support in transitioning students out of the garden. Consider some of the following approaches:

- After closing, have students give themselves a pat on the back or thumbs up to celebrate being focused during class. Then have them give a pat on the back or thumbs up to a neighbor to share in the celebration.
- Excuse small groups of students to line up at the door where the classroom teacher is standing. Groups can be determined by the color of their shoes, by pre-determined homeroom teacher groupings, etc. Students give garden educator a high-five on the way out of the garden.

13. Organized & Consistent Materials Distribution

Expectation:

- Materials distribution is organized and consistent to allow for very little disruption to instruction

Examples:

- If kids are passing out materials or collecting them for the garden educator, have them wear a special badge/ name-tag (pencil passer, paper patrol, clipboard collector, etc.). This makes it easier for other students to identify who they should be looking for and makes the helper feel special.
- Have materials set up at stations so that everything a group will need is on a tray, and when students are done they return their materials to the tray.
- Have a “materials zone” - a table or other area in the garden where materials are *consistently* returned. The zone can have storage bins or baskets labeled with words and pictures. Students should return materials to the materials zone and/or materials bins as they exit the outdoor classroom in small groups.
- Make a container labeled “broken pencils” and leave it in the same place every week next to a jar of new pencils and/or a pencil sharpener. Students will know what to do when a pencil breaks without needing to ask the garden educator.

14. Effective Participation Strategies

Expectation:

- Garden educator uses techniques that engage the whole class in discussion
- Garden educator efficiently makes groups of students

Examples:

Promoting Discussion

Participation strategies are meant to get every student in the class thinking about a question or activity. Use these during class discussions to ensure active participation and check for understanding.

Strategy	Grade	Description
Brainstorm	K-5	Brainstorming can happen in a variety of ways: individually/silently, written or drawn in notebooks, with a partner or small group, or as a whole class.
Class Vote/Show of Hands	K-5	Students can quickly answer questions or vote based on a show of hands.
Gallery Walk	K-5	Students present or display their work to the class. For example, students create nature art and the class moves to each art piece to give student artists time to present their art. Alternatively, students can place all of their art on a table and the class can observe (but not touch!) the art as they walk around the table. <i>Note: It is helpful to review and demonstrate how students can be respectful observers.</i>
“I Notice, I Wonder, It Reminds Me of...”	K-5	Taken from The Lawrence Hall of Science’s BEETLES Project, these prompts encourage students to use their observation and questioning skills. They can be used for a quick discussion or science notebook/worksheet activity.

Strategy	Grade	Description
Inside/Outside Circle	3-5	Divide the class into two groups and form two concentric circles. Students in the inner circle face outward and the outer circle faces inward. Students discuss questions/prompts with the person across from them. To encourage discussion with multiple people, the outer circle rotates around the inner circle or vice versa. Alternatively, this can be done in two lines facing each other.
Name Sticks	K-5	Pull names from a jar containing popsicle sticks with student names on them. The student who is picked answers the question or is broken into a group.
Agreement Sign	K-5	Establish a silent sign for students to show when they agree with one another (nodding, hand waggles, etc).
Think-Pair-Share	K-5	After the garden educator asks a question, students think silently to themselves, then turn and share their thoughts with a partner. With younger grades, it is helpful to model respectful listening and taking turns talking. If appropriate, a few students can then share their discussion with the whole class.
Thumb-o-Meter	K-5	Students use their thumbs to vote to show approval, indifference, or dislike.
Sticky Notes Poem	2-5	Have students write one word to describe something on a sticky note. Make groups of 3-4 students to create a poem using the words on their notes.

Group Makers

Group selection techniques, or group makers, are fun ways to break the class into groups for discussion or activities. Though they may add chaos at first, they become more efficient as students become accustomed to the routines.

Group Maker	Grade	Description
Mingle-Mingle	K-5	Students stand in a circle in a clearly defined area. Everyone sings/whispers “Mingle-Mingle” while moving around the area. Garden educator calls out “toe-to-toe” (or elbow-to-elbow, hand-to-hand, back-to-back, etc.) and students must go toe-to-toe with the person nearest them. Garden educator asks a question for each pair to discuss, then they resume mingling until the next direction is called out. Students get to know one another and pairs or small groups can be created easily.
Find a partner with...	K-5	Garden educator calls out characteristics (i.e. find someone with the same colored shirt, same color of shoes, same sized hand) and students find a partner with a matching characteristics.
Peas and Carrots	K-3	Have students jump up and down while you chant “Peas and carrots, peas and carrots!” Shout out a number and students must get into groups of that number. Continue to do this with other numbers until you arrive at the size group you want.

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Group Maker	Grade	Description
Seating Spots	K-5	Use seating arrangements to create groups - bench colors, sit spots, etc. (for example, have garden creatures painted on each bench/stump, so students can be grouped together based on whether they're sitting on a ladybug, a butterfly, or a dragonfly, etc.)

15. Plan for Early Finishers

Expectation:

- Garden educator has planned for students who finish lesson activities early

When students finish an activity early, garden educators should provide alternative activities so students can continue to actively engage in the class. See *Back Pocket Activities, Art Projects & Celebrations, and Icebreakers* in the Table of Contents.

Examples:

- Have a “Done Jar” with activities written on popsicle sticks, i.e. “Find ten bugs in the garden” or “Taste a sorrel leaf.”
- Create a “Museum of Natural Curiosities” with simple exhibits, i.e. different pinecones or seashells for students to explore.
- Garden jobs are a great option if you can manage both areas at the same time, or send another teacher to manage one group while you manage the other group.
- Students can assist others in their work.
- Small jobs like sharpening pencils, picking up trash, etc. make students feel helpful.

16. Rituals

Expectation:

- Garden educator uses rituals to establish culture and community in the garden

Using rituals is important to establish a garden culture and community in the outdoor classroom. Repetition and consistency is key. Use them to mark when class starts, when transitions happen, or when greeting students.

Ritual	Grade	Description
Snake Breath	K-5	Garden educator hits a chime/bell and students take a deep breath and let it out with a hissing sound. If it is a windy day, garden educator can challenge students to make the wind even stronger with exhalation.
Secret Handshake	1-5	Garden educator picks one student to make a secret handshake to share with the class. Garden educator then does the secret handshake with every student in the class.
Weekly Reporters	4-5	Select two students to be reporters. The following week, the reporters will remind the class of what they did in the previous garden class. Could also report the weather that day.
Garden Names	K-5	Students can choose a nature name to be used during class (name tags are helpful)
Two-Minute-Challenge (see appendix below)	1-5	Students begin the day's lesson with a quick challenge related to the lesson topic. The challenge usually involves finding or observing something in the garden.
Three Challenges	K-5	Share 3 challenges with students at the beginning of an activity (e.g. get dirty, learn something new, have fun) and then share whether or not the challenges were met after class.
Nature Sounds	K-3	Ask students to listen for nature sounds as a way to get quiet and begin making observations in the garden right away.
Class Breathing	K-5	Deep breaths, waterfall breaths, frog belly breaths--however you'd like to frame it!
Class Movement	K-5	Vegetable yoga, 10 second party, one minute of garden exploration, etc. to get the wiggles out.
Silent Minute	K-5	Quiet time to calm down before beginning class
Clubs	K-5	Clean plate club, dirty hands club, etc. can help build team spirit

MAKING IT STICK!

(*SUCCESS: Simple, Unexpected, Concrete, Credible, Emotional, Story*) Overview

All background material, examples, and quotes are from the book *Made to Stick* by Chip and Dan Heath (2006). See more in the *Making it Stick* training overview in *Learning & Teaching Outdoors*, linked in the Table of Contents.

Create a mystery - frame knowledge acquisition as a mystery to create a knowledge gap (Unexpected)

Tell a story - using motions, audience participation, and repetition (Story, Emotional)

Use visuals - such as props, diagrams, mascots (Concrete)

Pick one takeaway - a.k.a. Commander's Intent. What is the one thing you want your students to remember from your lesson? (Simple)

1. Mysteries: The Knowledge Gap

- Create a knowledge gap:
 - e.g. "How do seeds travel?" or "Why ladybugs have spots?"
 - Knowledge gaps create an element of surprise. Biologically, surprise jolts us to attention.
 - Common sense is the enemy of sticky messages - anything that sounds like common sense will go in one ear and out the other.
- Frame the question within the context of a bigger mystery
 - e.g. "How did this tree get here, if plants can't walk?" → the mystery is, "How do seeds travel?"
- Our tendency is to tell people the facts, but first we should find the holes in their current knowledge
 - We tend to be overconfident in what we know, so we must be made to realize what we DON'T know!
- Importance of creating mysteries
 - *"The process of resolving mysteries is remarkably similar to the process of science."* By using mysteries, teachers don't just heighten students' interest in the material, they train them to think like scientists.
 - The format of a mystery is inherently appealing.

2. Tell a Story

- "Curiosity is the intellectual need to answer questions and close open patterns. Story plays to this universal desire by doing the opposite, posing questions and opening situations." (Robert McKee, screenwriter)
- Incorporate motions, audience participation, repetition
- Stories create buy-in from the audience:
 - Mobilizes them to act, makes them automatically want to problem solve for the main character, which creates a springboard to problem solve for ourselves
- Study in which Stanford students are paired, given time to present a one-minute persuasive speech to their partner about crime rates. After a ten minute distraction, they were asked to write down what they can remember about their partner's speech - 63% remember stories told in the speeches whereas only 5% remember any individual statistic!

3. Use Visuals

- What props, visuals, and mascots can you use to make this more concrete?
 - examples: Sam Seed, Mrs. Rock, Carly Carrot, Wanda the Worm
- Use diagrams
 - examples: seed dispersal images, soil pie chart, soil particle size
- Give students a chance to experience a phenomenon themselves, rather than just taking the educator's word for it (increases credibility)

4. Keep it Simple

- “No plan survives contact with the enemy;” “No sales plan survives contact with the customer;” “No lesson plan survives contact with students,” therefore....
- Applying it to teaching:
 - If my students learn nothing else in tomorrow’s lesson, I hope they learn

Miscellaneous Sticky Teaching Tricks and Tips:

- Harvard professor has found that the simple act of committing to an answer beforehand makes students more engaged and more curious about the outcome.
- Appeal to your students’ self interest - what’s in it for them?
- Appeal to aspirational identities - not only who people are but who they would like to be - how would our students like to be?
- There is actually no correlation between speaking talent and the ability to make ideas stick!

Great Examples of Sticky Lessons:

- Anti-War activists who dropped BBs into a metal bucket in sequence (with attendees closing their eyes) - one BB = Hiroshima bomb, 10 BBs = firepower on one U.S. nuclear submarine, 5000 BBs = world’s current nuclear arsenal. Deafening silence following presentation. (*concrete, credible, emotional, unexpected, story*)
- High school teacher who had his students saw through a cow’s thigh bone to simulate the drama and emotion of being a doctor during the Civil War. (*concrete, emotional, unexpected, credible*)
- UNICEF director who always carried with him a packet of salt and sugar for oral rehydration therapy to meetings, telling people “It costs less than a cup of tea and it can save thousands of children’s lives!” (*concrete, emotional, simple, unexpected*)
- Urban legends: Kentucky Fried Rat, Kidney Heist (*concrete, emotional, unexpected, story*)
- Accounting 101 professors who framed their course as a semester-long story in which their students were tasked with helping two fictitious accounting students start their own on-campus business using accounting knowledge (*concrete, story, unexpected, emotional, credible*)
 - Students who had this concrete framework scored higher on big accounting test TWO years later!

Examples of Sticky Education Outside Lessons/Activities:

- Plant part costumes (*concrete, unexpected*)
- Planet Zog Life Lab lesson (*unexpected, story, emotional, credible, concrete, simple*)
- Jolly rancher weathering activity (*concrete, unexpected, simple*)
- Seed Dispersal (*story, emotional*)
- Worm gizzard pretzel demonstration (*concrete, credible*)

Basic Story Structure

1. BEGINNING: “Once upon a time...”

Establishes “normal” context

“I want to tell you a story about when I was seven years old. I was in Ms. Moon’s second grade class, and my best friend was named Sarah Farr. Every day my dad packed my lunch, and every day he packed me an apple. The apples he packed me were mealy, they were covered in wax, and they tasted like...CARDBOARD! I didn’t like them one bit! And, when I started second grade, I had never been to an apple orchard in my entire life...”

.....

2. TURNING POINT: “Until one day...”

Disruption from the norm. Sets the stage for a story that’s about to unfold.

“...until one day, my best friend Sarah Farr invited me to come with her family on a trip to an apple orchard an hour away from our neighborhood.”

3. ADVENTURE/SERIES OF TURNING POINTS: “And then...”

“The orchard keeper told us we could each pick three apples. We walked to the very edge of the orchard, climbed up the tallest tree we could find, wrapped our arms around the trunk and reeeeeached out. Our fingers could barely reach it, but we each grabbed a Spitzenburg apple. We held it up and then took a huge bite. Do you want to know what it tasted like? (hand out samples). REPEAT

4. RESOLUTION: Ties back into the beginning/”Ever since then...”

“On the way out, the orchard keeper taught me a new word. The word he taught me is, ‘Cultivar.’ It means type of food plant. I had gotten to try 3 different apple cultivars, the Spitzenburg, the Arkansas Black, and the Pink Lady. When I got home and my dad was packing my lunch, you know what I asked for? An apple. But this time, I asked for a different cultivar.

Storytelling Tips

- Encourage student participation through questions, saying repeated lines with you, and gestures. They can act out the story in their seats.
- Repetition! Establish predictable elements (character does the same thing twice and then the third time it changes; use the same gestures for the same part) while maintaining some degree of uncertainty (what’s going to happen next?).
- Use students’ names as characters in the story
- Pacing...pause dramatically to create suspense, let your voice get a little quieter and lower, and ask kids, “Do you want to know what happened next?”

Sample Stories

1. Wanda the Worm

Beginning:

Once upon a time, there was a worm egg sitting in the dirt. It sat there doing nothing. And it sat there doing nothing. And it sat there...doing nothing.

First Turning Point:

Until one day it hatched! Out of this tiny egg crawled not one, not two, not three, not four, but FIVE baby worms.

Series of Turning Points/Adventure:

One of these baby worms was named Wanda. Wanda crawled through her home and ate. She ate and she ate. She ate and she ate and she ate and ate. And as she was eating, Wanda grew. She grew and she grew. She grew and she grew and she grew and grew. Soon, Wanda was not a baby worm anymore, but a juvenile worm.

And Wanda the juvenile worm, well, she hung out in her worm home. She wiggled around, she made tunnels, and you know what else she did? She ate! She ate and she ate and she ate and ate. And as she was eating, Wanda grew. She grew and she grew. She grew and she grew and she grew and grew. Soon, Wanda was not a juvenile worm anymore, but an adult worm.

And Wanda the adult worm, she wiggled around, she made tunnels. And Wanda the adult worm, she looked a little different. She had a new body part...it is called a CLITELLUM. (Has anyone seen a clitellum?) And this body part was for laying eggs. She mated with another worm, and then she laid an egg.

.....

Resolution:

And that egg sat there, doing nothing. And it sat there doing nothing. Until one day...it hatched, and five baby worms crawled out. And you know what? They all looked just like Wanda.

2. The Mystery of the Travelling Seed

Beginning:

Once upon a time there was a classroom of 3rd grade scientists. They had been studying a large tree that grew near their school. They talked about how the tree had grown roots, how it had grown branches, and how it had grown leaves. They talked about how it was once a tiny seed, made by another tree. Anastasia piped up, "Well, if it was a tiny seed on another tree, how did that tiny seed get all the way over here?"

"Yeah!" Said Jon. "And how did the seed of that bush get here?! And that flower? And that shrub?!"
"It's a mystery!" Darya shouted. "They mystery of the travelling seed!"

First Turning Point:

And so, the class of 3rd graders decided to journey into a forest to try and solve the mystery of the travelling seeds. They brought their science clipboards, their magnifying glasses, and their special scientist hats (*everyone takes out their science clipboard, magnifying glasses, and puts on their hat*).

Adventure/Series of Turning Points

They started walking, and soon enough, came to a small stream. Next to this stream, there was a big coconut tree with some delicious looking coconuts high in the branches. The students were drinking water from the stream when suddenly (sound effect), MC heard a loud splash. She looked up and saw that one of the coconuts had fallen from the branches and landed smack dab in the middle of the water. "Look! She said to her classmates! And they all gathered around to watch, as the coconut floated down the stream, washing up on the side of the stream. Now, Adalyn had magical goggles that allowed her to speed up or slow down time. She put them on, (*sound effect*), and watched as that coconut sprouted, grew roots, and grew into a beautiful, tall tree. She took the goggles off and told the other students what she saw. Olivia decided to call these kinds of seeds FLOATERS. Everyone wrote that down on their science clipboards and the students continued on their journey.

[Students continue on the adventure, identifying FLOATERS, DROPPERS, POPPERS, HITCH-HIKERS, FLIERS, and POOPERS. With each seed, have a physical example of that kind of seed and incorporate it into the story. For example, with hitchhikers, rub some hitchhiker seeds on students' sleeves as you tell them about how they are walking through a meadow full of seeds.]

Other Story Structures

- Challenge Plot

- Inspirational story of overcoming challenges e.g. 1980 US hockey team victory, Star Wars, Rosa Parks, David vs. Goliath, etc.

- Connection Plot

- Story about people who develop a connection that bridges a gap (class, racial, religious, demographic etc). e.g. Romeo and Juliet

- Creativity Plot

- Someone making a mental breakthrough, solving a long-standing puzzle or attacking a problem in an innovative way e.g. Newton & the apple

TWO-MINUTE CHALLENGE

What is a two-minute challenge?

Two-minute challenges are short, simple tasks for students to complete. Ideally they are both exciting and accessible; students should always feel as though they can complete the task, but there is some element of difficulty that motivates them to get up and moving through the garden.

When are two-minute challenges useful?

Two-minute challenges are a quick way to engage students...

- a) at the beginning of a lesson (gets the wiggles out).
- b) when they finish an activity early (have a Done Jar filled with “challenge cards”).
- c) during recess/lunch.

How can I use two-minute challenges in my garden?

Ideally, the challenge you choose is related to the lesson you are teaching. Two-minute challenges work well as hooks or introductions to lessons because they provide a segway into the lesson you are going to teach that day. No matter what, you want to get students out into the garden as soon as possible, limiting the amount of teacher-talking time.

Steps:

1. Introduce students to the concept of a two-minute challenge. Outline your expectations, i.e.
 - *Everyone is engaged and searching.*
 - *Come back to the circle when you are finished.*
 - *If you aren't finished by the time I howl like a coyote, you still need to come back. It's okay if you didn't get a chance to complete the challenge, we will have time to talk about what other students saw/smelled/counted!*
2. Explain the challenge, briefly, but with enough detail that students understand what they should be doing in the allotted time. The best challenges are described in one or two sentences, i.e. *“Today we will be counting how many different kinds of flowers we can find in the garden.”*
3. Anticipate confusion and questions, i.e. *“Count with your eyes, but do not pick anything today!”* or *“If you find two flowers on the same plant, it doesn't count! Look for how many different kinds of flowers you can find.”* Giving examples can help.
4. Give students a few minutes (can be more than two) and bring them back to the circle. Give them a chance to share what they found with each other or the whole group, i.e. *“Show on your fingers how many flowers you found.”* or *“Whisper to the person next to you the number of flowers you counted.”*

What are some examples of two-minutes challenges?

There are so many! Check out the ones below, and come up with your own.

1. Find as many smelly leaves as possible. Pick one to bring back to the circle. Name it based on its smell and share your leaf and its name with a neighbor.
2. Find a rock in the garden that is bigger than your thumb but smaller than your hand. Bring it back to the circle.
3. Find a place in the garden that would be protected from rain drops.
4. I have a wooden frog mascot that I will be hiding in different spots every week. Work together to find it! (The location of the frog relates to the lesson, i.e. hide it in the compost before teaching about decomposition.)
5. Find something the size of your (thumb, hand, foot, fingernail etc.)
6. Count how many ____ are in the garden (artichokes, sunflowers, etc.)
7. Flap your wings like a bird/butterfly and fly over to ____ and back. (For really energetic classes, repeat as many times as necessary while moving about like animals until the kids are tired enough to sit still for 10 minutes.)

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8. Go out into the garden and take “pictures” of 3 things that seem different from when you were last in the garden. (By take pictures I mean hold up a fake camera and make a “cuchoo” clicking sound.)
 9. Find a sit spot and tally 3 city sounds and 3 nature sounds you can hear from that spot.
 10. Take a measuring stick and measure the length of the fava bean plant that you planted 2 weeks ago.