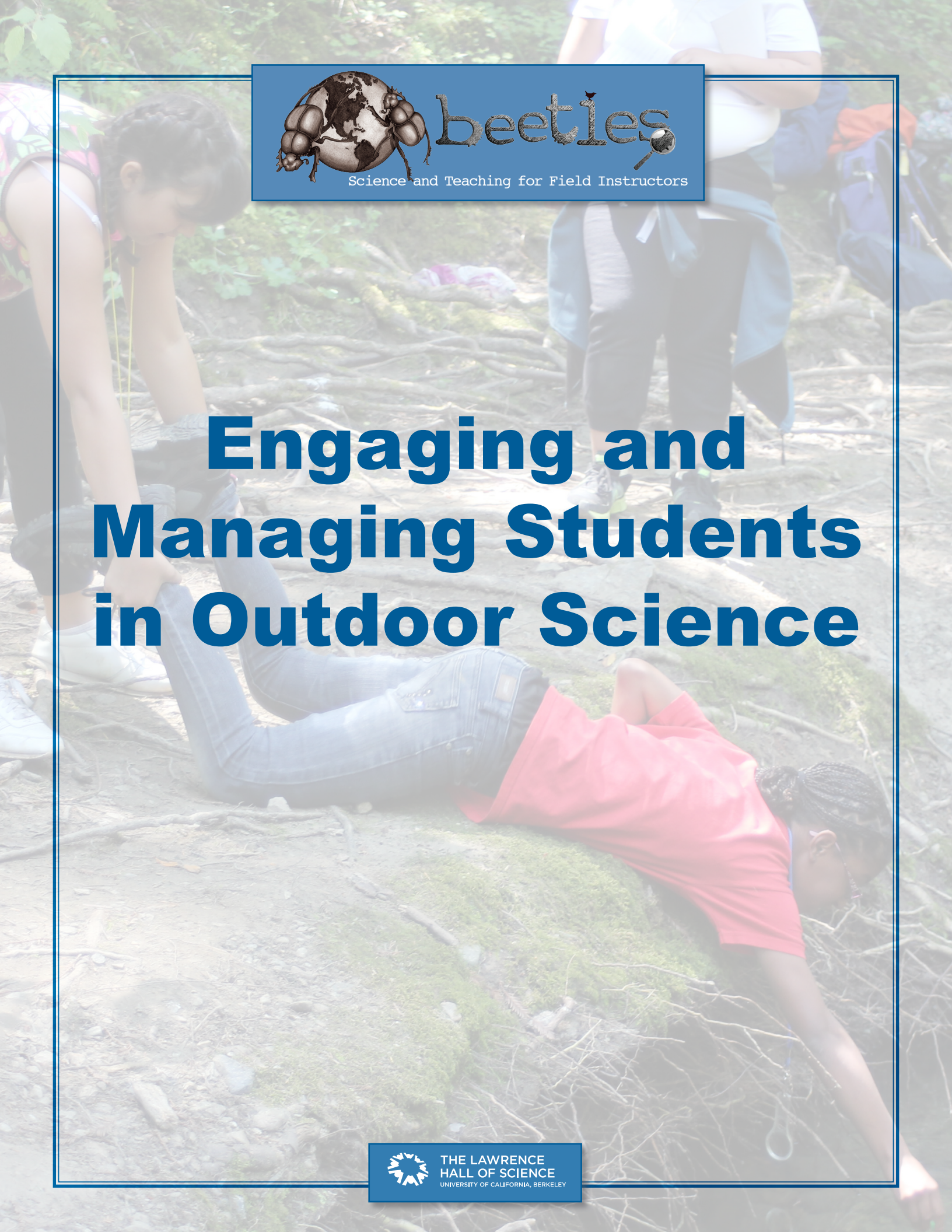

beetles

Science and Teaching for Field Instructors

# Engaging and Managing Students in Outdoor Science

THE LAWRENCE HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

## ABOUT BEETLES™

**BEETLES™** (Better Environmental Education Teaching, Learning, and Expertise Sharing) is a program of The Lawrence Hall of Science at the University of California, Berkeley, that provides professional learning sessions, student activities, and supporting resources for outdoor science program leaders and their staff. The goal is to infuse outdoor science programs everywhere with research-based approaches and tools to science teaching and learning that help them continually improve their programs.

*www.beetlesproject.org*

The Lawrence Hall of Science is the public science center of the University of California, Berkeley. *www.lawrencehallofscience.org*

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# Table of Contents



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**This is not a guide on how to deal** with misbehaving students. Yes we know, student misbehavior can certainly be a big issue within a program. But a focus on managing student misbehavior misses the opportunity to take a student-centered approach to engagement and management. But don't worry, we will address later in this guide what to do if students act out.
Hint: It's more effective to respond to students who are struggling by figuring out what they're struggling with and offering support than it is to punish them.

# Introduction

Every instructor has to struggle with and figure out how to approach student management, which is not a small challenge, and knowing how to engage students in meaningful ways is a huge part of that. This guide presents a student-centered approach to engagement and management, an approach focused more on creating an environment conducive to student learning, and less on how to "deal with" or discipline students if they're not behaving the way you'd like. This is a guide on how to engage students positively from the beginning by creating an environment in which they have the highest chance of being the best versions of themselves, so that everyone in the group can have a positive experience and learn.

**How do you do that?** Basically, you do it by:

- Taking care of student's safety, social, and emotional needs throughout everything you do.
- Setting up a balance in student learning experiences between structure and student autonomy.
- Engaging in culturally responsive and student-centered teaching.
- Creating a positive, intellectually stimulating learning environment.
- Creating a group that actively and intentionally promotes the inclusion of every member.

This guide is based on established research on the subject, our extensive experience working with students, and interviews with program leaders, instructors, and experts on the topic. We've distilled all that into this guide on engagement and management in the context of outdoor science programs. But it's certainly not comprehensive, because this topic is way too big to fit into one guide.

**Actually, we're assuming a lot of** instructors who might encounter this guide have a lot of practical experience with this topic, and could teach us a thing or two! We hope you check out this guide anyway, because it will likely confirm what you're already doing, deepen your current practices, and maybe even offer some new approaches or ideas.

This guide isn't step-by-step instructions to student engagement. It's a resource to help you deepen your thinking about the practice of instruction, whether you're new to outdoor learner-centered instruction, or whether you already have quite a bit of experience with the topic. One of the challenging and rewarding parts of quality teaching is that there isn't a formula you can follow. We'll offer lots of structures, guidelines, and strategies here, but ultimately each instructor has to find their own style as a leader and interpret it all in their own way.

## Chapter Overview

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**Foundational Ideas** lays out some basic values, approaches, and assumptions that frame the document. This is probably the most important section to read.

**Basic Student Needs** addresses the importance of helping students feel safe by making sure students' basic needs are met, including social attention, emotional safety, and physical comfort.

**Inclusion, Equity, and Culturally Responsive Teaching** shares resources to develop culturally responsive practice.

**Group Culture** addresses the importance of deliberately building a group culture, and presents some ways to establish it.

**Promoting Intellectual Engagement** is about creating an environment that's interesting for students, so they're stoked to learn and less likely to become disengaged.

**Norms and Expectations** discusses supporting student autonomy by offering structure, norms, rules, agreements, and systems for holding students accountable.

**Styles of Management** points out different approaches instructors might take to these management strategies based on their natural inclinations.

**Outdoor Management Primer** outlines some key strategies and actions to take in the first hour with students to establish rapport, routine, and positive ways for students to show up, as well as important things to do throughout the experience.

**Appendix: Program Leader Interviews** includes interviews with leaders in the field about management styles of diverse groups and large groups.

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**Unconditional Positive Regard.** Unconditional positive regard is a term developed by humanistic psychologist Carl Rogers. It describes a basic acceptance of a person and respect for their humanity, no matter what they do or say.
Another way to think about it is believing in who students *are*, while redirecting what they *do*.

**Effect on academics. "One study found** that students who felt unconditionally accepted by their teachers were more likely to be genuinely interested in learning and to enjoy challenging academic tasks—as opposed to just doing things because they had to and preferring easier assignments at which they knew they would be successful (Makri-Botsari, 2001)." Unconditional Teaching—Alfie Kohn. Educational Leadership. September 2005

**Want to read an article about how the** Seattle School System put this kind of philosophy into practice? Read "You Are More Than Your Mistakes: Teachers Get at the Roots of Bad Behavior."
www.seattletimes.com/education-lab/you-are-more-than-your-mistakes-teachers-get-at-roots-of-bad-behavior/
www.seattletimes.com/education-lab/race-dramatically-skews-discipline-even-in-elementary-school/

**On Conditional support: "The more** conditional the support [one experiences], the lower one's perceptions of overall worth as a person" (Harter, 1999; also see Assor et al., 2004).

**Self-Determination Theory. Much of** what we are sharing here is based on Self-Determination Theory, a widely accepted psychology theory about human motivation.

# Foundational Ideas

This section outlines some basic ideas that guide our every interaction with students and sets up a framework for the rest of the document. We recommend you read it, discuss it with fellow instructors, and then reread it later.

## The Power of Underlying Acceptance

Underlying everything you do with students should be an attitude of *acceptance and appreciation of each student* for who they are as individuals, with all their strengths, challenges, and struggles, and for their fundamental rights as humans. That should be a foundation students can feel in your group, and one that is rock-solid no matter what happens. It's an attitude of unconditional positive regard toward all students, in which instructors see each child in a positive light, regardless of their behavior at a given moment. In response to such an attitude, students (and people in general) will tend to be their better selves.

Unconditional positive regard doesn't mean we need to accept every student *behavior*, but if students generally feel appreciated, and that their existence is valued, they're much more likely to:

- Engage with your program
- Feel good about themselves
- Participate productively in the group

Practicing unconditional positive regard in even the briefest interactions, as well as in moments of frustration, can make a big difference in how students feel, and consequently, how they show up a a program.

## Facilitating Engagement, Curiosity, and Motivation

When students are engaged during a learning experience, all kinds of things are possible. Luckily there's been plenty of research done on engagement, and it has identified three key ingredients: autonomy, mastery, and relatedness. Keep these in mind to set up engaging learning experiences:

- **Autonomy:** Provide experiences in which students feel they get to make their own choices and follow their own interests.
- **Mastery (or competence):** Provide opportunities in which students feel the satisfaction of getting better at something.
- **Relatedness:** Help students foster social connections by developing relationships with others and their group.

When these three human psychological needs are met, it tends to lead to intrinsic motivation, engagement, and contentedness during an experience. When these needs *aren't* met, students tend to be less engaged and motivated, and more likely to act in ways that reflect the darker sides of human nature, like prejudice or aggression.

The good news is that people are born curious, engaged, and motivated. The good *and* bad news is that the social context someone is in can either support or discourage that curiosity and engagement. Unfortunately, many students have spent a lot of time in situations where there is little space provided for curiosity or student-driven learning. If you have unmotivated students, or students who lack curiosity, it's good to remember that it's not their fault. If you have motivated students, it's good to remember it's not because they're better people. In both cases, it has to do with the social context they've been exposed to. By providing a positive social context, and by providing experiences in which students have autonomy, mastery, and relatedness, we can help all students become engaged—and happy!—during outdoor science experiences.

## Extrinsic and Intrinsic Motivation

Another piece of this fascinating puzzle has to do with extrinsic versus intrinsic motivation:

- **Intrinsic motivation** is when we do something because we find it interesting. It means doing things "for their own sake."
- **Extrinsic motivation** is when we do things for some kind of external reward, such as to please others, get good grades, receive prizes, or avoid punishment.

Ultimately, we want students to act based on intrinsic motivation. We want students to be engaged with exploring nature and talking to each other about ideas just because it's interesting. If students are intrinsically motivated to explore nature at your program, they're more likely to do more of it on their own when they leave. If it's mostly extrinsic motivation, not so much.

In education, there are times to strategically use external motivation, such as in this type of situation: "If you form a circle quickly, we'll play a round of Camouflage as a reward." If you have a really challenging group, you'll probably need to use some extrinsic motivation. But extrinsic motivation doesn't work well with anything that has to do with thinking. In situations where the goal is to promote learning and thinking (beyond memorizing), external rewards actually tend to make students do *worse*. It's weird but true. When it comes to thinking, we can ignite their intrinsic motivation to keep learning if we give students positive experiences in nature where they:

- Are engaged in checking out stuff that's interesting to them (**autonomy**).
- Feel like they're getting better at observational and thinking skills (**mastery**).
- Feel socially connected (**relatedness**).

Use extrinsic motivation when you need to, but don't get so caught up in it that you assume students *always* need it. Strike a balance between using extrinsic motivation strategically, while working toward helping students develop intrinsic motivation.

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**Keep in mind why kids are acting out.** "Marilyn Watson (Learning to Trust (2003) explained that a teacher can make it clear to students that certain actions are unacceptable while still providing "a very deep kind of reassurance – the reassurance that she still care[s] about them and [is] not going to punish or desert them, even [if they do] something very bad." This is the heart of unconditional teaching, and Watson points out that it's easier to maintain this stance, even with kids who are frequently insulting or aggressive, if we keep in mind why they're acting that way. The idea is for the teacher to think about what these students need (emotionally speaking) and probably haven't received. That way, she can see "the vulnerable child behind the bothersome or menacing exterior." Unconditional Teaching—Alfie Kohn. Educational Leadership. September 2005

**Trusting children. "Teachers who** assume that children are capable of acting virtuously can likewise set into motion a self-fulfilling prophecy. They can create an "auspicious circle" rather than the more familiar vicious one. Thus, if a teacher trusts her students to make decisions, they will act very differently from those in her colleague's classroom if left on their own; typically, they will act responsibly and go right on with their learning (DeVries and Zan 1994, Hyman 1990)" Beyond Discipline, Alfie Kohn, page 8.

**Short video on motivation: The** Surprising Truth About What Motivates Us: www.youtube.com/watch?v=aUWGHTiKr8Y

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**On learning stations. Another example** of a place to "loosen the reins" is learning stations. Some instructors insist on timed rotations between stations, which has the effect of students going to a station not through interest, but because they're told to (extrinsic motivation). If students do become engaged with the station, they may be forced to move on to the next station when they aren't ready. Others who are not engaged with the station will be forced to stay there till told to switch.

But if you allow students to choose their own stations, it benefits students in a variety of ways. First, they're making a choice, which increases likelihood of autonomy and intrinsic motivation. They get to follow their own curiosity. This also encourages self regulation and engagement. If a student loses interest in the station they're at, they can move on to something they're more curious about. If they're deeply engaged, they get to stay with it.

## The Value of "Loosening the Reins"

Your underlying assumptions affect the way you work with students. If you assume that students need to be tightly controlled to be productive, they aren't going to have much chance for autonomy or for intrinsic motivation. For example, some educators shy away from doing pair talk with students because they can't listen in on each conversation to make sure students aren't "off-task." It's true that when students are assigned to talk in pairs they sometimes wander off topic. This is especially true if they are talking mostly "because they're supposed to," (extrinsic motivation) and not because it's interesting.

But if your question is interesting to them, and if you've attended to their needs for autonomy, mastery and relatedness, and set up a safe environment, your students will most likely be on-task. What's also true is that if you *don't* allow students the freedom to talk in pairs, they will learn less—talk is an important aspect of learning! They will also participate less, and be less intrinsically motivated to engage in their own learning.

For student engagement and autonomy, you've got to be willing to loosen the reins a little, and to be ready for a certain level of chaos at times. When you give students freedom to explore an outdoor area, you may have a few students who get off-task, but you'll also probably mostly have students who are engaged and intrinsically motivated. But "loosening the reins" doesn't mean a lack of structure or that the instructor is passive. The trick is to give *enough* guidance and structure, while encouraging student autonomy. This approach to instruction takes practice and attention to develop, but the rewards are worth it.

## Diving into the Art of Instruction

Outdoor science programs are fantastic opportunities for students to grow in general. Being in a different context than the classroom and with a different instructor from their teacher can help students bust out of the roles they inhabit on the day to day. This includes tons of potential for growth in students' views of science because they are able to experience learning the subject in a dynamic, rich setting.

These opportunities are particularly strong in residential outdoor science schools (ROSS). When students from different backgrounds live together in an informal environment, it can lead to huge growth for them. It's a setting where individuals and groups of students are often ready to see their identities, surroundings, and their social groups in a more open-minded way. Under these conditions, a lot of growth can happen during a fairly short program, especially if the program and instructors are consciously working to support students in self-evaluation and change. Many classroom teachers take their students to ROSS largely because they know and appreciate the social benefits that can happen through these experiences.

Outdoor science programs (and particularly residential ones) are also ideal opportunities for *staff* to grow, to dive into the art of instruction, and to launch careers as educators. Working at a residential program, you get to live, work, and teach with a wide diversity of kids, and witness and be part of these changes week after week. You learn to work through many challenges, and to appreciate all kinds of joys and insights (not to mention being up on all the latest songs, dances, and fads). If you work in one of these programs for a while, are socially attentive and engaged, and have the goal of becoming a better instructor, you'll not only help students have transformative experiences but also really develop your instructional skills.

These skills will benefit you no matter what you go on to do in your life and career. Even if you were attracted to this field mainly through an interest in science and/or nature, we highly recommend fully diving into this vastly rewarding sea of interactions, emotions, ideas, and relationships. The more you do, the richer the experiences for you and your students, and the more effective you'll be at engaging students with science, nature, and learning.

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**This section is connected to the** "relatedness" basic need described in the beginning of this Guide on page 5.

**Don't just feed the kid who responds.** "Figure out a way to help every kid be "seen" as quickly as possible. That technique is what a lot of instructors lack. They'll feed the kid who responds, but what about the ones who aren't responding? Or they get stuck focusing in on one child."
–Paula Pardini, educational consultant.

**The importance of safety and** happiness. "The brain's two prime directives are to stay safe and be happy. The brain takes its social needs very seriously and is fierce in protecting an individual's sense of well-being, self-determination, and self-worth along with its connection to community. We cannot downplay students' need to feel safe and valued in the classroom."
–Zeretta Hammond, Culturally Responsive Teaching and the Brain

**Including yourself in pair discussions.** If you are using discussion strategies like *Walk & Talk* and *Turn & Talk*, make sure you include yourself (and other adults present) in it. It's a great way to have individual conversations with students.

**On Walk & Talk (see BEETLES activity** write-up). "*Walk & Talk* is genius! Using hiking time for team building breaks down barriers. Gets them to share about their schools and home life with each other."
–Jamie Langley, Santa Cruz County Outdoor Science School

# Basic Student Needs

Teaching is a full workout for your brain. As a field instructor, there are a lot of things you've got to keep track of when leading a group of students: there's the content needs, the flow of activities, what field spot you want to get to for X activity—or how to deal with the snake that just slithered through your groups legs! It's easy for instructors to get caught up in all of these, and forget about the physical and emotional needs of each member of their group. But if students' physical, social, and/or emotional needs aren't met, they'll probably experience negative feelings, even if they can't tell you why they're feeling that way. Students are human and their basic needs are important! How well you take care of those needs, or don't, tends to have a big impact on student and group experiences.

Plan ahead and set up structures to help address student needs, then pay attention and respond as student needs come up in the moment. This is especially important in residential programs, where students are away from routines and insecurities about being in a new place can be distracting.

## Social and Emotional Needs

### *Social Attention: Feeling "Seen," and Valued*

People have a need to feel "seen," particularly in a new group. Without opportunities to feel seen in a positive way, some students will seek attention through less positive ways, like acting out. Not feeling seen may cause other students to withdraw. Neither of those behaviors is good for those students, or for the group.

At the beginning of any field experience, but especially with a new group of students, try to figure out multiple ways for everyone to feel seen and included as soon as possible, both by you and by other students. This should take place through brief personal connections you make with each student, and it could happen through:

- A name game, or some other activity that gives students a chance to share a little of who they are.
- Organized interactive activities, such as "Find something you think is interesting in nature, and share it with another person."
- Paired discussion like *Walk & Talk*.

Keep this up throughout the field experience. Offer lots of opportunities for students to talk and do activities in pairs or grouped with different students, so they can feel seen by and connect with each other. During in-between times, moments walking places, or other downtimes, make a point of talking informally with individual students, but do more listening than talking. Ask students about their:

- Ideas
- Experiences
- What matters to them
- What they might have to teach you

Value their lived experience as a kind of expertise, and ask them to share it with you. The more students feel seen throughout their entire field experience—by you and by each other—the more you'll be building authentic relationships.

### Strategies for Learning Names

**Name games.** Name games not only help groups learn names but can also serve as icebreakers, and set a playful tone for the field experience.

**Casual conversation.** Some instructors find they're more successful at learning names by casually asking each student their name individually, without the distractions of a game. You can do this when:

- Students are gathering for the experience.
- You're completing a task that happens when students arrive (like unloading luggage).
- You're walking them to your initial meeting place.

In this approach it's helpful to show interest in students as individuals, and perhaps learn a little something about each one as you learn their name.

**Combo.** Many instructors learn names through a combination of strategies, such as both name games and casual conversation. Focusing on learning names in more than one moment and context can help them be more likely to "stick."

***Other strategies:***

- **Make a connection in your brain.** You can think of another person you know who has the same name (like picturing Michael Jordan next to a student to remember their name is "Jordan"), come up with another word or object to help you remember the name (like picturing a shell to remember "Shelly"), or think of a word that rhymes with or sounds like it.
- **Repeat each name.** When someone gives you their name, you can repeat it a few times right away, such as "Oh, so your name is Osvaldo?" "Nice to meet you, Osvaldo." "Osvaldo, right?"
- **Review names to yourself.** Occasionally during lulls, take moments to quietly survey the group and review each name in your mind while noticing those you don't know yet.
- **Ask when you forget!** Some avoid doing this because they're embarrassed to have forgotten, but asking a student for their name again shows you care, and really want to get it right.
- **Read the name list.** If your program gives instructors a list of their students' names in advance, take a moment to read it and begin memorizing before you meet your students.
- **Take brief notes.** As students share their names and something about themselves, jot down notes (tell students why you'll be taking notes, and let them know you're not evaluating them!)
- **Use nametags** (initially).

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**Focusing on making students feel** seen and building real relationships with them as an instructor can help facilitate connectedness, which is shown to benefit both student behavior, and instructor's views of students.

**Want to read more about this topic?**
Check out these papers:
How teacher emotional support motivates students: The mediating roles of perceived peer relatedness, autonomy support, and competence. by Erik A. Ruzek and Christopher A. Hafen
Focusing on teacher-student interactions eliminates the negative impact of students' disruptive behavior on teacher perceptions by Christofer A. Hafen and Amori Yee Mikami

**Name Games. BEETLES has two name** games available: *You Are What You Eat* (Ecosystems/matter & energy themed) and *Whacky Adapty* (adaptations themed). But there are lots of other name games out there.

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**Pronouncing names correctly. It also** can make a big difference if you pronounce student names correctly (or if you don't). If you're not sure how a name is pronounced, check with the student to see if you got it right. If you look at a list of students in advance, you can also ask their teacher how names are pronounced, to avoid the potential embarrassment of a public mispronouncement or from asking a student over and over how to pronounce their name. Again, an instructor who addresses a student by their correctly pronounced name helps make the student feel seen.

**Tell an adult if you feel** uncomfortable. At San Mateo Outdoor Education in California, one of the first things program leaders say to students is "Tell an adult if you feel uncomfortable." This relates to any physical discomfort (like not having enough warm clothes) or emotional discomfort (being disrespected by a peer or staff member). It's helpful to say this to students and give them an idea of the adults who are available to them in your program, so they know how to get support if they need it.

**Building positive relationships.** "Positive relationships keep our safety-threat detection system in check...Just as you want to identify and remove things that create an emotionally unsafe environment, you have to also focus on building positive relationships that students recognize based on their cultural schema."
–Zaretta Hammond, Culturally Responsive Teaching and the Brain

**Each student will be challenged in** different ways in the context of being in a new environment. Seek to build relationships with students to help students feel anchored and safe within your program, and do so with an awareness of different social identities and culture.

## Learning Names

Part of feeling seen is being addressed by your name. This is a simple but deeply important act. It really feels different to students when the instructor uses their name. The ability to learn student names quickly may be challenging, but it's a key skill for field instructors. Even if you don't feel like you're good at it yet, remember that it's a skill that can be developed. If you're struggling with it, try a different approach. Figure out a way that works for you, and use it. It's worth it, and you can do it!

## Emotional Needs

In order to participate, connect, and learn, students must have their emotional needs met. If students feel insecure, socially disconnected, angry, depressed, or hurt, their experience will be impacted. If these feelings are externalized, they will influence the experience of others in the group. Of course you can't create complete emotional safety or a context free of all negative emotions. But you *can* set up an environment where students have ideas about how to respect and support each other, and know they can reach out to you or another adult if they feel hurt or are struggling.

### *"Busting Up" Negative Social Dynamics*

Being in groups and new environments can be challenging. But a new environment away from a student's school or home life can also be an opportunity to give students a different experience of themselves. Students who struggle with the boundaries of classroom expectations often shine in a new context where there is space and need for physical motion, enthusiasm, and social skills that may not always be recognized or appreciated in the classroom. You can help them recognize skills in themselves they might not have recognized in themselves before by pointing out to a student the ways they:

- Impact other students.
- Offer others support.
- Make space for others to shine.
- Take the group's thinking deeper.

An outdoor program is also a chance to shake up general social dynamics and students' views of each other. Classes often have firmly established cliques, or kids who have been labeled as the brain, the nerd, the bad kid, and so on. Outdoor science settings are often great places to change these dynamics. Having a new person in charge can often bust all this up, so bust it up intentionally! Give kids a fresh start in a new environment by making it a space where everyone is able to offer something, and where students are recognized for what they have to give.

To do this, point out positive behaviors, especially to students who seem like they might struggle in a classroom setting. Notice when they do something that positively impacts another student in the group, and let them know it. You might say: "I noticed how you checked in with Jamal after he was having

a hard time walking up the hill. Thanks for looking out for others." And let students know that if they do feel hurt or disrespected, they can reach out to you for support. If students do reach out, back up your words by addressing their feelings and by offering support. (See more on this in the Norms and Expectations section on page xx.)

### *Structure and Emotional Safety*

Another aspect of emotional support in a new context is for students to know what's going to happen during a program at different times. In a new setting, it can cause anxiety if students don't know things like the overall schedule of when activities and meals will take place. Not knowing these logistical details can distract students from their experience (and often cause students to continually ask "when are we going to do X"). Giving students a general schedule describing large blocks of time and mealtimes can help students have an idea of what to expect, while still leaving room for the adventure of not knowing every single thing that will happen.

Especially with a new group, and especially if students are nervous about being outdoors and in a new social setting, students will appreciate feeling like the instructor is in charge, communicates clearly with the group in a positive way, and has planned how their basic needs will be met. Showing confidence in the logistics of your program, the location of your site, and being safe outside can also help students feel emotional safety.

## Physical Comfort

Students (especially younger ones) often forget about their own physical needs, and then become either suddenly distracted to the point of complete disengagement, or experience a slow build of discomfort that limits their ability to participate and be present.

If students are cold, dehydrated, tired, or hungry, or have to pee (or poop!), they're not going to be at their best. Being outside for much of the day can be a new experience for many students, and can bring with it discomfort and worry about physical safety . Even if students are not experiencing any of these needs at the moment, just worrying about them can keep them from being fully present. If an instructor shows that they have a plan to deal with this, it can ease student worries.

### *Checking In on Student Needs*

Check in on students' physical needs at the beginning of the experience, then periodically throughout. Remind students to take care of their needs when there is a good opportunity to do so. Ask any chaperones you might have to help you track individual students' food and water intake, clothing/temperature levels, and how they're carrying things. You can deal with a lot of student needs through prevention by structuring the field experience to include regular breaks for students to attend to these needs. For example, announcing hydration breaks now and then helps keep students hydrated: "Time to

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**Printed schedules. You can empower** students to track their daily schedule by printing it in your program's journal, so students can refer to it when they have a question.

**Peeing and pooping outdoors. This** can be a big deal for kids who aren't comfortable outside and is often overlooked! An instructor needs to directly address bathroom etiquette with students. Let them know when they'll have the opportunity to use an indoor bathroom again and make sure to tell them that it's totally cool to pee and poop in the outdoors. Some programs use "chase a coyote" (for peeing) or "chase a bear" (for pooping) so students have a humorous way to bring up bathroom needs that might be embarrassing. For longer days outside, some students will need direct instruction on how to pee and poop in the woods.

**Traumatic associations with outdoors.** Different social identities have different relationships to being outside, and the woods. For some, it may be traumatic. Keep this in mind.

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hydrate! Grab those water bottles. Can someone offer a 'toast' to something from our hike so far?" Little things like thinking about the orientation of the sun in relation to your group, or stopping in shady, sunny, or sheltered spots (depending on the temperature), can have a big effect on your students' comfort and ability to pay attention.

### Simple materials to support student needs

- Water bottles (large group ones, or plastic ones you drink out of then reuse). Bike water bottles with squeeze tops are great, so students can pour it into their mouths without touching it. Or make sure that all students are carrying their own water bottle (or two, for longer days).
- Rain jackets, warm jackets, or extra clothes.
- Sit pads or sheets. After rain jackets are beyond repair, you can cut them up into small squares for students to sit on (for programs where there's snow, having more of a barrier, like a thin foam pad is helpful).
- Snacks! Make sure all students have some snacks with them. Most students will feel more comfortable carrying their own snacks, so they can eat when they get hungry instead of having to ask for permission.

## *Getting Dirty*

A big stumbling block for some kids who haven't had much experience being in nature has to do with touching dirt and getting their clothes dirty. Cutting up a garbage bag into sitting squares, and providing that thin layer of plastic between booty and ground is a simple but effective solution. Provide pieces of plastic for students to sit, or kneel on, if they are worried about getting dirty. These can be wadded up into a small bag for compact storage in your pack. If you want students to fully lie down to investigate, bring larger pieces of plastic.

Another approach is to make getting dirt on your clothes something to be proud of:

- "Raise your hand if you're now a member of the Autumn bottom club" (when kids sit on dead leaves and some stick when they stand up).
- "You've earned the brown (or muddy) badge of courage!" (for someone who slipped and got dirt or mud on their clothes).

### *Encouraging Self-Reliance and Grit (Autonomy and Mastery)*

Outdoor science experiences can be an opportunity for students to develop the capacity to recognize their needs and take care of themselves. We can teach them:

- What to bring with them in order to be comfortable outside.
- How to to take care of their own needs.
- How to build a tolerance and perspective on discomfort.

For instance, students can learn how to strike a balance between being firm ("Yes, you can wait another 10 minutes before you change your muddy shoes"), and supportive ("I know, I'm pretty uncomfortable after being in the rain all day, too. You'll get to go take a warm shower and put on dry clothes right after this!")

The kind of balance you set up should be responsive to your students. Some might need more independence and responsibility with less adult attention, but others may need more support. Students who haven't been outside much will probably need more help figuring out how to set themselves up to be comfortable there. Some students might get every need met immediately at home, and could benefit from some independence and responsibility. Other students might not get much support from their parents at all, and a caring adult tending to their needs could mean a lot.

### *Moving*

Another physical need is the need for movement. All students need it to some extent, and some need it more than others. It's usually pretty easy to tell who needs it more, or when the group is in need of it. Their bodies wiggle, or their attention wanes! Mix up physical activity with quiet and thoughtful activities. Read your group, and adjust what you're doing accordingly. Got an antsy group, or one that seems to be struggling with staying positive? Not a good time for a sitting activity, but a great time for an "Attitude Adjuster" like adventure hiking, hiking up a hill, exploring, playing a game like Camouflage, or running around. Learn some quick energizers you can pull out when it seems like your group needs it.

**NOTES**

**This section is connected to the** "autonomy" and "mastery" basic needs described in the beginning of this Guide on page 5.

NOTES

**This section is connected to the** "relatedness" basic need described in the beginning of this Guide on page 5.

# Inclusion, Equity, and Culturally Responsive Teaching

Another part of promoting student engagement is setting up a group that is inclusive of students and their diverse backgrounds. Knowledge of social identities and how these impact students and their behavior in groups is essential, and it informs the way you set up a group culture and interact with students. The more students feel included in your program, the more they'll show up as themselves and participate. This is especially important for students of social identities who have a history of being excluded, and for individuals who have experienced being excluded in their lives.

While it's important to pay attention to patterns experienced by people of different social identities, it's also important to treat each student as an individual, and to be aware of assumptions you may be making about their experiences. For example, don't assume that a Latino student speaks Spanish, that a person of color is under-resourced, or that two Latino children or two girls would prefer to be paired.

Be curious about each student you encounter, and provide opportunities for them to express themselves as individuals. You should also be overt with students about your goals regarding your intentions of promoting inclusion, equity, and respectful discussion. For instance, before a field experience begins, you might discuss with students how they can support one or more chosen goals by asking: "How can we make sure that we hear from a variety of students instead of just a few?" Afterwards, they can discuss what they did to achieve it, and how they might be better at it in the future.

Culturally responsive teaching involves setting up a learner-centered environment in which each student's unique cultural background and strengths are:

- Valued
- Recognized as a kind of expertise
- Included as an instructor creates learning experiences

It seeks to increase student achievement and a feeling of well-being about their cultural place in the learning context and the world. Developing a teaching and pedagogical approach that is culturally responsive isn't a small undertaking, but it's very worthwhile. It will increase your ability to work with and support students from all backgrounds, and to adjust your instruction to be responsive to each individual's needs.

## Practical Strategies for Inclusion

There are practical strategies you can begin adopting immediately to create a more inclusive environment for students. This shouldn't be all you do to promote inclusion and develop a culturally responsive teaching practice, but it's a great start!

- **Show students that you value their cultural assets, prior knowledge, perspectives, experiences, and home language.** Learn where your students come from, and ask them to share perspectives from their homes and cultures. Welcome and honor different points of view by asking often, "Does anyone have a different opinion or perspective?" Ask your students to listen to each other's ideas with respect. Model how to do this, and point out when students are respectfully acknowledging other points of view.
- **Avoid making assumptions about students' gender.** Whenever possible, use their names, and when addressing groups of students, use gender-neutral terms, such as, "scientists," "friends," "people," or a hiking group name they've come up with. Providing space for students to use the pronouns and names they prefer helps create a positive learning environment.
- **Think about how to provide all students access to engaging experiences with science.** African Americans, Latinos, and Native Americans are underrepresented in science careers in general, and especially in environmental science. It may be important to provide targeted support and encouragement to ensure that all students have a positive experience engaging with nature through a science mindset. Active engagement with science practices, positive respectful participation with others, along with high expectations and encouragement from the instructor, can help all students form an identity that includes building a strong connection to both science and nature.
- **Pay particular attention to those who tend to get called on less often or are reluctant to speak.** Be aware of your own unconscious favoring of students who are ready to speak-up quickly. Research shows that despite consciously trying to call on equal numbers of boys and girls in discussion, teachers often still call on more boys than girls. It's important to be aware of these tendencies.

*(continued on page 18)*

**NOTES**

**Being inclusive is an important topic,** so we suggest you read more about it in the book Culturally Responsive Teaching and the Brain, by Zaretta Hammond.

NOTES

## Practical Strategies for Inclusion

*(continued from page 17)*

- **Try to not give preference to the ideas of students who tend to take over discussions (these are often white males).** Give all students opportunities to share, and use similar accepting responses to all student ideas. If a student uses sophisticated language, ask them to explain what they mean so others can follow the conversation.
- **Ask students to be conscious of who's participating and who's not, and to leave space for those who haven't spoken in the large group to speak up.** Ask them to be aware of their own participation, and to "move forward" if they haven't participated much, or "move aside" to let others share if they have spoken a lot.

## Possible Values to Cultivate in Your Group Culture

**Curiosity.** We're curious about exploring and explaining the many mysteries of nature. We're curious about each other's ideas. We're curious about our learning.

**Adventure.** Everywhere we go, we're looking for opportunities for adventure! This could be climbing to a tall peak or doing something challenging that gives us more of an inward "adventure."

**Positivity.** We know things are hard sometimes, but we find what is interesting/cool about the situation, no matter what it is. We encourage each other. When hiking up a hill, instead of moaning, "Oh my legs!" we say things like, "My legs are getting stronger!" We turn lemons into lemonade.

**Respectful discussion.** We have high expectations for participation, because everyone will contribute to building a deeper understanding. Everyone deserves the opportunity to be able to share ideas with others. We attentively and accurately listen to each other. We share our ideas respectfully. We are able to consider multiple viewpoints and perspectives, and we know that disagreement with an idea is not a judgment of a person.

**Scientific mindset.** We have the common goal of working toward a deeper understanding of nature. To accomplish this, we try to make careful and accurate observations, ask questions, seek out intriguing nature mysteries, and collaboratively come up with possible evidence-based explanations. We share our ideas using appropriate language of uncertainty, and we cite our sources.

**Respect.** We seek to respect each other, nature, property, and ourselves. When we notice someone disrespecting any of these, we will ask them what's up for them, let them know how it makes us feel to witness their disrespect, and be responsive to each others' requests.

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# Group Culture

## Nurture the Culture You Want

If you don't intentionally develop the culture of your group, the students will develop it themselves (probably unconsciously), and you'll have to deal with whatever that is. It's better for you to be proactive and intentionally nurture the kind of culture you think is best for the students' learning experience and growth.

If all your students are from the same class, they may arrive with an existing group culture, some of which can be positive, and some negative. The culture they arrive with or begin creating might include hurtful power structures in which the same students who always get attention or are labeled "smart" or "bad" keep showing up in that way. Sometimes you may get a group whose classroom teacher has worked hard to get them to be cooperative, or has taught them social emotional tools. Great! Get them to teach you what they've learned, use those tools, and build on them.

Part of creating a group culture is paying close attention to what kind of dynamics are already present and how students are interacting with each other. Then you can make conscious choices about what to do with what's there. In your initial interactions with a group, notice:

- What are the existing positive and negative social relationships and ways of interacting?
- What are some of the dominant attitudes?
- What do the students seem to value?
- Who's in power? Who's left out? Who's interacting with whom?

Intentionally build a culture that includes the values you want and the ways you want students to behave and interact that reflect those values. Include a mix of what the students bring, and what you introduce.

As the instructor who's in charge, the way you interact with and address students will have a significant impact on the group culture. If you are respectful, thoughtful, and enthusiastic, students are likely to mirror those attitudes. In addition, if you not only model these values but also overtly talk about them, students are more likely to recognize their value and significance.

Think carefully about what kind of culture you want to encourage, then take steps that will actually make those characteristics take hold. Field instructors who teach students how to engage with nature tend to have students on their hikes engaging with nature. The same is true of other aspects you choose to focus on. We recommend nurturing a group culture of a mini-learning community, such as a:

- Curiosity team, moving through nature exploring, discussing, and trying to figure things out together
- Supportive social team, noticing each others' successes and positive attributes, appreciating them, and supporting each other when someone's struggling.

NOTES

**Culture = a set of shared beliefs,** attitudes, practices, values, and behaviors.

**You get what you expect. "the** practices that flow from a teacher's beliefs tend to elicit certain things from students. Label a particular child a troublemaker and watch him become one. View children in general as self-centered, and that is exactly the way they will come to act. Treat students "as if they need to be controlled" and you "may well undermine their natural predispositions to develop self-controls and internalized commitments to upholding cultural norms and values" (Watson 1984, p. 42) Beyond Discipline, Alfie Kohn, page 7. Watson M. (Autumn 1984). "Knowing What Children Are Really Like: Implications for Teacher Education." Teacher Education Quarterly 11, 4:35-49.

**The value of reflection interspersed** throughout an experience. Give kids regular opportunities to think about how the group is going for them, what they're enjoying, what they are noticing, how they are different here than at home, if their experience in the group has changed at all, etc. It's important for students to track this. It helps them have more intrinsic motivation, more power over how they show up, and more self-awareness of their growth.

NOTES

There are, of course, other elements of group culture you could introduce, or reinforce if they are already in place. Which ones you emphasize will vary based on your values and your goals for students.

### *Include Students in Coming Up with Values*

In setting up a group culture, try explicitly inviting students to share what they know and to bring in values, ideas, and wisdom from their own backgrounds. Then, use their ideas to shape the group culture. You might ask students: "What are some values or character traits in your family, or in your school, that you like and think would be nice 'ingredients' in this group? An example of a value or character trait might be 'curiosity.' What would it look like for our group to prioritize that in how we interact with each other?"

#### Possible Values to Cultivate in Your Group Culture

*(continued from page 18)*

**Humor and play.** Our goal is to learn together, but we also have space for humor and play. We mix humor in with serious talk. We notice things that are funny. We take time to laugh and play. We appreciate each other's attempts at humor. We know that humor and play will be more appropriate at some times than others. We take breaks to play.

**Inclusivity.** It feels good to belong in a group and be included. We look for ways to include each other in what we're doing, and to make space for many perspectives. We shift our behavior if we realize we're acting in a way that's hurtful to someone else, so we may help everyone feel they belong. We pay attention to who has participated and who has not. If we have spoken a lot, we "move aside" to leave space for those who haven't said much, and if we haven't participated much, we "move forward."

**Group collaboration.** We discuss ideas in pairs, small groups, and whole groups. We work together to make sure everyone is taking care of themselves. When we encounter obstacles, we work together to figure out what to do, and welcome many kinds of support. We pay attention to the needs of others in the group. We give everyone opportunities to contribute, and actively look for and verbally appreciate our different capacities and strengths.

**Get to know each other as individuals.** We want to get to know each other. We are interested in each other's backgrounds, ideas, feelings, personalities, experiences, and perspectives. We are interested in finding connections between us, such as things we have in common. We're interested in what makes each other unique. When we are interacting with someone who has had a different experience than us, or is "into" different things, we get curious about that person, instead of judging them.

**Artistic expression.** We look for beauty in what we encounter, and we interpret it and express ourselves through different kinds of art.

*(continued on page 21)*

## Possible Values to Cultivate in Your Group Culture

*(continued from page 20)*

**Environmental justice.** We are committed to learning about the way people of different social identities interact with and are impacted by their surroundings in different ways. We are interested in learning about inequities of access to nature, of exposure to pollutants, and what can be done about changing those dynamics.

**Growth mindset.** We are interested in learning and growing. We don't look at our abilities as "fixed," and know that we all have room to grow if we work at it. We don't see each other as fixed personalities, such as the "trouble kid," "science kid," or "quiet kid." We know that everyone is able to grow, change, and develop new abilities. Whatever we know or don't know is OK, because we can learn together and are committed to each other's growth.

**Reflection.** We take time to reflect on our ideas, are reflective when others share ideas, and reflect back on how our ideas have changed. We think about our relationship with nature, how we are participating, and on how we can improve as learners, explorers, discussion participants, and collaborators.

**Intellectual integrity.** While we understand that we can never know the absolute truth, we strive to get as close to it as we can in our explorations and discussions. We share evidence and use reasoning. We try to stay open-minded, and are ready to change our minds if the evidence and reasoning suggests that we should. We cite our sources.

**Nature detectives: We are nature detectives, searching for intriguing mysteries everywhere.** We think anything can be fascinating because there are questions and mysteries, large and small, everywhere we go! We work together to make observations and learn what we can, and consult each other as resources. We try to figure things out. We are careful to base our explanations on evidence and to not jump to conclusions.

### *Tell Students When They Are "Living" the Values*

To set up these values as a part of your culture, explicitly let students know what they are, model them, and point out when students are "living" the value. For example, you could say:

- "I'm noticing how Sophia found those really cool bones and called the group over so we could all see it and think about it together. We can look for mysteries and cool discoveries everywhere we go, and share them with each other, and that can be part of how we are together as a group."
- "Did you all notice how Marisol is having a short conversation with everyone in the group? Taking the time to know each other as individuals is something we can all prioritize in this group."

The more you help students notice what is present within the group and get their buy-in to intentionally craft the culture of your group, the more you empower them and can offer them autonomy.

NOTES

**Mind Pie. You can also make a Mind *Pie*** (see the BEETLES activity) with "slices" that have statements related to these values, and ask students to assess how much they agree with these statements at the beginning and end of a field experience, so they can track their growth. Examples of *Mind Pie* statements: "I like exploring nature and looking for mysteries." "I value different opinions and perspectives." "I like having fun and making jokes."

NOTES

**BEETLES video on building discussion** culture. For more on setting up a group learning culture, see the BEETLES video: Building a Culture of Science Talk and Curiosity
www.youtube.com/watch?v=OcsePIU0cnQ&feature=youtu.be

**Helping students stretch beyond being** dependent learners. "The brain physically grows through challenge and stretch, expanding its ability to do more complex thinking and learning... Culturally responsive teaching is about empowerment and interrupting teaching practices that keep certain students dependent learners. We have to create the right instructional conditions that stimulate growth by giving students work that is relevant and focused on problem solving. Just turning up the rigor of instruction or increasing the complexity of content will not stimulate brain growth. Instead, challenge and stretch come with learning the moves to do more strategic thinking and information processing."
–Zaretta Hammond, Culturally Responsive Teaching and the Brain

# Promoting Intellectual Engagement

### *Find Out Students Prior Experiences with Learning*

It's important to spend time creating culture specifically around what it means for the group to be a learning community. Students' initial attitudes toward learning will be based on how they've experienced it in their past. If they have experience with collaborative learning, you can build on that. But if they're mostly used to being told information by a teacher, they'll probably need more support to help them participate and learn collaboratively. Some students will arrive already knowing how to participate in scientific argumentation or discussion, in which case you can build on what they already know. Other students will need to work on basic skills, like listening to each other.

Be transparent with students about the learning culture you want to set up. If you want students to be working together to discuss ideas and learn collaboratively, let them know they'll be asked to share what they think, then follow up by being genuinely curious about what they say. And let them know why you want that so there's more buy-in and intrinsic motivation on their part.

Creating an intellectually engaging learning setting is another form of "premanagement." For any kind of *intellectual* engagement, it's key for students to have intrinsic motivation to learn and participate. Students need to actually be interested and curious about the topic. Keep it interesting! Get students motivated in learning about nature for its own sake—not for extrinsic rewards. We're all natural inquirers, so create opportunities for students to follow their

#### Strategies to Create an Intellectually Engaging Context

**Use the BEETLES Exploration Routine:** *I Notice, I Wonder, It Reminds Me Of,* **and teach it as it's written (don't try to shortcut it).** That routine is the best way we've found to get students jazzed about exploring nature. We do it at the beginning of pretty much every outdoor experience we lead. This taps into their need for mastery as they are learning new skills.

**Lead the** *NSI: Nature Scene Investigation*, **which is a little more challenging, but if you feel comfortable go for it.** It has the added advantage of helping students to make explanations from evidence (trying to figure stuff out).

**Give opportunities for "Inquiry Fever."** After you've introduced one of the inquiry routines in those two activities, give students the opportunity to apply their new skills to anything that interests them in nature in a designated area. This brings both autonomy (they are following their own curiosity) and mastery (they are improving their inquiry skills) into the experience.

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### Strategies to Create an Intellectually Engaging Context

*(continued on page 22)*

**Ask mostly broad questions.** Narrow questions, such as What kind of plant is this?" lead to recall. Broad questions, such as "What do you notice about this plant?," lead to higher level thinking, which is more engaging. Many of your best questions will be specific to what you're exploring, (eg: "Let's see how many different kinds of X we can find in this area."). Here are some of our favorite general broad exploration questions:

- What do you notice?
- What do you wonder?
- What does it remind you of?
- How might you explain this?
- Can you find something interesting in this area, and show it to at least one other person?
- Can you find any evidence of animals having been here? What do you notice that's different in this area?

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curiosity and check out cool parts of nature. Each activity you do that focuses on a different aspect of nature can give your students a 'lens" to view nature. For example, if you:

- Do an activity on spider webs, students will start to see and wonder about them everywhere.
- If you do an activity about making explanations, students can take that skill anywhere.

Try different approaches and be responsive to whatever group you're working with.

## Engaging Students in Discussion

A discussion isn't a single event to do with students. It needs to be an ongoing part of the learning culture you build. Field experiences should be filled with lots of questions and talk about ideas, mostly in pairs, and sometimes in small or large groups.

### *When to Lead Whole-Group Discussions*

Don't forget students' physical needs! A good time for a longer discussion is when students have had time to move their bodies and explore, and are physically ready to sit for a little while.

- Don't try to have a discussion with shivering students, or students who clearly need to move their bodies at the moment.
- Face the sun yourself when you're talking to students, so they don't have to look into it.

**NOTES**

**Less focus on recall. Move away from** narrow questions and from being a constant provider of information. Don't feel a need to tell students everything you know about something. Learn how to provide bits of information at times when it adds to curiosity and to hold back when it might stifle curiosity.

**Getting students past, "I'm done."** John Muir Laws (naturalist, field guide author, instructor, great guy) tells students that it's typical for brains to shift into neutral at some point during exploration, at which point most people say they are "done" with an activity, and start to check out. During his activity introductions with students, he challenges them to notice when they start to feel "done," and then to continue exploring anyway, and to then try to notice the most interesting observation or idea they have after they thought they were "done." This helps students notice when they "zone out," to not see it as a time to quit, and inspires them to reengage, by focusing them on coming up with a good observation/idea they can share with the group later.

**Naturalists should be prepared with** alternatives. "Whole group and even small group discussions are hard. Because of that, naturalists sometimes leave out application and reflection. After the discussion became frustrating, they would move on to new activities. One solution would be for naturalists to move locations often and carry out the lesson over the course of a whole hike, so the students don't get restless. Naturalists should have questions prepared, and think ahead of time of a multitude of ways the discussion could go so they don't slow down. Having alternative application activities prepared, depending on student interest, could be useful. For example, one that's based on journals and one that's more active." –Hannah Smith, Lead naturalist, Santa Cruz Outdoor Science School, Watsonville, CA.

NOTES

**Natural fidgets. "Fidgets," or small** objects that can be played around with quietly while kids are listening, are all the rage in classrooms. Nature is full of fidgets! Let students play around with leaves or sticks in their hands while the group is sitting and discussing or doing something that requires focus.

**Social questions: To keep students** engaged, and to meet student relatedness needs, mix in social questions with your nature and science questions, such as "If you had one last meal, what would you eat?" "What's an animal that represents you in some way?" "Find things that you have in common with your partner."

**Juicy questions. See the BEETLES** activity *Walk & Talk* for suggested questions for discussions.

**People Respecting Other People** Speaking (PROPS). "I've used the Acronym PROPS, People Respecting Other People Speaking. Anytime students speak over each other, I say "Props!" and they know what that means."
–Hannah Smith, Lead Naturalist, Santa Cruz Outdoor Science School

- Don't make a circle that students will be expected to stand or sit in on a steep slope or hill.

But the most important thing is to have something interesting to discuss (intrinsic motivation). Don't try to lead a discussion unless you have a topic students are interested in. No one benefits from a boring discussion, so don't force it if they're not interested, because discussion is a situation when extrinsic motivation isn't going to cut it. If it's "bombing," either switch up the question you're discussing, or end the discussion and move onto something else.

### *How to Lead an Interesting Discussion*

When debriefing pair talk during a field experience you may notice a question come up that's interesting to your students. Or you might have a question in mind that you think they'd find interesting. Try out questions throughout your experience, and if you find one that's "got legs," try leading a discussion on it. Mix up pair talk with whole-group talk. Throughout the discussion use lots of questions to probe deeper, to clarify thinking, and to keep students engaged. Some of our favorite general discussion questions include:

- What makes you think that?
- Can you say more about that?
- What's your evidence?
- How can you be more sure?
- Do you agree/disagree with what X just said?
- How is that similar/different than X?
- What surprised you?

There is way too much to say about leading discussions here, so we'll refer you to other BEETLES resources on the subject. See the handouts on the BEETLES website page, "Encouraging Student Discussion and Productive Talk" [http://beetlesproject.org/resources/integrating-discussion-instruction/] Also, see our six videos on leading science discussions [http://beetlesproject.org/resources/for-field-instructors].

NOTES

## Strategies to Create an Intellectually Engaging Context

*(continued from page 23)*

**Share your own enthusiasm.** Share what you're excited about with students, and get excited about what they're excited about. Participate in explorations along with students. And if you can, try to get other adult leaders to enthusiastically explore, too. It's contagious! (Though unfortunately, so is lack of enthusiasm.)

**Model inquiry skills.** Be curious and interested in whatever and whoever is around you. Make observations out loud. Get in the habit of asking lots of questions. Ask genuine questions about things you wonder about and don't know the answer to. Try to answer your questions through more observations, and through dialogue with others. Do it on your own and with your friends to get in the habit of it (it's fun to do!).

**Encourage observing from different perspectives, and immersion in nature.** Lying on your back and looking up, looking inside or under something, lying on bellies, or focusing on sounds can stir up interest by providing a new way to look at things. When students are assigned a body posture like this, their attention is less likely to wander. You can also use different mental perspectives, such as crosscutting concepts like "Patterns" in the Next Generation Science Standards (NGSS):

- "Do you notice any patterns about where these are and aren't growing?"
- "Can you think of what might have caused what we're seeing?"

**Provide each student with a hand lens.** This is the best piece of technology students can have outdoors. It provides them with an immediate different perspective for looking at things. It can make the most trivial objects more interesting. See BEETLES activity *Hand Lens Introduction* for how to introduce and use them effectively.

**Lead BEETLES Focused Exploration activities.** These activities are designed to guide students to explore certain aspects of nature.

NOTES

**Some examples of norms. PONY:** Respect: Property, Others, Nature, Yourself. HAIL: honesty (be clear and straight) authenticity (be yourself), integrity (be your word), love (wish them well). Science Discussion Norms: Listen actively and share ideas; Share and ask for evidence; Build on ideas of others; Keep an open, curious mind; Disagree respectfully to increase understanding; Pay attention to participation.

**"Do I want to control kids or do I want** to obtain their cooperation?" Teaching with Love and Logic, Jim Fay and David Funk. (1995)

**Working with students to solve** problems. "That doesn't mean exemplary educators who avoid time-outs, detentions, and other punishments are simply ignoring misbehavior. The real alternative to making children suffer for their offenses (or dangling goodies in front of them for doing what they're told) is to work with them to solve problems. A 'working with' approach (Child Development Project, 1996; DeVries and Zan, 1994; Kohn, 1996) asks more of the teacher than does a 'doing to' approach, but it's a good deal more effective because even if the latter succeeds in imposing order temporarily, it does so by undermining students' moral development, compromising the relationship between teacher and students, and making it more difficult to establish a supportive environment for learning." Beyond Discipline, Alfie Kohn

**"Students have to feel a sense of trust** that their ideas will be taken seriously and that disagreements will be handled respectfully, so that ideas—not individuals—are challenged." Michael, S., & O'Connor, C. (2012). Talk Science Primer. Cambridge,MA: TERC.

# Norms and Expectations

Related to setting up a group culture is the important practice of establishing norms and expectations, both in individual groups and across a program. Program leaders have observed that field instructors who communicate clear norms to students (and then hold students accountable) have more cooperative groups of students, while field instructors who skip norms tend to struggle more with student management. Some programs avoid norms, because they want their students to have fun, but then their students end up having less fun because of behavior issues.

## Why Norms?

If you don't have norms, rules, agreements, or a system to hold students accountable for their behavior, student management is probably going to be challenging. Rules and expectations can actually lead to more freedom for students, because the lack of any structure or ideas about how to be can be intimidating. Norms and expectations can also lead to more fun for all students, because if they all feel safe and included it relieves social worries.

Norms are often most effective when they aren't put in place with the primary goal of "controlling" behavior through a reward/punishment system (extrinsic motivation). Having norms is an opportunity to engage students in thinking about what it means to be in community with each other, and helping them become intrinsically motivated to be aware of and responsive to their fellow students.

### *Establishing Norms*

Creating norms is about sharing general expectations for students that give them an idea of how to be, and exploring why it's important to follow them. But you don't want to overly focus on what "bad behavior" is and how students will be punished for it. It's helpful to give students a say into setting up norms. In a small group setting, that could include a guided process of students working together to:

- Generate norms.
- Talk about what they mean.
- Discuss how it will look for them to follow the norms.

In a large group, program-wide setting, this could include showing students a list of the established norms and asking them to discuss in pairs what they think each norm means, then calling on students to explain their thoughts and adding on to their definitions. The more students understand the reasons for norms, the more likely they are to feel intrinsically motivated to follow them. A complete lack of any norms or expectations, particularly with younger students, probably won't work.

## *Responding When Students Act Out*

When a student doesn't follow the stated norms, expectations, or rules of your program, it needs to be addressed in some way. If students notice they aren't being held accountable for their actions, it will become difficult to maintain a culture of respect in the group. And if students aren't held accountable for their actions, it can also be a sign to those in the group who might be targets for bullying that they won't necessarily have an ally if they are hurt by someone else in the group. Respond to students who don't follow the norms, but do it thoughtfully, systematically, and fairly within your program.

Traditional forms of "punishment" as the response when students act out have been shown in many cases to be more harmful than helpful. Restorative justice practices—an approach to conflicts in schools where students and their teachers work out their issues together—can help get to the root of what's going on for the student, and can lead to supporting their needs in a way that makes it more likely they'll be able to show up as their best selves. Use restorative justice practices to structure your approach to working with students who are acting out, and to resolve conflicts between students.

Dealing with anger. "Often students are struggling with anger issues. I tell them, you have a right to be angry but you don't have a right to act out. That's when I would offer them tools to deal with their anger. But I try to get it to come from them. I ask if they can describe what it feels like in their body right before or during an anger episode. They might say, they stop breathing or their stomach feels tight. It's kind of like they have a cloud in their brain. They often say they just weren't' thinking. I tell them, if you throw anger back at someone, they get madder, and it can escalate. I tell them they can always tell someone to stop no matter what. Then, If the person doesn't stop, they can get help. The best thing you can do is move away from whatever is making you angry. The anger will calm down, the cloud will move away and they can make rational decisions again. Sometimes the student will have a code word with the naturalist to ask for time to step out from what's angering them. They say the code word to the naturalist and walk away for 5 minutes, then the naturalist comes in checks in with them, once they've calmed down."

—Jamie Langley, Santa Cruz Outdoor Science School.

Keeping students emotionally and physically safe. "Sometimes naturalists make the mistake of telling students what they did wrong. I never do that. I tell them my job is to keep them safe, emotionally and physically. If they make a mistake or make themselves or others unsafe, my job is to take it seriously and do something about it to get back to the place where everyone is safe."

—Jamie Langley, Program Coordinator, Santa Cruz County Outdoor Science School

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**Forcing a child to change. "The more** we try to make someone change, the more likely we are to lock them into the offending behavior." Teaching with Love and Logic, Jim Fay and David Funk. (1995)

**Restorative Justice. Restorative justice** is an approach to conflicts in schools in which students and their teachers work out their issues together, in mediated small groups. It's goal is to empower youths to work out conflicts on their own and with others, and to shift the system from punishing students through suspension to restoring trust and building relationships through conversations.

**Resources on Restorative Justice:**
For a 4 part tutorial, go to: restorativejustice.org/restorative-justice/about-restorative-justice/tutorial-intro-to-restorative-justice/
For an example of a restorative justice program in a school, go to: www.sccgov.org/sites/pdo/ppw/SESAP/Documents/SCHOOL%20RJP%20GUIDEBOOOK.pdf
Articles on the impact of Restorative Justice:
old.seattletimes.com/html/education/2025538481_edlabrestorativejusticexml.html
Restorative Interventions and School Discipline Sanctions in a Large Urban School District, (Yolanda Anyon, Anne Gregory)
The Potential of Restorative Approaches to Discipline for Narrowing Racial and Gender Disparities (Anne Gregory, Kathleen Clawson)

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### *Having a Conversation with the Student*

Many programs have some kind of system where students have a conversation with an adult if they continue to act out. In this conversation, you can shift the power dynamic by asking a broad question, such as "What happened?," and really listening to what they say. There's probably some need that wasn't getting met for them, or some way they were struggling and didn't know what to do about it. Knowing what was happening for the student can help them respond differently in the future, or to set up a way for them to ask for support when they need it. Anytime you're listening to a student it's an opportunity to "get" what their world is like, and to try to understand them better so you can adjust your instruction to support them.

### *Using Adult Chaperones*

If you have adult chaperones in your group, use them to help with student management by noticing needs of students in your group, and asking chaperones to support them so they can be engaged in a positive way. For example, "I'm noticing Henry seems unable to process his experiences without talking constantly. The card hike is supposed to be silent and solo. Would you mind walking with Henry, encouraging him to walk silently or to talk quietly with just you so he doesn't interfere with other students' experiences?"

### *Being Aware of Your Own Implicit Biases*

Try to be aware of your own implicit biases, and those of others around you. Implicit bias affects the way we respond to and discipline students. Information from the U.S. Department of Education shows students of color are disciplined more often than white kids, often for the same behaviors. An awareness of trends in how students of different social identities are disciplined can help you and your program be more equitable in your responses to students.

**"What is my responsibility, and well** within my abilities, is to change my students' field of awareness. I need to give my students information that will cause them to think differently about a situation." Teaching with Love and Logic, Jim Fay and David Funk. (1995)

**"A study released by the U.S.** Department of Education Office for Civil Rights released a report in 2016 that black students are four times more likely to be suspended than their white classmates, and two times more likely to be expelled." www2.ed.gov/about/offices/list/ocr/docs/2013-14-first-look.pdf

**"A lot of these incidents fell into that** 'open-to-interpretation' area," he said. "It's like, if a white student goes 'This rule doesn't make sense to me – I'm not going to follow it,' people say, 'You'll go far in life, thinking for yourself like that.' But if a black student does, it's 'That kind of attitude is going to get you in trouble.'" –Tomas Abede, 18. From the article "Race Dramatically Skews Discipline, Even in Elementary School." Claudia Rowe, Seattle Times.

When I have a student sent back [to me] from a hike because of a behavior issue, I make sure the child feels that I'm their advocate, not their adversary. When they come in, I do something informal. "So what's up?" So it didn't work, huh? You wanna tell me about it?" I get the kid to start sharing. It's a process with the kid. I get them engaged in revealing themselves. I usually have them write to the prompt, "What happened?" on a reflection sheet. For those who aren't into writing, I give them time with the paper. It's alone time. I'm there with them, but they need time to take a look at things. You want them to be a success out there. I'll ask questions like: "How do we help you do that? What was your part in it? If you're going to go back out there, what will you do differently?"

Eventually I might say something like, "X couldn't have you on the hike because you were disrupting the group. It's kinda boring here. I could set you up with some stuff to do□or do you think you'd wanna get back out there and maybe learn something?" I set it up to let them think they have a choice. I convince the child they really want to be out there learning.

—Paula Pardini, founder and former director of Caritas Creek Environmental Education Program, Occidental, California. Currently educational consultant, Oakland, California.

Prioritizing honesty in conversations about students' behavior. "If they're honest [in their conversation with me], they'll get back on trail faster. I already know why they're here, but I want to hear it in their own words. If they take responsibility for actions, then we can make a plan to support them and help them stay at outdoor school. Often they say I don't remember, and I say, I'm asking you to remember and be honest. I'm going to trust you to be honest with me so I can trust that I can put you back on trail. I might ask, how do you feel like you're doing in the cabin? When lights are out what choices are you making? They might say, well so and so was up, but I say right now we're not talking about those other students' choices. I ask, so what could you do to prevent this? The answers come from them. Sometimes, if they really can't come up with anything, I'll say, would you like to hear some ideas about what you could do?"

—Michael Lane, Program Assistant, Santa Cruz Outdoor Science School

## Some Effective Leadership Tips

- Take charge, but don't be dictatorial.
- Keep your cool. If you regret having said something, say so.
- Be firm. Instead of asking a question like "Will you please stop doing that?" try phrasing it as a directive: "You need to stop doing that."
- Speak loud enough to be heard, but don't be afraid to vary the loudness of your voice. sometimes using a quieter voice can draw students' focus in.
- Mean what you say.
- Know what you want to communicate. Practice out loud or in your head what you're going to say at different times, to get ideas about how to phrase things, and to make a habit about how to speak to students. Use notes, if necessary.
- Be clear, and avoid long and convoluted directions. Break things down into simple steps.

The more you do it, the easier these will be!

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# Styles of Management

There is no "one way" to manage groups. An instructor's authentic personality can and should be a part of how they interact with engage, and manage student. You've got to find your own style. But how do you know what your style is? Use your gifts. Think about your strengths. What are your inherent capacities and natural ways of connecting with and talking to people? Humor? Love and care? Enthusiasm? Curiosity? Sincerity? Big personality? Quieter approach? Watch other instructors you respect, notice their styles, and try to figure out which styles, or any parts of them, might work for you.

But keep in mind that what works beautifully for one instructor may not work for another, or just may not feel comfortable. For example, a very extroverted instructor may have ways of engaging and managing that won't work well for a more introverted instructor, and vice versa. An overall approach of including humor and rolling easily with student disturbances might work for one instructor, while another instructor would be more successful by playing off their innate capacity to show students they are seen and valued.

If you find an instructor you respect with a style you think will mostly work for you, study what they do as much as you can, and ask them questions about it. Then try on what you think suits you, process how it goes through ongoing dialogue with your "mentor," and eventually make it your own. Keep trying out different styles until you find ways to be successful that work well for you.

**Student-centered instruction. When** instructors work with lots of groups of students, over time there can be a temptation to run all groups of students through the same series of activities, and treating groups of kids as groups, rather than as groups made up of interesting individuals. The more student-centered your instruction, and the more you treat students as individuals and show genuine interest in them, the more productive and engaging your experiences will be (for you too!).

## Instructors' Traits in Management Styles

Described below are a few personality traits that could become part of an overall approach to a student management style. Each reflects an instructor behavior that tends to be contagious among groups of students, influencing the tone and behavior of a group. Many instructors fit into more than one of these categories (or others not listed). But whatever you do, try to keep your approach student-centered. If you're at the center of most interactions most of the time, you'd better rethink your approach.

**Humor and playfulness.** The instructor can set a tone of humor and playfulness, encouraging students to join in at appropriate times. This style disarms students and defuses conflict with humor, while rolling with disruptions. It finds ways to incorporate students' personalities and humor, while keeping the group focused and on track. When students make jokes, they incorporate them into the instruction, which helps students feel seen. For this style to work, it generally has to be combined with clear boundaries within which students can play.

**Love and care.** Some instructors are just plain good at liking people, and making students feel they are liked and seen without having to do too much to make it happen. They treat students evenly and supportively, making space for the students to share themselves and be appreciated. They set a tone of compassion, connection, and love. This baseline of respect, appreciation, and attention can go a long way toward building rapport with students.

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## Instructors' Traits in Management Styles

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**Incredible enthusiasm!!!!** Some people are straight-up stoked. About everything! An instructor using their own genuine enthusiasm about nature, students, and ideas can set a tone of positivity and excitement for the whole group.

**Curiosity.** Some instructors are good at being curious. They model and encourage curiosity about nature, about ideas, and about students. They check things out and make careful observations. They ask authentic questions that they really are interested in, about whatever is going on. They listen actively when others speak.

**Quiet leader.** Some instructors are good at listening and projecting calmness. They get students to listen by speaking quietly. Some instructors hold a quiet wisdom and perspective that is alluring to students. Their management doesn't take place through being loud and entertaining. They are authentic and invite students into conversation about interesting ideas.

**High expectations and tough love.** An instructor who has a more of a tough love attitude can often drive their students to do cool things by having high expectations, firm boundaries, and sticking to their word. They encourage student responsibility, self-reliance, and autonomy by upholding the expectations they set out for students, but are there if their students really need something.

**Champion of students.** Some instructors are constantly paying attention to how awesome and amazing their students are, and letting them know it!

**Super entertainer.** Maybe an instructor is naturally hilarious, or effortlessly entertaining. They can use that to easily gain students' attention when giving directions or explaining something. They give their group the common experience of their ridiculousness to rally around. But they also need to establish firm boundaries and make sure the students are actually the center of attention most of the time.

## Clubs or Challenges

Some instructors or programs use clubs or challenges to get students excited about doing different things. "Who wants to join the polar bear club?" (dunking your head in water). "Who is up for the water bottle challenge?" (drink one of your water bottles before lunch and one after lunch). These tend to work remarkably well to get kids excited about and willing to try the simplest things. A potential downfall is when students sometimes become obsessed with clubs or challenges and this gets in the way of actually engaging with activities or nature. Examples include a hike where kids aren't engaging with exploring, but keep asking over and over, "Can we do the polar bear challenge now?!? How about now? Can we...?", or when you find a banana slug and the students are so obsessed with joining the banana slug kissing club that they miss out on actually making observations of the slug.

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# Outdoor Management Primer

This section provides some key strategies and actions to take in the first hour of being with students to establish rapport, routine, and positive ways for students to show up, as well as important things to do throughout the rest of the experience.

## The First Hour(s)

**Remember this general approach.** The goal of student engagement and management is to give students more autonomy and create a context in which they are successful, but this does not mean the instructor should be passive. Instructors who avoid setting up structure or maintaining boundaries initially often get walked on by students later on. From the get-go, students need to know they're going to have a good time (be friendly and welcoming), that you're in charge (be a leader), and that the group will use norms and routines (be clear and firm) to help them feel physically, emotionally, and intellectually safe, and that they will have some autonomy (freedom and choice). Your tone, demeanor and message should reflect this from your first interactions on.

If you work with lots of groups of kids for short stints, you've got to get good at quickly and efficiently establishing rapport and leadership that your students can depend on, and a structure students can grow within. Establishing routines and structures is a huge part of successful group building. In a classroom, this can take place over weeks. If you only have students for a couple of hours, you've got to do it in about 5–10 minutes. If you have students for longer than that, you have enough time to do a more thorough job.

This list is focused on the types of routines and actions that could take place in the context of residential outdoor science programs, and we address instructors who can often spend more time on tone setting. Adapt it as you see fit for your own conditions and time frame. Explain the reason behind any norm or routine you introduce with students (for intrinsic engagement), no matter how small it is. For example, you might say "The reason we need to be able to form a circle quickly is so we don't have to waste a lot of time standing around waiting for the group to gather"; or after doing *I Notice, I Wonder, It Reminds Me Of*, say "We're going to be surrounded by cool, interesting stuff in nature this week, and we'll use these tools to check stuff out."

Check in with chaperones. Before meeting with the students:

- Gather your chaperones
- Get them excited about your approach
- Give them concrete things they can do to contribute (see *BEETLES* Preparing Chaperones for Outdoor Science Experiences)

Without direction, chaperones may just hang out off to the side, get bored, and may become distracting to the group. You need to engage them.

- Take some time, even if just a few minutes, to talk to them about their role.
- At the very least, ask them to participate in all paired discussions and explorations.

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- Give them some jobs, such as carrying extra gear, announcing water-drinking breaks, or recording questions the group comes up with.
- Ask them to support student engagement by being actively involved in the group.

They can also use their physical presence to help remind students to focus; it's often very effective if a chaperone just goes and stands next to a student who is talking out of turn, or lightly touches them on the shoulder to remind them to engage.

**Connect with kids, learn names, and hear everyone's voice.** Learning names is valuable. So is beginning the experience by allowing every student to be heard. Take note of any students you think might need extra attention to prevent acting out or withdrawing, and give them this right away.

**Hold boundaries.** Be welcoming to students, but set and hold clear boundaries. If students interrupt each other or call out inappropriately, respond and redirect them, but still treat them with respect, and encourage them to speak when it's their turn.

**Go over norms, and keep students to them.** At first, students may "test" a new leader by breaking rules or acting outside of norms to see if they will be held accountable. In early interactions, be firm but kind in reminding students of the norms and redirecting them.

**Give a general tone-set for the experience.** Include in your tone-set examples of how you want students to approach the experience, and examples of what you want them to do. If you want students to do something like explore nature, make it an explicit part of your tone-set that it's what they'll be doing, and make it happen as soon as possible, modeling and encouraging the sorts of skills needed to do it. For example, you might say: "You're going to get chances to explore whatever you find interesting. I'm going to teach you some skills to help you be successful with this." Incorporate and do mini tone-sets whenever you want shifts in tone within the group for particular activities.

**Encourage student enthusiasm.** Make it "cool" to try new things, take a chance, and get out of their comfort zone. Help students understand that there will be challenges, and guide them toward coming up with positive ways to deal with challenges.

**Build common experiences for the group.** Find some way for the group to complete a task in which they need to work together in the first hour, if not immediately. This could be through a silly name game, a team building experience, a task like unloading luggage, or a challenging hike up a hill or across a creek. This early connecting and bonding can make a world of difference, because if challenging dynamics evolve later you have a time you can point back to when the group was working together and supporting each other. Notice students and the roles they take on, and appreciate them for positive ways they contribute, especially if they've been identified by teachers or peers as a "trouble kid." You can start giving them a different experience of themselves right away.

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**Recognition trinket. Some instructors** have a medallion, bracelet or other trinket they give to a student in recognition of some behavior that has benefited others. This student is then challenged to pass it on to another student for another positive behavior, and so on. This can help build a supportive culture within your group. But if you do use this technique, make sure you have a trinket that students perceive as somewhat desirable to wear.

**Establish routines for getting quiet, and tending to logistics and exploration.** Routines might include:

- **Group positivity/rapport-building routines.** Set up structures for appreciating each others' positive impact on the group, like appreciation of kind deeds.
- **Students engagement with nature, such as** *I Notice, I Wonder, It Reminds Me Of*, **sit spot/quiet time, and so on.**
- **Signals that mean "get quiet."** Ideally, have one verbal signal and a nonverbal signal. The verbal signal can be a call and response like "Hey hawks," "Yeah what?". Enlist the students' help in designing it to help them have buy-in. A nonverbal signal could be a hand signal, and it's great if this one is used program-wide. Set the expectation of what happens when you give a quiet signal, and wait till everyone is quiet before talking. If you talk while a few are not paying attention, they'll quickly learn that's acceptable, and over time will respond progressively worse to the signal, with more talking and less attention. Sometimes you may need to say something like, "I'm waiting for quiet." If this is a consistent problem with a group, it's worth talking to them seriously about it, such as "I don't know about you, but I'd rather spend my time out here doing cool stuff than standing around waiting for folks to quiet down. If you agree, then you know what to do." Or "I'm feeling frustrated about trying to get the group to quiet down. It feels rude to me and to others when you don't quiet down."
- **Guidelines on how they will return from exploration and transition to the next phase of an activity (with the input of your students).** This could include a sound signal, and a set amount of time for the group to come back together, and then a short (15 seconds max) chant, dance, or other thing that everyone is involved with that brings the group back together.
- **Structures for talk, such as toe-to-toe circles for group discussions,** *Walk & Talk* **formation for pair discussions, bunching up for brief discussions or instructions in tight areas, or areas in which you need to speak quietly.**
- **Count-downs when you've asked students to make a circle, or some other direction.** Sometimes it can be effective to look at your watch, point out how long it took, and challenge them to do it faster next time.
- **Some quiet signals:**
  - "If you can hear my voice say, 'shhhhh' (or whoosh, or whatever)."
  - "Thumbs up if you can hear my voice."
  - Call: "Bup badadup bup." Response: "Bup bup."
  - Call: "Meow meow meow meow." Response: "Meow meow"
  - Call: "When I say 'spider,' you say 'web' (can substitute different words for spider and web).
  - "Raise your hand if…" "Put your hand on your head if?"

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**Go over basic logistics.** If your program hasn't already dealt with basic logistics like mealtimes, bathrooms locations, or how going to the bathroom works on field experiences address this within your group. If students know you have a plan for how to make sure they're fed or protocols for them to speak up when they have needs (i.e., when they're cold or have to go to the bathroom), they'll be more able to drop into the experience.

**Provide experiences for students to engage with nature.** Give students a taste of what they'll be up to during the field experience. This can happen in part through setting up routines for nature observation (i.e., *I Notice, I Wonder, It Reminds Me Of*). It's also important to offer some sensory immersive experiences in nature, especially for students who haven't spent much time outside. Pause and ask them to listen to sounds, use hand lenses, do a texture scavenger hunt, invite them to dunk their heads in a body of water, or pause to feel the sunlight.

**Set up ways for students to be leaders in the group.** Some instructors have rotating leadership positions in their groups to help give students positive ways to be seen and impact the group. This might include carrying first-aid supplies, reminding the group to drink water, carrying a map of the site, checking in with students every hour to make sure they're OK temperature wise, carrying a small bag of field guides, or operating the spider web mister or the litter picker-upper. This can give particularly energetic students with clear, tangible ways to use their energy to support the group (instead of distracting the group).

**Have some fun.** Fun is important! Allow for humor from students, and introduce it yourself (if you feel comfortable with that). Do some things that don't necessarily have any educational purpose, because fun is reason enough. Roll down hills with students. Let them skip rocks in a creek or play catch with an acorn. Balance setting up of structures and establishing norms with showing students there will be room for them to have fun and be goofy.

## During the Rest of the Experience

**Read the group.** Pay attention to the energy and interests of your group. Strike a balance between planning ahead and choosing activities that you think will work well, and then adjusting your plan in the moment to give students a good growing and learning experience.

**Alternate between high and low energy activities.** Design field experiences so students have opportunities to be energetic. This will minimize the amount of management you have to do. Alternate between high-energy activities (adventure hiking, games, exploration, fast hiking) and more low energy reflective activities (discussions/sharing, card hike, sitting) Doing so can naturally lead to engagement. Plan a sequence in which there's a few of each type, but be ready to make shifts in the moment in response to students' energy. If your group is getting lethargic, sometimes an off-trail adventure hike or an active game can provide a spark.

**Give clear directions.** Give clear, concise instructions when you're telling students what they're supposed to do. Break down tasks into steps. Practice (or think) ahead of time about what you're going to say, especially if you haven't led an activity before.

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**Integrate social and emotional learning.** Integrate social and emotional learning into everything you do. Before students do an activity, ask for ways they can think of to work well together. After an activity, ask if anyone felt left out. Ask about things the group did to work well together, and also discuss things they can do to improve.

**Use kinesthetic focusers.** For particularly energetic groups of students, use occasional "kinesthetic focusers." such as "We're going to go look for trees of this same species. Everyone strike a pose with your body that's the same shape as the leaf on this tree."

### How I Set a Tone with a Group

With a new group I start off right away with group expectations. I tell them, "Look around and think in your head ways this classroom seems different from school. Then I let a few share. I'll bring up some good ones, like "Here, you're around each other 24 hours a day. Here, other living creatures share our classroom."

From the beginning I say that it's a different kind of school, but still a school to learn. I'll say, "I'd like to hear from every person in this circle about how you can have the best experience possible for the next five days. My job is to make it the best as possible. What should we do?" They come up with things like respect and kindness, and I often add some like not picking leaves off trees and pulling out plants. I'll say, "I'm really excited because I want to share all the amazing things here as long as you can all participate and collaborate. If you can't, then we'll have to concentrate on how to treat each other respectfully and I won't be able to share all the cool stuff."

I go over expectations for the week. We don't have set norms. We let kids come up with them and then we supplement. The ones I make sure to add are "Respect each other, respect this place, participate, and have fun." Respect is the backbone of it. If I'm having a hard time getting the whole group's attention or if they're not focusing I'll remind them of the very first thing about expectations. I'll say something like, "You decided these were important. Now I feel people are being disrespectful and we agreed what we'd do. And it also makes me feel disrespected as a teacher, and I'm having a hard time sharing with you, which makes me feel like I have to share less with you."

Sometimes it's my fault if they're not focusing, and it's on me. Before asking the group to be quiet, you need to decide if you think they're going to be successful at doing that in that context. If the answer is no, then I have to make the mature decision to move to a position where I can be more successful.

We do things to remind them they're in school. A pencil in hand reminds them they're in school. Sometimes I'll have them do an activity with a pencil in their hands because I think that will remind them they're in school and will help them focus. But it's different for every group.

—Korena David, Foothill Horizons, Sonora, California

# Appendix: Program Leader Interviews

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## Interview with Paula Pardini: Group Management

This is an interview with Paula Pardini, founder and former director of Caritas Creek Environmental Education Program, Occidental, California. Currently educational consultant, Oakland, California. Paula is amazingly adept at working with classes with challenging management issues. One of the authors of this guide has watched her walk into extremely difficult management situations and quickly take charge in a firm and loving way. She's also exceptional at working with individual students who are behaving in disruptive ways.

I tell instructors to walk into a new group knowing they're going to like you—and also knowing you love them.

**Constantly looking and surveying the scene.** I'm always looking to see who's not in, who hasn't talked? Scanning, moving things along quickly. Looking for ways to engage with kids to make friends with them.

**Meeting a new group.** I tell them a bit about me. Then I'll say something like, "I don't know you so I don't know if you're the best class or worst class in the school. The smartest or slowest. Whoever you are with me is what I'm going to think you are, so be your best selves! Be wonderful!" I try to set the group up for success. I start off with an ice breaker with them up and moving around. I give very clear directions, and then get them to understand that they have to completely cooperate. If they're not silent when I've told them to be, I might say, "Oh man…you blew it. There was gonna be one more thing." Then I stop the activity (at least for the moment). After the ice breaker, I've got them on my side, and that's when I introduce norms, what they mean, and how you live them.

**Playing to your strengths.** Each instructor should play to their own strengths. I use God (when appropriate) and basketball with kids, because those are my strengths. I can use them to reach kids. I have a big personality, I'm enthusiastic as all get-up, and I really love kids. Those work for me, but they won't work for everybody.

**Enlisting caring students.** Sometimes I'll identify what I call a "Jesus" kid, a kid who gives a damn about other people, or is a natural leader in whom I see Jesus. I appeal to that sense of accomplishment and natural giftedness in them. I might say, "You're a natural leader, have people told you that? You know, you can really use that to help make a difference? Would you be willing to help me work it and see what we can do here to help out another kid?" People want to make a difference, and letting them know how they can do good may be all they need. I may ask them off to the side, "Can you pair with Charlie and show him stuff and ask him what he thinks?" I make them into buddies. In front of the group I might say, "I'm asking people to work together and I think you two might be a good pair" (and then pair everyone else really quickly so they don't stick out).

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**Working with students identified as "one of those kids."** I try to befriend them. I act like I don't know a thing about who this kid is. I keep it informal: What's your name? Where are you from? What are your interests, and what kinda stuff do you do when you're not in school? What do you do when you hang out?" I try to get some enticement going, to get them to share what they're interested in. I notice some aspect of their personality.

**I break down the stereotype of what an adult would talk to them about.** I'm not dealing with the curriculum, but instead just focusing on establishing a relationship. I use my energy to redirect their energy. I might say to them, "I need you to go find this." I keep prodding them into the dialogue of learning, trying to keep them going and engaged.

**Approaching a challenging student misbehaving in the field.** If I notice a really challenging student who's distracting, smirking, making people feel bad in a group… that's when I will pull the kid aside and say, "I need to talk to you." I may ask, "Do you plan to be here for the week? The bus is still here. If you're gonna be doing that, you're gone. What will you do differently? You're gonna stay, right?" I'm blunt and casual and pretty forceful. I don't use the forceful approach with shy or awkward kids. I make the expectation clear that they will be engaged and involved.

**Helping a kid believe in themselves.** Misbehavior is a lack of a kid recognizing their own wonder—they're channeling their energy into misbehaving because it's the only way they get attention or power. Help them ignite their divine spark. Sometimes a child will actually say, "I'm a bad kid." I tell them, "There's no such thing as a bad kid, you just believe it because other people have said it to you."

**Making a sugar sandwich.** Learn how to reprimand a student in a way that it actually feels good to them. First you say something positive, then you bring up the critique, then follow it up with something positive. Get them to believe you care—and make sure there's sweetness in the interaction. Redirect boldly. Then, when you see them making an attempt to do well, affirm it. Twist it around so they get that you are their ally not their adversary.

**Working with challenging groups.** Beginning naturalists gravitate toward extrinsic motivators for student behavior. That's fine. They're also useful with a really challenging group. Anything that works to motivate a group of kids works! Sometimes I'll use an activity I know they want to do, like a song or game, as a "carrot" to teach them to behave. Then as soon as someone misbehaves, I'll say, "Stop! We'll try this again later to see if we can get through it." "You're not cooperating. We're going to try again later." I use peer involvement to control the group, because they want everyone to get to do it. Sometimes with a very challenging group I won't tolerate ANYTHING that isn't functional. I'm very firm and strict, as an initial approach to get them bought in.

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**Being in charge.** Having an "adult in charge" makes the group safe—it means they know where they're going and what they're doing. When you talk to kids, you are clear and you are in charge. You know what you're going to say—it doesn't work to be uncertain. It's more like, "Now we're going to do this. Now this." Don't keep repeating "Would you stop that?" If you say not to, and it happens a second time, there's something wrong. If they do it again, you remove them and might say something like, "It isn't working. What do we need to do here? Do we need to have a consequence? Do you need some time away?"

**Maintaining a discussion.** If I see restlessness or spacing out in a seated discussion circle, I might say, "Everyone get up on the count of three and find a new place in the circle! Go!"

**Engaging bored kids.** Sometimes you see a kid who's spacing out on you, and it's because they already got it and it's too slow. You have to give additional things to that kid. "Can you go set this up? Can you go find those things so we're ready?" It works to talk to those kids off to the side about higher-level stuff, otherwise you may lose the other students. Or you can integrate a kid by saying "Oh man I didn't know that! Could you explain that to the class?"

**Setting norms.** The norms I use are:

- Active/attentive listening. Making eye contact and body language shows interest; ask questions to show interest).
- No put downs/give appreciations. Putdowns include rolling eyes, sighing, etc. It's not enough not to put others down, you have to build them up. Give compliments. You watch some TV shows and don't see a lot of appreciation in them. That's humorous, but it's not kind. It's sick to slam each other and laugh about it.
- Trust. What you say in the group stays in the group, unless a student reveals they're hurting someone else, being hurt, or hurting self.
- Respect. Treat others how you want to be treated. Respect includes all the other norms above. They're all ways of showing respect.

The more specific you get on what norms mean, through examples and bullet points, the more students can apply them.

## Teaching Large Activity Groups: Interview with Korena David: Working with Large Groups

Some program activity groups have 30+ students in them, plus chaperones. We've heard some folks say, "The groups I work with are too large to do student-centered BEETLES stuff." We've heard other folks say, "Working with large groups forces you to make things student-centered, because it's too hard to make it instructor-centered." We interviewed Korena David of Foothill Horizons, Sonora, California. Her program works with large groups of students, and they've successfully adapted BEETLES activities and approaches.

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**Avoid using gang colors.** Some students live in areas with gangs, and using certain colors can cause issues. Check with a teacher or principal before a group arrives to make sure there are no off-limits colors.

**Breaking down into smaller groups.** When possible, we break down big groups into smaller functional groups during an activity. For example, with Bark Beetles Exploration, I do some instruction with the whole group, but then I divide the group into about 4 smaller groups of 7–8, each one led by a chaperone. I either circulate between the groups, or take one on. If the leaders are high school students, it's better if I circulate so they don't have to lead their group alone.

**Using color groups.** We often use color groups within a hiking group. We give each kid a wood cookie with their name, and before they arrive we use crayons to mark each one with one of four colors. There are 7–8 kids with each of the colors. Then we use the colors to group kids all week long. For example, if I'm leading Walk & Talk, I might say, "Everyone blue and green in this line, and yellow and orange in this line. But next time I'll use a different color combination." It's easier and more efficient to make up line groups.

**Making name cards.** We also write every student's name on a small (smaller than my pinkie) piece of thin cardboard (we cut up a soda box into cards). I keep them in my pocket. At the beginning of a hike I pull 5 new kids' names and tell them that if they want, they can hike at the front of the line. Then I have a chance to interact and observe with them. If we come across something interesting I'm not gonna stop the whole group for, I can share it with them. This prevents certain kids from always being at the front or others to be stuck in the back, and gives me time with all the students. When I need a couple of people to do a specific role that everyone will want to do, the name cards give me a randomizer in my pocket. Sometimes I use them after they discuss in a small group. I choose a name from each group to present to the whole group.

**Introducing routines.** We use routines like Walk & Talk at the outset and throughout our experiences. If introduced well, no management of routines is needed after they've been introduced.

**Transitioning from circles into lines.** If students are already standing in a circle, instead of telling them to line up, we tell them "Everyone put your right arm into the circle. OK we're leaving our circle to form a line, follow the person in front of you, and we'll end up in a line."

**Sharing something interesting on a hike.** I don't ever stop and point out something cool and small, like a wildflower, to the whole group. But if I know there's a field of them, I'll take them there and tell everyone to get on their bellies and look at a wildflower. I skip a lot of small things. Sometimes if there's something cool to share, I'll ask a student or two up front to stay with it and point it out to others as they come by. I might give them a question to ask, or something to point out, like "Feel the bark." Then I let them come back to the front. If there's something large, like a deer carcass, then I may have the whole group look at it together. Sometimes we'll drag a carcass to a place where we can circle around it, so everyone can see it.

**Talking to the whole group on trail.** If there's something I really want to say to the whole group, I'll walk back to the middle of the line before saying it. As I walk back, I tell kids to turn and listen so half the group already knows to turn. Because I'm small I always stand on the uphill side, and I make sure they're not looking into the sun.

**Leading a discussion.** There are times when I lead a discussion with the whole group, but it's challenging, and lots of students aren't going to be willing to participate. I do a lot more Turn & Talk, Walk & Talk, think and turn and talk, or write and turn and talk. Or I have them talk in their color groups.

**Spotting wildlife.** During "nature moments," I fall back on I Notice, I Wonder, It Reminds Me Of as a routine. For instance if we come across a whole flock of turkeys, we use a hand signal for getting quiet to see a wild animal. I make deer antlers on your head with the fingers from one hand, while you point at it with the other hand. I tell them to remember their observation prompts, and to whisper with someone nearby.

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