GREAT SMOKY MOUNTAINS INSTITUTE AT TREMONT

EXPEDITION: TREMONT

GRADE LEVEL
4th - 8th

TIME FRAME
3 hours

MATERIALS
- Journals & pencils
- Bug boxes
- Small whiteboard
- Map of GSMNP/National Parks (optional)
- National Park and National Forest mission statements (optional)

IDEAL SEASONS
Any season

CROSS-CUTTING CONCEPTS
Scale, proportion & quantity
Students make detailed observations of an object and sketch a critter.

INVITE
EXPLORE
WONDER
CREATE
REFLECT
SHARE

THE EXPEDITION: TREMONT BASICS

The activities included in Expedition: Tremont will reflect the specific group needs and therefore may vary from group to group. This lesson plan includes one version of Expedition: Tremont. There are also several other commonly used activities. Regardless of the activities used, each Expedition: Tremont should include:

- An exploratory component
- Intentional discussion, including setting group discussion norms (see pg. 3)
- Bonding as a team
- Orientation details (see pg. 2)

LESSON SUMMARY

Students explore, make nature sketches, get creative, and develop a sense of place.

Guiding question: What does it mean to be in this place?

KEY LESSON CHARACTERISTICS

WHAT LEARNERS DO	SKILLS & KNOWLEDGE	SOCIAL & EMOTIONAL ABILITIES
Make observations Ask questions Catch and hold insects Sketch insects they find Imagine and build using natural materials	Nature sketching skills and techniques National Park vs. National Forest mission and goals	**Social Awareness** Empathy for different perspectives **Relationship skills** Collaborate creatively with peers **Self awareness** Identify and reflect upon emotions during a solo sit

LESSON FLOW

- INITIAL EXPLORATION
- I NOTICE, I WONDER, IT REMINDS ME OF....
- CAMOUFLAGE
- CRITTER SEARCH AND SKETCH
- ANT NATIONAL PARK
- SOLO SIT AND SHARE

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ORIENTATION DETAILS

At some point during the lesson include:

- Poison ivy identification
- Campus safety (buddy system, etc.)
- Leave no trace (not picking plants or leaving trash behind)
- Group and discussion norms

I NOTICE...

- Use senses, but no tasting
- Avoid identifying (ex. I notice this is a leaf.)
- Avoid opinions (ex. I notice it's awesome.)
- Avoid explanations (ex. I notice bugs were eating it. You can't see the bugs right now.)
- Give example observations!

IT REMINDS ME OF...

- Making connections to what we already know helps us remember things and learn from them.
- Give an example first (ex. The joint in this stick reminds me of the knuckle in my finger)
- Tell student to focus on one part of the subject at a time.

LEARNING NAMES

A good time to learn students names after doing the 3 Is. Ask students to share an observation and their name.

CO-TEACHING

The 3 I's activity can be found as a co-teaching quick card. See the card for more details and possible extensions.

EXPLORATION AND THE 3 "I"S

1. Welcome the group. Explain that one of the best ways to make their time at Tremont exceptional is to learn to be a keen observer. Discuss what it means to observe.

? *Turn and talk: Who is an exceptional observer? What makes them an exceptional observer?*

2. Encourage students to practice observing by exploring the area to find something they think is interesting (it should be small enough that they can carry it back).

3. After a few minutes of exploring gather back together in a circle.

▶ *Share a quote: "One way to open your eyes is to ask yourself 'What if I had never seen this before? What if I knew I would never see it again?'" - Rachel Carson*

4. Write "I notice..." on a whiteboard and define observation. Give students ~30 seconds to make observations, starting with the words "I notice", to themselves or a partner. Ask a few students to share.

5. Following the same pattern as the "I notice," prompt (write on a whiteboard, discuss, and share) introduce the next two prompts one at a time, starting with "I wonder" and followed by "it reminds me of."

?
- *What patterns did you notice in your object? What about compared to your partner's? Compared to the whole group?*
- *Did you notice anything that surprised you?*

6. Ask students to share their name (if you don't already know them), their object, and one of the observations, questions, or connections from the 3 Is activity.

⤮ *We're going to do this kind of exploring and observing all week, starting right now with a game that requires some quick observation skills.*

CAMOUFLAGE

1. Source a definition of camouflage and how animals might use it.

▶ *"Put your hand on top of your head if you've ever heard the word camouflage. Keep your hand on top of your head if you feel like you can explain what the word camouflage means." Call on one of the students with their hand on their head to explain camouflage. Tell the students they are going to play a game where they will get to camouflage (or hide) in the surrounding area.*

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CAMOUFLAGE POINTS

With some groups, the camouflage point system might be appropriate. When the group does something the instructor would like to reward, they earn camouflage points to earn games.

SAFETY CONSIDERATION

Remind students about any potential hazards (poison ivy, snakes) and give clear boundaries.

DISCUSSION NORMS

Before beginning a larger group discussion, be sure to come up with discussion norms an expectations for the group. Students should have a say in their groups norms and therefore each group's will be different. Some possible norms include:

- Disagree respectfully
- Make space for everyone's voice
- Ask questions
- Use evidence to back up claims
- Be open to changing your mind

See additional activities for more ideas on setting up discussion norms.

DISCOMFORT WITH INSECTS

Some students may be uncomfortable with insects. Give alternate options such as:

- Searching with a partner
- Catching or looking for insects without touching them
- Finding something else interesting that fits in the bug box
- Joining the "Creepy Crawly Club" by holding an insect in their hand (or in a bug box) for 5 seconds. This can help overcome fears.

INSECT HOMES

Younger students might enjoy making homes for the insects that they catch out of natural materials.

CAMOUFLAGE (CONTINUED)

2. Explain the rules and play the game. Play more than one round if possible.

The Rules

- Students need to find a place where they can see the instructor but the instructor can't see them.
- To win the game the students need to 1) not get caught and 2) see and remember the numbers from each of the three rounds.
  - 1) The instructor can pivot but can't move from their starting location. If they see a student they can call them out and the student must come back to the starting spot.
  - 2) Sometime during the round, the instructor will hold up a number on their finger.
- When students are called back they should not show or say the numbers until it's time otherwise they will give it away.
- There can be more than one winner!

3. When the game is over, call everyone back. All the students that weren't caught should stand shoulder to shoulder with their backs facing the rest of the group. Tell the students to hold up the numbers behind their backs one round at a time. Anyone that gets all three numbers right wins,

Just like you all found hiding spots in nature, critters do too. We're going to head out and see what insects we can find camouflaged around here!

CRITTER SEARCH

1. Give students a few minutes to freely explore the new location. Define clear boundaries. Before students lose interest call them back and form a circle. Give them some turn and talk questions.

- *What do animals and insects need to survive? Do you see any of those things around this area?*
- *What sorts of critters do you think might live in the area that we are in? What is your evidence?*
- *Where do you think we would look to find the critters around us right now?*

2. Tell students that they will investigate their predictions of where critters can be found. Give each student a bug box and send them out to find a cool insect!

3. When students return with their insect, give them a few minutes to informally share their critters with other students.

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SKETCHING TIPS

- Give feedback that reflects your instruction. Compliment not only the good sketches, but also the observations made and questions asked.
- Do a quick sketch on a whiteboard so the students have a visual.
- Encourage students to continue working and looking for details after they feel "done".
- Set students up to record with 1. sketches, 2. words and observations, and 3. numbers and measurements
- Bring guidebooks and allow students to identify their critter.

GIVING FEEDBACK

Provide examples of respectful language, specific praise, and meaningful feedback. Often students feel vulnerable when the others see the art that they create. Be mindful of this feeling and use language that creates a welcome and supportive space.

NATIONAL PARK VS. NATIONAL FOREST

Explore different perspectives on how land is used by reading the NPS mission statement and the National Forest mission. Make sure students understand what all the words mean. Discuss the differences and importance of each.

? *What are the pros and cons of each model?*

CRITTER SKETCH

1. Ask students to find a place to sit and to take out their journal and a pencil. Tell them that they are going to take a little time to make some good observations about their critter through a nature sketch.

▶ *"Find a space where you are comfortable and can see your insect, or if you didn't find one, find someone that can share theirs. Take some time to sketch the things you notice about your subject in your journal. Remember, this is not about making the most beautiful picture, but rather it's about making good observations about the specific insect you are looking at. Include at least one of each 'I notice, I wonder, and it reminds me of' in your sketch."*

2. When the students are done, have them trade journals with a friend. Ask the students to offer two compliments and one suggestion to the observer.

?
- *Is there anything that surprised you during your sketch?*
- *Is there anything you noticed after sketching?*
- *How did making the sketch make you feel?*
- *What's your favorite part of your sketch?*
- *What was difficult to represent on paper? Were you able to get find a way to represent it?*

⤮ *All of us, including these insects, are in a really important space right now, a National Park! Next we're going to zoom down to the size of these insects and make our very own tiny versions of a National Park.*

ANT NATIONAL PARK

1. Show students a map of Great Smoky Mountains National Park and the surrounding area. Allow students time to make observations of the map and find things that they recognize. If the students don't find and outline the boundaries of the park, show them where the boundaries are. Identify any landmarks they might know.

? *What are some differences between the outside of the park and the inside of the park on the map? What about differences in real life?*

2. Divide into small groups in which the students will use natural materials to create a mini national park in the area. Each group should think of:

- A name for their national park.
- A reason that the land is being preserved: how does it align with the national parks mission (culturally or naturally or both)?
- Something that the ants do or use when they are at the park (trails, campgrounds, etc).

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ANT NATIONAL PARK CONTINUED

3. Go on an ant national park tour. Students are "rangers" for their national parks and they will share the park's name, reason land is preserved, and things ants do in the park along with any additional information they want people to know.

Just like all your ant national parks, Great Smoky Mountains National Park is a special place. It's important to take reflective time in these special places.

SOLO SIT

1. Instruct students to find a safe place where they can sit down away from other people. While they are sitting, they should reflect about this prompt in their journal:

Today we spent all day in a national park. How did you feel when you arrived here? How do you feel now?

2. Bring the group back together and make space for students to share their thoughts.

BRING IT HOME

- Ask the students where they think they could have an expedition near their homes. Ask what they think they would find in those places.
- Teachers can bring the Expedition: Tremont exploratory nature back to their own schoolyards and do an Expedition: "Schoolyard" or replace "schoolyard" with the name of their school. Many of the activities included in this lesson plan can be done in schoolyards.

AGE CONSIDERATIONS

4th - 5th

AGE RELATED TEACHING TIPS

- Younger students may be easily distracted or interested in something you didn't expect. Be prepared to change plans and take advantage of teachable moments.
- Be extra clear about boundaries and expectations.
- Expect reflective journaling and stationary work to take less time.

6th - 8th

AGE RELATED TEACHING TIPS

- Students this age are often very focused on peer interactions. Team building and social skills are a good thing to focus on.
- Students may want to set their own group norms.
- Encourage students to build on one another during discussion.

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FISHBOWL DISCUSSION

In a fishbowl discussion there is an inner circle and an outer circle. The inner circle can be a just few students or half the group. The inner circle will discuss the question while the outer circle listens. Every student should be given the chance to be in the inner circle. There are several variations to this discussion style. See discussion strategies resource for more information.

EXAMPLE NORMS

Some example discussion norms include:

- Disagree respectfully.
- Cite your sources & use evidence.
- Be open to changing your mind.
- Combat ideas, not people.
- Acknowledge others' points.

HIKING RAINBOW CHIPS

This can be done while hiking as well. Each student gets a rainbow chip and should find that color as many times as they can in nature during the hike.

ADDITIONAL ACTIVITIES

DISCUSSION NORMS

Each Expedition: Tremont should include some sort of discussion norm conversation. This conversation will look different for each group.

1. Pose an uncontroversial question for the students to discuss fishbowl style. Try to pose a question that relates to the rest of the lesson. Possible questions include...
   - What's more important, plants or animals?
   - Are there more animals in the water or the land?
   - Are people a part of nature?
   - Why nature so good?
2. Allow the students to discuss for a few minutes.
3. Reflect on the discussion.
   - *What did you see your classmates doing that helped make that a productive discussion?*
   - *What other skills make productive discussions?*
4. Write thoughts on white board in a list. Show the list to the group and present it as your group's discussion norms. Ask if anyone would like to make changes.
5. Be sure to take a photo or write down the norms so that you can present them before the next discussion as a reminder.

RAINBOW CHIPS

Students observe small details and see beyond the "brown and green blur." It can be done while walking on the trail, or it can be done exploring a single location.

Required materials: *1 bag of paint chips (at least two chips/student)*

1. Give each student a paint chip. Challenge students to try to find something in nature that most closely matches the color of their paint chip. If possible, they should bring the item back to the meeting spot and leave it on the ground next to their paint chip. They can then get another paint chip.
2. After students explore, be sure to debrief.
   - *Which colors were easy to find? Which colors were challenging to find? Why do you think that is? Do you think it would change if it were a different season?*
   - *Were there any colors that surprised you?*

ADDITIONAL ACTIVITIES

MEET A TREE

Students work with a partner, develop trust, and make observations using senses other than sight.

Required materials: *Blindfolds (1/pair of students)*

1. Pair students and explain how "Meet a Tree" works.

   One person from each pair will be blindfolded and the other person will be the leader. The leader leads the blindfolded partner to a tree. The blindfolded partner observes the tree without their sense of sight. When the blindfolded partner feels finished with their observations, the leading partner brings them back to the meeting spot, gives them two gentle spins, and takes off their blindfold. The partner that had been blindfolded will then try to find their tree.

2. Explain ways to help make sure that blindfolded people are safe and that leaders are doing a good job leading by...

- after asking permission from their partners, placing a hand on their partners shoulder, elbow, or hand to help lead. If leaders aren't touching their partners, they should be close by.
- giving detailed descriptions of the terrain (going up or down, going over a stick, ducking under a branch, etc.)
- moving slowly.

3. When students are finished meeting trees, be sure to debrief.
   - *What did your partner do that helped you feel comfortable?*
   - *What observations helped you find your tree?*
   - *Did you meet more than one tree? What changed from the first round to the second round?*
   - *What did you notice about a tree that you hadn't before being blindfolded?*

ADDITIONAL ACTIVITIES

SLIPPERS FOR A SALAMANDER

Students explore and imagine. This may work better with younger students.

1. Explain the scavenger hunt to the students.

   Today we are going on a scavenger hunt, but this isn't an ordinary scavenger hunt. It will require you to imagine things are something other than what they appear to be. I may ask you to find something like "slippers for a salamander" and you should bring back something from nature that looks like it could be a slipper for a salamander.

2. Some other things to look for could include:

- an umbrella for a centipede
- dental floss for a deer
- a couch for a bird
- a toothpick for a coyote
- a ladder for a ladybug
- a blanket for a toad
- a comb for a porcupine
- a boat for a spider
- a fan for a snake
- toilet paper for a bacterium
- eyeglasses for an owl
- a drum for a gopher
- a hat for a rabbit
- a rug for a raccoon
- a spoon for a fox
- a hula hoop for a butterfly
- a bathtub for an earthworm
- a disco-ball for a fish

NATURE ART (NART)

This is a creative activity that is often used in River and Reflections but could be done twice during the week. See River and Reflections for full write up.

Optional materials: *Andy Goldsworthy examples*

1. Split the students into small groups (2-4) or allow them to work as individuals. If they are working in groups, explain that their Nart should be a collaboration and everyone should contribute ideas and work. Remind students to help care for the environment by not picking plants, carving into things, etc.
2. After they have been given time to create their Nart, allow the students time to walk around and share their art. This can be done as a whole group visiting each piece of Nart or by allowing the students to freely look at Nart "gallery style."

- *How would your Nart be different if you made it a different time of year, or in a different place like back home? What is your canvas back home like? What materials are available?*
- *If your Nart was able to stay up, how would it look/change in 3 months? Where will you be and how will you have changed in 3 months?*

WHAT'S NART?

Nart (a.k.a. Nature ART) is artistic or creative projects made out of only natural materials.

ANDY GOLDSWORTHY

It can be beneficial to bring out examples of professional naturalist Andy Goldsworthy's work to show different ways natural materials can be used in art.

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NAMING PLANTS
My Secret Plant can be introduced by having students explore to find different plants. When students find a new plant, they can give it a species name based on something they observe.

WORK TIME
Be flexible with time for the sketching portion. Once a student feels finished they can come back to the meeting place. If a student is absorbed by the sketching it's alright for them to spend more time on it.

ALTERNATE VERSION
In groups, students make a line of different leaves or sticks that they find in a spectrum of least to most decomposed.

DECOMPOSITION
Especially with younger students, you may need to explain the definition of the word decomposition before discussing the model.

ADDITIONAL ACTIVITIES

MY SECRET PLANT

Students use journals to observe, sketch, and communicate with peers.

1. Give the student boundaries and instruct them to find a secret plant. On one page of their journal they should sketch the plant and on the next page they should create a map of the surrounding area that will help lead another student to their secret plant. Discuss helpful details to include (landmarks, rivers, ponds, large trees, hills).
2. After students finish their sketch and map, they should come back to the meeting spot and trade journals with another student. Using each other's journals, the students will try to find each other's plants.

?
- *What features did your partner add that helped you find their plant?*
- *If you were to find another plant and do this again, what would you change?*
- *What was something that you noticed about your plant while you were sketching?*

LEAF LEVELS

Student search and explore to create a model of decomposition.

1. Ask the students to go on four separate 30-second scavenger hunts, bring back leaves of various ages, and place them in circles that you draw on the ground. After each round ask a few observation questions to the whole group.
   - Round 1: a leaf that fell today
   - Round 2: a leaf that is 1 week old
   - Round 3: a leaf that is 3 months old
   - Round 4: a leaf that is 5 years old

?
- *What patterns do you notice?*
- *Are there similarities between everyone's leaves? Color? Texture? Smell?*
- *What differences do you notice?*
- *What made you pick the leaf that you picked?*
- *Why do you think the leaves in different categories look different?*
- *What do they think happens to a leaf after five years?*

2. Choose any leaf from the ground and ask where the students would plug it into the model. Can they guess how old that leaf is based on the model they created?

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ADDITIONAL ACTIVITIES

JAYS AND JUNCOS

Students imagine they are birds, hide "nests," run, and examine food chains. Good for a very active group.

Required materials: *photos of each bird; cups (1/student); 1-3 jars of beans*

1. Tell students that they are playing a game in which they will be either a jay or a junco. Juncos are small ground-nesting birds that typically forage on the forest floor for seeds. Jays are larger birds that will eat eggs or babies of smaller birds like juncos.

THE RULES

- Each student will get a cup. A junco's cup represents their nest and potential offspring. A jay's cup represents their stomach. The students' goal is to get as many beans, which represent energy, into their cup as possible.
- PRODUCERS are represented by the chaperones and teachers that are holding jars of beans.
- JUNCOS get their beans from the producers, making them primary consumers. The juncos can get one bean at a time and bring beans back to their nest which they hide somewhere in the surrounding forest.
- JAYS (secondary consumers) get beans by finding junco nests. If a jay finds a junco nest, they can take all the beans from the nest and put it into their own cup.
- Only if a junco's cup is empty can they move their nest. Juncos cannot steal from other juncos and jays cannot steal from other jays.
- The round begins with the jays closing their eyes for 45 seconds while the juncos hide their nests and begin collecting beans..

2. There will only be about 1 jay for every 6-8 juncos. Have the teacher choose students that can run fast and have been behaving well to be the jays.

3. During the game, be sure to patrol for students' safety. After about 5-7 minutes howl, to end the round.

4. Tell the students to count their beans and determine whether or not they have gathered enough energy to survive (requirements in sidebar). Record how many of each species survived.

5. Play another round with new students as jays. At some point introduce the hawk (tertiary consumer). One student will be the hawk, which gets its food from eating larger birds like jays. The hawk will chase the jays and if they can tag a jay, they can take all the beans from the jay.

?
- *What did it feel like to be a jay/junco/hawk?*
- *What were some strategies that you used to... get enough energy? hide your nest? avoid predators? use less energy?*
- *Why do some birds need more energy to survive than others?*
- *Where does the energy go after the hawks die?*
- *Which round seems the most balanced/healthy?*

SURVIVAL

Each species needs a different number of beans to survive.

- Juncos - 6 beans
- Jays - 12 beans
- Hawks (later rounds) - 24 beans

EXTENSIONS

- During round two introduce a different color bean. The new color will represent contaminated food sources. After the round, discuss bio-accumulation and the threat of contaminated food sources.
- Allow the students to decide how many juncos, jays, and hawks there are at the beginning of the round and discuss the balance at the end of the round.

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ADDITIONAL ACTIVITIES

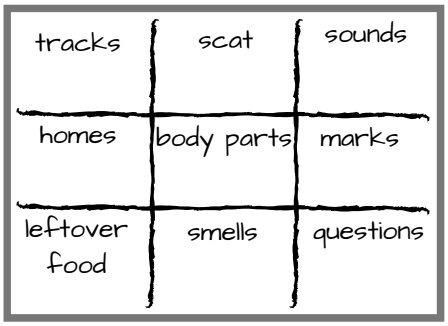
NATURE SCAVENGER HUNT

Students make observations by tracking animal signs.

1. Ask a series of turn and talk question to introduce the idea of animal tracking.

?
- *What animals have you seen so far at Tremont?*
- *What sorts of animals do you think live around here that we haven't seen?*
- *What evidence do you think these animals leave behind?*

2. Have students divide a full journal page into nine boxes and label them with the types of animal evidence, leaving room for a sketch in the box (see example).



3. Instruct students to explore the area and find examples of evidence. When they find something they can write or draw it in the respective box in their journal.
4. Give students the chance to share some of the things that they found

LEVEL-UP CHALLENGE

Students fulfill exploratory and creative challenges to gain experience points and level up.

1. Gather students together and introduce activity. Write possible challenges on a whiteboard beforehand and display it to the students. Potential challenges and their point values include:

- Touch something weird: 1 pt (limit 3)
- Find something totally unfamiliar to you: 1 pt
- Find a mystery: 1 pt
- Identify something: 3 pts first time; 1 pt each successive identification (limit 5 pts per species)
- Create something (poem, sketch, shelter, etc.): 3 pts
- Solve a mystery (demonstrate with model, data, etc.): 4 pts
- Inspiration bonus: If someone displays exceptional teamwork, creativity, or stewardship, roll a die and award the resulting number of points.

These are your challenges. Keep track of your points in your own journal. Every five points, you will level up and unlock a new tool for exploration. Remember: this is not a competition; rather, this is a personal challenge to see how much you can discover and create in the time we have today.

NOTES ON LEVEL-UP

- This is a good opportunity to have co-teachers practice facilitating exploration, so brief them thoroughly and have them circulate to help verify experience points.
- If your group is especially cliquey, modify the game so that multiple people working on one project have to divide the points awarded. This will encourage individual exploration.
- Make sure to set clear boundaries.
- Students can continue to keep track of points for the remainder of their time at Tremont.

ADDITIONAL ACTIVITIES

LEVEL-UP CHALLENGE (CONTINUED)

2. Supervise students as they explore and create. Be prepared to help students identify things and make sure whatever weird things they touch are safe. Emphasize that you want to see effort put into their creations, not just things slapped together for some points. As they reach new levels, award progressively more sophisticated equipment (ex. hand lens, small bug box, large bug box, aspirator).

3. Gather students to discuss what they discovered and/or created. Have them return any equipment they unlocked.

?
- *Did anyone identify something new to them?*
- *What helped you identify it?*
- *What creative projects were people working on?*
- *How did this activity make you feel about exploring nature?*

SHELTER BUILDING

Students work with a team to use natural material to construct a shelter.

1. Split students up into teams. Tell each group to find a good, safe spot in the area to build a shelter. This generally should not be framed as a competition.

2. Once all of the groups are feeling close to finished with their shelters, gather back together. Instruct students that you will go on a tour of all the shelters and each group should share: 1) their plan and how they built, 2) any roles that team members played, and 3) what they would do if they had more time. Give teams time to discuss before beginning the tour.

INSECT SPEED FRIENDING

Students create a profile for their insect, share about their insect, and learn about others.

Required materials: *Bug boxes, field guides, identification keys*

1. Have the students get into pairs. Give each pair a bug box and send them to find one insect they would like to create a profile for.

2. When students return with an insect, they should make a profile for the insect in their journals. Make keys and field guides available to students so they can gather information. The profiles should be a combination of observations and information from the keys and guides. Possible things to add to the profile include:

- where it lives
- what it eats
- how it behaves
- insect's name
- personality
- hobbies

TYPES OF SHELTERS

It can be nice to share several different types of structures that people build in the woods (ex. lean to, A-frame, debris hut).

ROLES IN SHELTER BUILDING

Give groups roles that students fill. Examples include:

- Architect: in charge of design
- Builder: in charge of materials and building
- Researcher: can visit other groups and share ideas
- Spokesperson: shares ideas during the tour

INSECT PROFILES

For every fake/funny thing they add to the profile they have to have two legitimate things.

ADDITIONAL ACTIVITIES

INSECT SPEED FRIENDING (CONTINUED)

3. After giving the students time to complete their profiles bring them back together to start the speed friending. Have the pairs of students make two lines so that each pair of students is facing another pair. They will share about their insect with the pair across from them. Give them a couple minutes and then give the signal to switch, just like in speed dating. You can have all the pairs rotate clockwise so that all pairs get a chance to share with each other.

3. Once they've met all the insects give them a few minutes to start pairing them up until all insects have a match. Then share with the group which insects got paired together and why.

OBSERVATION TRAIL

Students find examples of unnatural things that you place on the trail. This is a great introduction to observation. Requires prior set up.

Required materials: *A bag of random items (at least 15 items)*

1. Prior set-up: Choose a short section of trail to lay out several unnatural items on the trail. Be sure to leave things at multiple eye levels.

▶ *Tell students that they will be walking down a trail and looking for unnatural items. They should try to keep track of as many different things they see as possible, but leave the items where they are hidden.*

2. Send student one at a time, with 30-45 seconds in between each student, down the trail. One adult should walk first and another adult should go last as they space the students.

3. As students finish, they will talk about what different items they saw. Give groups of students whiteboards and ask them to make a list of all the items that they can remember from the trail. As students make lists, go back and collect all the items in the canvas bag.

4. When groups are finished with their lists, have groups share what they remembered and wrote on the whiteboard. When groups name an item, take that item out of the bag and show it as a reminder. Once all the groups have shared their lists, go over the items that no one remembered.

?
- *How many items did we find? How many items did we leave out? Are there any patterns that you notice?*
- *Were there any items that only you noticed in your group?*

OBSERVATION TRAIL TAKE-AWAYS

- Every single person in the group has something to contribute to help make the whole group more successful.
- It's hard to remember lots of information all at one time, so one of the best things we can do is write it down. This transitions well into an journaling activity.

GREAT SMOKY MOUNTAINS INSTITUTE AT TREMONT

EXPEDITION: TREMONT

ADDITIONAL ACTIVITIES

DISCOVERY SWAP

Students pay close attention, ask and answer questions about a critter.

Required materials: *Bug boxes (at least 1/each pair of students); field guides*

1. With a partner, students spend time looking for insects. They should use bug boxes to catch several insects in the surrounding area.
1. Pairs choose one of their insects that they are especially interested in and spend ~10 minutes sketching and observing it together. Emphasize asking questions about the insect. Encourage the students to use "I notice, I wonder, and it reminds me of" in their journal entry.
2. After ~10 minutes but before students become restless, introduce field guides and other resources for students to add supplementary information about their insects. Students should record their source as they add information and answer their questions.
3. Each pair chooses one partner to be an "A" and the other to be the "B." All of the As circulate and visit the Bs. A's should ask Bs questions and observe their insect. After a few minutes of sharing As and Bs switch places.

?
- *What did it feel like to have scientific conversations with your peers?*
- *What questions do you still have about your insect?*
- *What new questions arose during your conversations?*

WHERE I'M FROM POEM

Students explore the experience that they are from and learn about their peers

Required materials: *Post-It notes (1/student); whiteboard; copy of George Ella Lyon's "Where I am from"*

We're from more than places. We're also from experiences and people. This poem gives some examples. Pay attention to the experiences the author uses.

1. Read George Ella Lyon's poem "Where I 'm from".

?
- *What stood out to you about the poem?*
- *What are some categories of experiences that George Ella Lyons mentions (family, places, senses, things, etc)?*

2. Instruct the students to write a line from their own "Where I'm From" poem. Give them time to find a spot in nature and work on their line in their journal.
3. Give each student a Post-It note to write their line on. Go around the circle and ask each student to share their line as they place it on a whiteboard labeled "Where We Are From."

?
- *Did you notice any themes of the experiences in this group? What were they?*

DISCOVERY SWAP

Full "Discovery Swap" write up can be found on the BEETLES Project website.

PEER CONVERSATIONS

Remind students that as they circulate they should be asking questions and engaging in conversations with their peers.

- Presenters can ask things like "What do you notice?" or "How does this relate to your investigation?"
- Observers can ask things like "What do you mean by that?" and "What did you notice about..."

WRITING WHERE I'M FROM

There are several ways to frame the "Where I'm From" poem. Some options include:

- Each student brainstorms five experiences, then elaborates on the one they like the most.
- Each student writes a whole "Where I'm From" poem.
- Each student comes up with one line that they would like to share.

SHARING WHERE I'M FROM

Sharing something personal is challenging. Be sure to set up norms beforehand that emphasize being respectful and taking this activity seriously.

If students are nervous to share, they can all place their Post-It notes with their lines on the whiteboard and the naturalist can read off all of them. This makes it feel more anonymous.

GREAT SMOKY MOUNTAINS INSTITUTE AT TREMONT

EXPEDITION: TREMONT

Expedition: Tremont Field Card

Exploration and 3 I's

1. Go out and explore, find something interesting then return.

? *Turn and talk: Who is an exceptional observer? What makes them an exceptional observer?*

"One way to open your eyes is to ask yourself 'What if I had never seen this before? What if I knew I would never see it again?'" - Rachel Carson

2. Teach "I notice, I wonder, it reminds me of...". Student shares their name and one observation.

? *What patterns did you notice in your object? What about compared to your partners? Compared to the whole group?*

Play Camouflage!

Just like you all found hiding spots in nature, critters do too. We're going to head out and see what insects we can find camouflaged around here!

Critter search

1. Free exploration for a few minutes, then turn and talk.

?
- *What do animals and insects need to survive? Do you see any of those things around this area?*
- *What sorts of critters do you think might live in the area that we are in? What is your evidence?*
- *Where do you think we would look to find the critters around us right now?*

2. Go search for critters in and bring them back in bug boxes.

Expedition: Tremont Field Card (cont.)

Critter Sketch

1. Make sketches of insects found.

2. Students give constructive feedback and compliments to peers about their sketches.

All of these insects and ourselves are in a really important space right now, a national park! Next we're going to zoom down to the size of these insects and make our very own tiny versions of a National Park.

Ant National Park

1. In groups, students create their own mini national parks out of natural materials. Each group should have...
- a name for their national park.
- a reason that the land is being preserved, how does it align with the National Park Service mission statement.
- something that the ants do when they are at the park.

2. Groups act as "rangers" and share their parks with the rest of the group.

Solo Sit

? *Today we spent all day in a national park. How did you feel when you arrived here? How do you feel now?*