



NJAS Guide Notes

Exploring Nature Through Inquiry & Visible Thinking

Welcome! This guide is for anyone exploring nature with our youngest learners in transitional kindergarten, kindergarten and first grade. You may be a TK or kindergarten teacher, a parent or grandparent in the backyard, a preschool, museum or nature center guide, or a leader in an expanded learning program. You do not need to be a scientist or an expert. At this age, learners explore with you right beside them: you read the questions aloud, write down their words, and celebrate every discovery.

Your Role As A Guide

Young learners discover the world through their senses, their hands and their words. Your role is to slow down beside them, point their attention to nature's details, and let them make the discoveries themselves. Read each question aloud, wait while they look closer, and then ask it again. Write down what they say, exactly as they say it, so they can see their own ideas on the page. By using the same question words every session, you give learners familiar language they will recognize at the station activity flag, on the art placemat and on their journal pages.

The Session Frame

Every session follows the same five steps. Only the unit and the specimen (the leaf, rock, flower, or other piece of nature being studied) change. Keep each step short and active, with plenty of movement. Session length and recommended times are listed on the age pages.

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|---------------------------------|---|
| Step 1
GATHER | Gather in a circle in the same spot each time, close enough to see one another. Point out the boundaries: the area learners stay inside and the station flag(s). Practice the attention signal once, using a raised hand and a call-and-response, for example, "What do you notice?" ... "We stop and look!" Then read the unit's question aloud and have learners say it back. |
| Step 2
EXPLORE | Visit one garden flag at a time, using the prompts on the Quick Prompt card. Read each prompt aloud and give learners a simple job, such as finding, pointing or counting. |
| Step 3
CREATE | At the placemat art table, demonstrate one drawing technique slowly, step by step, then draw it together. Learners can trace the shape in the air with a finger before drawing it on paper. |
| Step 4
RECORD | The adult fills in the metadata box at the top of the page: the date, time, place, and weather. Learners can point to a weather picture or copy one word. Then learners draw what they saw, and the adult writes their words beside the drawing. |
| Step 5
SHARE | Each learner shares one thing they noticed, wondered, connected or measured. A word, a pointing finger or a drawing held up for the group all count as sharing. |

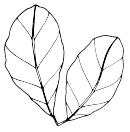
Guiding Moves

Use these moves at any flag, placemat or journal page.

Moves or Actions	What you do	What you might say
Ask the Unit Questions	Read the unit's question exactly as written, and invite learners to say it with you.	"What do you notice?"
Show how first	Do the task yourself and think out loud in short, simple words, so learners see how it's done.	"I see a leaf. It is green. The edges are bumpy."
Wait	Count to five silently before you help. Young learners need time to look and find their words.	
Ask for proof	Ask learners to point to what they see.	"Show me where."
Repeat and stretch	Say the learner's words back, then add one new word or one question.	"You see a bug. How many legs does it have?"
Connect	Link one learner's idea to another's, or to something familiar from home.	"Who has seen something like this before?"
Step back	Let the learner choose what to look at next.	"Your turn. What do you want to look at?"

Routines That Keep The Group Together

- **Use One Attention Signal:** Use the same signal every time, with a raised hand and a short call-and-response, so learners can see it and hear it.
- **Freeze, Look, Listen:** When learners see or hear the signal, they freeze like a statue, look at you, and listen for what comes next.
- **Buddy System:** Learners stay side by side with a buddy, helping each other look and staying close to the group.
- **One Task at a Time:** Give one short direction at a time and show it as you say it, such as "Find one leaf."
- **Move as a Team:** Walk together to the next flag, following the guide in a line.
- **Quiet Outdoor Voices:** Use whisper voices so everyone can hear the birds, wind, and insects.



Outdoor Classroom & Care

Before You Go

- Walk the space first and look for anything unsafe: spines or thorns, water, stinging insects, uneven ground, and plants that should not be touched.
- Use the flags as boundaries, say “Stay where you can see me and the flags,” and walk the boundary together once.
- Set out tools (crayons, pencils, magnifiers) in a tray or bag at each flag before learners arrive, and keep anything sharp or breakable with the adult.

Caring for Nature and Each Other

- **Look First, Ask Second:** Learners keep their hands behind their backs to look first, then ask an adult before touching or collecting any natural item.
- **Collect with Care:** An adult decides what may be gathered, following local site rules. Take only one small piece, never a whole handful.
- **Photograph Living Wildlife:** An adult photographs insects and small animals instead of picking them up. Learners can draw from the photo later.
- **Magnifiers Point Down:** Show learners how to hold the magnifier close to the specimen, pointed down. Never use magnifiers to look at the sun.
- **Leave No Trace:** Put rocks, sticks, and logs back exactly where you found them, and say “thank you” to the spot as you leave.
- **Plan for the Elements:** Keep sessions short in heat or cold. Have shade, water, and an indoor backup plan for extreme weather.
- **Count Your Gear:** Count every crayon, pencil, and magnifier together before moving to a new area. Counting is part of the fun.
- **Wash Hands:** Everyone washes their hands thoroughly after handling anything from the outdoors.
- **Extra Hands Help:** When possible, invite a second adult or an older buddy so every small group has a helper close by.

When Learners Get Stuck

If a learner says or does this	Try saying
"I can't draw." "I'm done." "I don't know what to say." Says a guess as if it's a fact Grabs or picks a plant or animal Wants to keep a living insect or animal	• "Let's find one shape. Trace it in the air with your finger, then put it on your paper." • "Let's look again with the magnifier. What color do you see now?" • "Point to the part you like best. I will write your words." • "That's a great idea. How could we find out?" • "Gentle hands. Let's look first and ask before we touch." 1. "Let's take a picture instead, so it stays safe at home. We can draw it from the photo."

Every session supports

Academic Support: early science practices, language (new words, labels spoken or written with help, and questions), and early math (counting, comparing, and sorting).

Enrichment: drawing, color, rubbings, collage, and photography.

Healthy Development: outdoor movement, taking turns, sharing, and gentle care for living things.

- **Standards alignment:** see the NJAS Science Standards Alignment Rubric (TK note and grades K-2).
- **California expanded learning programs:** see the NJAS ELO-P Alignment Brief, which includes TK and kindergarten.
- **All Educator Guides** can be found at www.NewMettleFarms.com/njas-educator-resources.

Continue Learning

- **Library Collections:** Build the Rubbings Library, Swatch Cards, Viewfinder Frames, and Measuring Strips. The Art & Placemat Guides have the instructions.
- **Growing with NJAS:** When learners are ready, the School Age Guide (Grades 1-12) continues the same four routines with more writing, counting, and measuring.

Pre-K & TK

Early Learners Guide (TK-1)

Written for transitional kindergarten. The adult reads aloud, writes the learner's words, and keeps each step short.

1. Gather	2. Explore	3. Create	4. Record	5. Share
2 min	5-10 min	10 min	3-5 min	2 min

How to Support This Age

How much to show

How learners record

Questions to ask

Drawing

Counting & measuring

Finding answers

Show every step slowly, then do it together.

Learners talk, point and draw. The adult writes their words beside the drawing.

What do you see? What color is it? Is it big or small?

Trace shapes in the air, then draw one big shape on the page.

Count to 5 or 10 by touching each object. Compare bigger and smaller.

Look at a picture book together and find a picture that matches.

Notice: What do you notice?

Say "I see..." and name colors and shapes. The adult adds 1-2 labels as the learner points.

Wonder: What do you wonder?

Ask one "what" or "why" question out loud. The adult writes it in a bubble around the drawing.

Remember: What does this remind you of?

Tell what it looks like, such as "It looks like a hat!" Make a rubbing of bark or a leaf.

Measure: How could you measure this?

Compare longer and shorter by laying the specimen next to blocks, and point to a weather picture.

READY FOR MORE

- Copy one word from the word bank.
- Count to 20 and compare two groups.
- Draw the specimen from the front and the back.
- Tell one way two leaves are the same.

What Success Looks Like

- ☐ Points to and names parts
- ☐ Draws one or more big shapes
- ☐ Asks or answers a what question
- ☐ Counts objects to 10, with help
- ☐ Looks first, asks before touching
- ☐ Shares one word or picture

Guide Tips: Keep groups small and the steps short. Give every child something to hold or do at each flag, such as the magnifier, the crayon or the counting job. Celebrate the looking, not the drawing.

Kinder.— Grd 1

Early Learners Guide (TK-1)

Written for kindergarten. The “Ready for more” box gives next steps for first graders.

1. Gather	2. Explore	3. Create	4. Record	5. Share
3 min	10 min	10–15 min	5 min	3 min

How to Support This Age

How much to show

How learners record

Questions to ask

Drawing

Counting & measuring

Finding answers

Show every step yourself first, then do it together.

Learners draw and copy a word. The adult writes longer ideas as learners say them.

What is it? Where is it? How many?

Draw big, simple shapes first, then add one or two details.

Count to 20, one object at a time. Sort by color, shape or size.

Look at a picture book or a field guide (a book for naming plants and animals) together.

Notice: What do you notice?

Say “I notice...”, count legs or petals, and copy 1–2 labels with a line to the drawing.

Wonder: What do you wonder?

Ask “Why does...?” out loud. The adult writes the question in a bubble, and learners draw it.

Remember: What does this remind you of?

Tell one way it is the same as something you know. Use dots and lines to show bumpy or smooth.

Measure: How could you measure this?

Measure with blocks or paper clips, count how many long, and choose a weather picture for the day.

READY FOR MORE (grade 1)

- Finish a sentence starter, such as “I notice...”
- Count pairs and use tally marks in groups of 5.
- Measure in whole inches with a Measuring Strip.
- Tell one way it is different from something you know.

What Success Looks Like

- ☐ Draws the main shapes
- ☐ Copies 1–2 labels, with help
- ☐ Asks what, where or why
- ☐ Counts objects to 20
- ☐ Asks before touching
- ☐ Shares one idea with the group

Guide Tips: Show the attention signal with your hand and your voice every time. Give each child a job at each flag, and rotate the jobs so everyone counts, holds the magnifier and shares.

Sources & Acknowledgments

The NJAS routines Notice, Wonder, Remember, and Measure are New Mettle Farms' adaptation of Project Zero's See, Think, Wonder routine at the Harvard Graduate School of Education. We thank the educators and researchers whose work informs these guides.

AI Use: This guide was drafted with assistance from *Claude*, an AI model by Anthropic, using New Mettle Farms' original NJAS materials. New Mettle Farms reviewed, edited, and approved all content.

"Draft text for the NJAS Early Learners Guide, TK-1" prompt. Claude, Anthropic, Oct. 2026, claude.ai.

Johnson, Kelly. "Creative Connecting: Early Childhood Nature Journaling Sparks Wonder and Develops Ecological Literacy." *International Journal of Early Childhood Environmental Education*, vol. 2, no. 1, 2014, pp. 126–39.

Project Zero. "Thinking Routines." *Project Zero's Thinking Routine Toolbox*, Harvard Graduate School of Education, pz.harvard.edu/thinking-routines.

Wiederhold, Chuck. *Cooperative Learning and Higher-Level Thinking: The Q-Matrix*. Kagan Cooperative Learning, 1991.

Standards alignment: For NGSS citations and grade-level alignment, see the NJAS NGSS Alignment Rubric. For California expanded learning programs, see the NJAS ELO-P Alignment Brief.