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Big Questions for Young Minds

EXTENDING CHILDREN'S THINKING

JANIS STRASSER AND LISA MUFSON BRESSON

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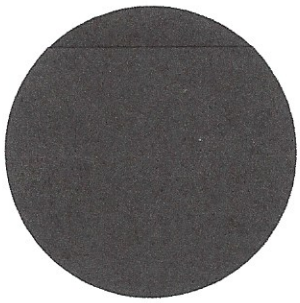
Introduction



This book is about high-level questions and how they inspire higher-level thinking in young children. As a preschool teacher and teacher trainer, Lisa has discovered how exciting it is when teachers engage children in high-level thinking. Janis, in her work with teachers, sees how they often struggle to develop and use questions that go beyond eliciting rote answers. We wanted to provide some guidance to teachers because we both saw how their comfort with and knowledge of using higher-level questions impacted the quality of their teaching and learning.

We first began writing about high-level questions in a series of articles for *Teaching Young Children*. We learned that many people were using our articles for staff development trainings. After the publication of the fourth article in the series, which focused on using classroom displays to inspire higher-level, reflective questions (see Chapter 18), a Head Start teacher shared with us the impact that article had on her, saying, "It was like a big door opened in front of my eyes or a huge light shined in the darkness of my mind. I could not believe how important and helpful those questions could be."

That is the purpose of this book. With some practice, when teachers use high-level questions, they too can open doors for children to think about and express more complex ideas.

Bloom's Taxonomy and the Model for This Book

In 1956, Benjamin Bloom and his collaborators created what is now called Bloom's Taxonomy. A *taxonomy* is a system of classification. Bloom wanted to provide educators a way to classify thinking, understanding, and learning and to measure and organize what they teach. This taxonomy consisted of six levels of cognition, ordered from the simplest to the most complex (Bloom 1956; Fusco 2012):

Knowledge—recalling facts or other information

Comprehension—simple understanding

Application—inferring, or applying information from one situation to another

Analysis—breaking down parts from the whole and understanding their relationships

Synthesis—putting together parts to make meaning

Evaluation—making judgments about the value of something

Over the years, many educational theorists have reinterpreted Bloom's Taxonomy. Almost 50 years after Bloom first created the taxonomy, Lorin Anderson and David Krathwohl (2000) incorporated a fresh perspective. They considered the advances in education over the years as well as the evolution of teachers' thinking about teaching, learning, and assessing their students. They kept somewhat similar categories but substituted *evaluation*, the final level, with *create*. This modified version of the taxonomy, which we will continue to refer to as Bloom's Taxonomy, is the model used in this book because we believe that creating is the critical component that brings the taxonomy to life. The table below compares the two versions.

A Comparison of the Two Versions of the Taxonomies

Bloom's Taxonomy (original)	Bloom's Taxonomy (with Anderson & Krathwohl modifications)
Knowledge	Remember
Comprehension	Understand
Application	Apply
Analysis	Analyze
Synthesis	Evaluate
Evaluation	Create

Teachers often use Bloom's Taxonomy to ask children a range of questions, including those that prompt children to recall and understand what they've learned, apply the information, and do something new with it. Although children do not necessarily move in a systematized way through the levels of cognition (from lowest to highest in order), the taxonomy illustrates that children need a foundation in basic facts and information to be able to use their knowledge at a higher level. The higher levels of the taxonomy help *teachers* understand how to ask children thoughtful questions that scaffold and extend their learning, encouraging them to think more critically.

While it's vital to encourage children to think at a higher level, all levels of questions have value. Remembering information is the foundation children need to be able to answer higher-level questions, such as "How will you figure out how many plates we need on the table for lunch?" And children need to *remember* that there are three little pigs and a big, bad wolf and *understand* that the pigs have to figure out how to build strong houses before they can *create* new characters and a new ending. As you get to know each of the children you work with, you can use these categories as a guide to help you scaffold their thinking

and learning. This is particularly important to consider when you work with a child who does not yet have much expressive language or experience answering more complex questions or with children who are dual language learners.

Using This Book

This book is a practical resource for all early childhood professionals who work with children ages 3 through 6 years in classrooms or family child care settings, higher education faculty who work with preservice or graduate-level early childhood teachers, principals or directors of early childhood programs to use with their staff, and families who want to support their children's learning. The chapters focus on how to integrate high-level questions into the many ways adults interact with young children: in the interest areas of the classroom or family child care setting, during different parts of the daily routine, and while engaging in other learning opportunities. The ideas build on Bloom's Taxonomy, our combined extensive experience with young children, and the expertise of our esteemed colleagues who served as contributing authors.

Each chapter provides specific tips for getting started and three examples of questions at each of the six levels of questioning (Remember, Understand, Apply, Analyze, Evaluate, Create). These sample questions will help you think about the types of questions,

statements, or comments that are most likely to elicit the thinking you want children to engage in. Each chapter also includes a list of children's books that support the use of high-level questions ("The Picture Book Connection"). Throughout the book, we have included many clear, useful tips and strategies.

Part 1: Using Questions in Classroom Interest Areas

Chapters 1–6 describe how to use high-level questions in the basic interest areas of preschool and kindergarten classrooms.

Part 2: Using Questions During Other Parts of the Daily Routine

Chapters 7–12 discuss the use of high-level questions during other parts of the daily routine: class meetings, read-alouds, music time, large motor activities, outdoor time, and mealtimes.

Part 3: More Learning Opportunities with Questions

Chapters 13–19 offer ideas for how to use high-level questions on a daily basis in a variety of contexts (such as supporting emotional development during the first months of school, helping children understand diversity, and introducing new materials) and perhaps some new ways to support high-level thinking you hadn't thought about before (during multiday explorations, starting off the school year with long-term studies, with classroom displays, and documenting children's learning).

Part 4: Resources

The resource section contains examples of how to talk to children using questions at all levels in a wide range of situations. There are also questions that can be cut out, laminated onto index cards, put on a ring, and placed around your classroom, in your pocket, or wherever you can easily refer to them. We have also included some reflection questions about the chapters and themes of the book and a list of print and online resources. For families, there are reproducible handouts that encourage the use of high-level questions when talking to their children about their day, during mealtimes, and while reading bedtime stories.

What Are High-Level Questions and How Do They Support Young Children's Thinking?

Think about these two questions:

> *What three things do you know about the way young children learn?*
>
> *How would you design a collage that shows the most important things about the way young children learn?*

What kind of thinking does each of these questions require? For the first—which represents the lowest level of question in Bloom's Taxonomy, *remember*—you would probably access

a list you already have somewhere in your memory, either from information you learned or from your own experience with children. But the second question (the highest level, *create*) requires you to think in a new way—you likely don't have a ready-made answer and would engage in some higher-level, complex, and creative thinking. Similarly, when you ask young children basic recall questions, such as how many pigs are in the story of *The Three Little Pigs* or what color the wolf is, the answers to those questions don't require much thinking. If a child can't answer those questions, you might learn that she doesn't yet know numbers or colors, or that she wasn't interested in the story. But if you want to engage children in rich cognitive experiences and understand how they think, you might ask, "How would you describe the wolf?" or "How might the three pigs have built different houses if they were fish?" It can be challenging to develop and ask high-level questions ("If you could come to school any way you wanted, how would you get here? Why?") instead of lower-level questions ("How did you get to school this morning?"), but it is well worth the effort!

What High-Level Questions Aren't—and Are

A high-level question is *never* a yes-or-no question ("Do you have a pet?"). It is never a question that has an obvious answer ("How many wheels does that car have?"). Nor is it a question that has only one answer ("How old are you?"). The answers to those kinds

of questions may demonstrate that children understand language, are paying attention, and can count or identify numbers, colors, or shapes, but the questions don't offer opportunities for children to think very deeply.

Creating a solid base of content knowledge is important—children need to remember information before they can understand it; they must understand it before they can apply it. But you want children's learning to be deeper and more complex. Asking questions that invite them to apply what they've learned or evaluate something encourages them to express their unique ideas. Consider the difference in responses given by a group of kindergartners when shown a mug and asked, "What is this?" Most replied that the object was a cup or a mug. But when asked what they liked about the mug, Julia responded, "It has so many blue swirly rings on it, and I love the big handle." And Juan said, "It's like my abuela's cup. She always puts cinnamon tea and honey in it when I visit her in Puerto Rico."

A high-level question is *always* a question that each child will answer in her own way, which indicates that she is using what she knows and what she's learning instead of just recalling rote information. If it is an effective question, a child will be excited to give you lots of details in her answer and is likely to use complex language. For example, when 3½-year-old Kerry was asked to describe her pet, she said that he was "really, really big and his tongue is always dripping and his tail bangs into the coffee table." And when a group of 4-year-olds was asked to describe the most important things about being 4, they came up with a long list of individual accomplishments and privileges, such as "You can stay up late to watch the moon" and "You can somersault and jump up to the sky."

High-level questions encourage children to expand their thinking and perspective on a subject. Fifteen students in a kindergarten class were asked to discuss this question in pairs: "If you could design a car that could go really fast, what would it look like and why?" The students engaged in long discussions, sketched their answers, and debated which of their car prototypes would be the best and why. Sarah said, "It would have jet-propelled giant engines and go faster than the Flash," and Jared said, "My car has wings and flies higher than a helicopter, and it is sparkly black and red with four hundred and twelve lights."

Most importantly, a high-level question is developmentally appropriate for the age and stage of the individual child. Most 3-year-olds are primarily concrete thinkers. This means that their speech and thinking are quite literal, often focusing on what is physically in front of them. Some 3-year-olds might not be able to answer the more complicated questions that older children can. Children begin thinking more abstractly around age 4 (Copple & Bredekamp 2006).

Teachers can address every stage of development, from the very concrete thinkers to the more developed abstract thinkers, by using Bloom's Taxonomy as a guide to engage in focused lines of questioning. For example, observing a group of 4-year-olds pretending that a stick they found outside is a fork or spoon, you might ask, "What kinds of foods would

be easy or difficult to eat with your new kind of utensil?" If you saw a 3-year-old using the same stick to poke holes or make a line in the dirt, you could say, "Tell me about the marks you are making on the ground." Another approach is to simply make an observation about what you notice in children's play to start a dialogue. For example, to the 4-year-olds you could say, "I see you created a new utensil!" Or, for the 3-year-old, "I see you making such interesting marks in the dirt with that stick."

It's up to you, the one who knows your students best in an educational setting, to decide which questions are appropriate for which children during a particular interaction. Although not all preschoolers and kindergartners will understand some of the higher-level concepts, you can still ask questions that prompt them to think in those ways. For example, instead of "How many carrots are in this bunch?," you might ask Hannah whether she has enough carrots for the teacher, herself, and a nearby child to have one each, and how she knows the answer. If this is too difficult for the child, you might scaffold the learning by helping Hannah count the carrots and the number of people, and then ask whether there are enough for everybody to have one.

Children develop at different rates and may surprise you with their answers. Sometimes, scaffolding these questions by pairing children up or asking questions in small group or whole group settings can be beneficial for those children who aren't ready to answer by themselves. Keep in mind that statements like "I wonder . . ." ("I wonder why that happened") or "Tell me how . . ." ("Tell me how you would change it the next time") also encourage thinking, even though they don't have a question mark at the end!

Step Up Your Questioning Techniques

The "Step Up Your Questioning Techniques!" graphic on page 9 is based on Anderson and Krathwohl's (2000) work and helps you visualize what using high-level questions with young children looks like based on our model. At each successive level, the questions become more difficult and require deeper thinking from children. Remember that children are not necessarily "at" one step or another in their development—rather, their level of thinking shifts as they are exposed to new experiences and concepts, try out ideas, and make adjustments to what they've already learned. A 4-year-old may be able to experiment and infer on a topic she has a lot of experience with, but when exploring a topic that's new to her, she may spend a lot of time gaining basic facts and understanding and applying what she learns.

Keep these things in mind when you ask children questions:

- **Plan your question, thinking about where your students are developmentally.** Do they have the vocabulary to be able to describe a sunset?
- **Consider their prior knowledge.** Do they know what a dinosaur is? Have they ever been to a pizza place?
- **Try starting a question with "I wonder . . . " or "What do you notice . . . "** These kinds of questions open the door for thinking and observing in depth.
- **Don't be afraid to use big "juicy" words** like *choreograph, gizmo, vertical, segregation, document, reflect, accessory, skyscraper,* and *ornithologist*. The children will figure them out in context and their vocabularies will soar!

Higher-Level Thinking Is Thinking that Makes Your Brain Stronger

Here are some ways you might describe higher-level thinking to preschoolers and kindergartners. Ask them for their own explanations, too!

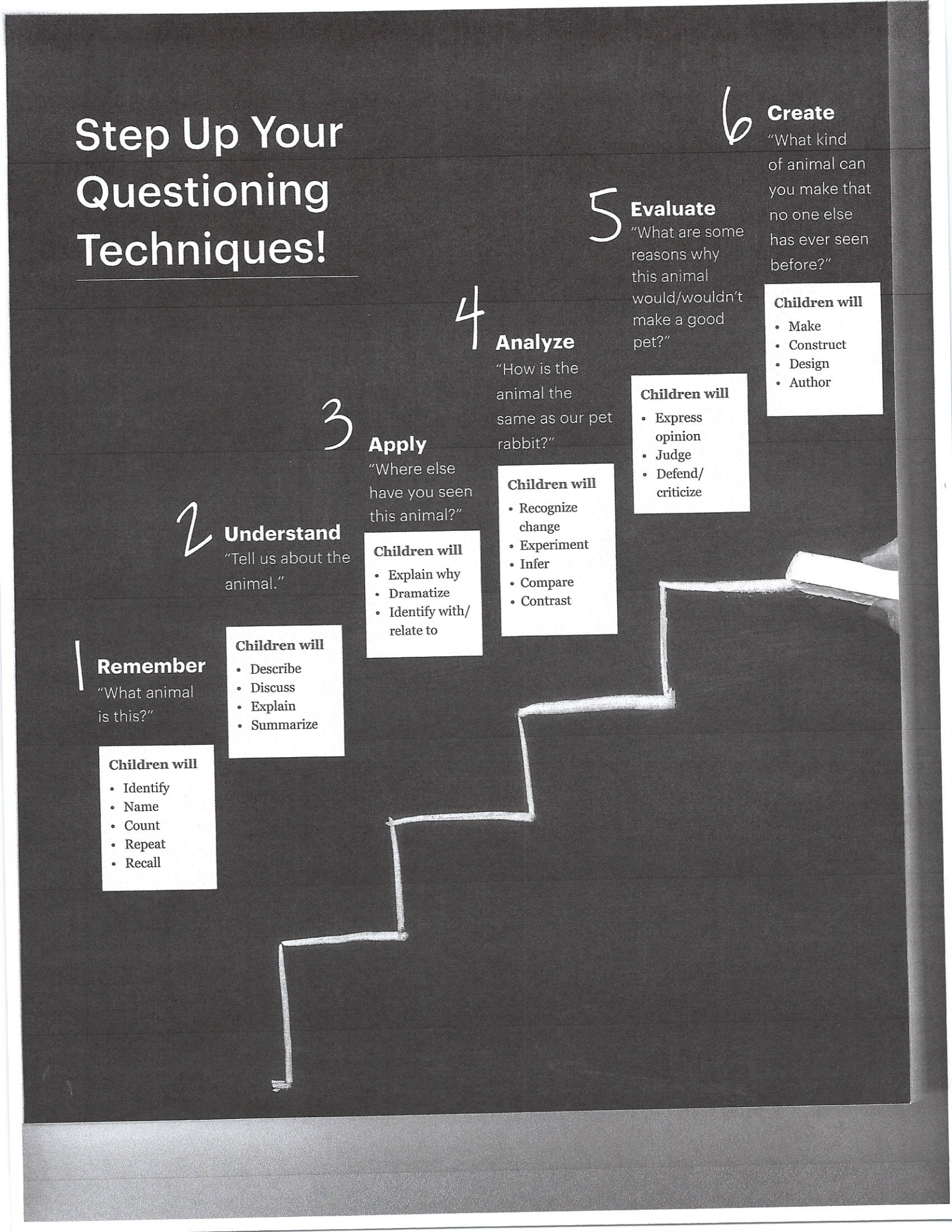
- "It makes your brain stronger."
- "It's like exercise for your mind."
- "It's like looking at things with a magnifying glass, or (for tech-savvy preschoolers and kindergartners) zooming in on a photo."
- "We are taking our ideas from up here (pointing to head) and bringing them to life with _____ (crayons, blocks, playdough, our bodies)."

What Is a Good Listener?

Children know when adults are truly inte in what they have to say. When asked the criteria for judging if someone is a good listener, elementary-age children said the person

- Makes eye contact appropriately
- Is patient and does not interrupt
- Asks questions in a pleasant tone
- Is responsive both verbally and no
- Prepares for listening by focusing a on the speaker (Jalongo 2008)

Step Up Your Questioning Techniques!



1 **Remember**
"What animal is this?"

Children will
- Identify
- Name
- Count
- Repeat
- Recall

2 **Understand**
"Tell us about the animal."

Children will
- Describe
- Discuss
- Explain
- Summarize

3 **Apply**
"Where else have you seen this animal?"

Children will
- Explain why
- Dramatize
- Identify with/ relate to

4 **Analyze**
"How is the animal the same as our pet rabbit?"

Children will
- Recognize change
- Experiment
- Infer
- Compare
- Contrast

5 **Evaluate**
"What are some reasons why this animal would/wouldn't make a good pet?"

Children will
- Express opinion
- Judge
- Defend/ criticize

6 **Create**
"What kind of animal can you make that no one else has ever seen before?"

Children will
- Make
- Construct
- Design
- Author

» **Make sure to allow plenty of wait time for them to process what you are saying, think about it, and answer.** Give them at least two to three seconds, but vary this according to the needs of the student. (Count "1 Mississippi" for each second.)

» **Ask another question or make a comment** after a child answers. Say, "What else can we add to that?" or "Tell me more about that."

» **Remember to listen** after you ask a question. Use active listening strategies: make eye contact, encourage children to share their ideas, and restate or summarize what they say.

Dual language learners (DLLs), or children who grow up learning two (or more) languages, may not yet have the vocabulary to answer some questions in English. However, researchers have found that "growing up with two languages enhances cognitive flexibility and the ability to use working memory as children go back and forth between their two languages" (Galinsky & Gardner 2017, 7). As you would with any child, start with simple, lower-level questions and gradually ask more difficult questions when you see the child responding easily. If you or another adult speaks the child's home language, ask questions in that language, or invite another child to translate. High-level thinking and speaking will develop in the child's home language before it does in English. See "Working with Children Who Are Dual Language Learners" above for additional tips about supporting DLLs with high-level questions.

Working with Children Who Are Dual Language Learners

- Support the development of a child's home language and English skills by trying to find an adult, peer, or older child who can speak and ask him questions in his home language.*
- Recognize that sometimes the child may feel shy about responding in English.*
- Use lots of gestures, pictures, labels, and other supports to clarify questions.*
- Allow extra time for the child to process the question.*
- Ask families to help you learn a few questions, such as "What do you think will happen next?" and "How did your strategy work?" in each child's home language. Use a smartphone or tablet to record the child's responses. Save the recording and ask for help translating it to track how the child's responses develop over time.

*Adapted from Nemeth 2012

Reigniting Children's Direction and Interest

If activity in the dramatic play area was once robust and high level but seems to have waned, or if you find a child wandering in the area with no real focus, consider the following:

- **Are the materials still interesting?** Consider adding old cameras, cellphones, costume jewelry, or sunglasses to the area. Occasionally rotate some items in and out.
- **Are there enough materials?** There should be enough materials so that three or four children can engage in play with dolls, eat pretend meals, dress up, etc.
- **Is pretend play unfamiliar to this child?** Is she still primarily a concrete thinker? For example, maybe she is not yet able to think about using the collection of bottle caps as part of a soup or making a checkered tablecloth into a fancy party dress.
- **Is the child having difficulty integrating into existing play?** Reflect on the child's prior experiences at home, his language development, and the social dynamics that exist in your classroom.

Providing a place for creative imaginary play is an important function of the dramatic play area. As a reflective practitioner, periodically reassess what materials are available and how children are using them. Then, engage with children in high-level questioning as they explore their roles to understand their world, which helps them build a strong foundation of learning for years to come.

The Picture Book Connection

Lion Lessons, by Jon Agee

Shhhhh! Everybody's Sleeping, by Julie Markes

Stone Soup, by Marcia Brown

Tortillas and Lullabies/Tortillas y Cancioncitas, by Lynn Reiser

Where the Wild Things Are, by Maurice Sendak

Expand Children's Thinking and Learning by Asking Questions

1	**Remember** (identify, name, count, repeat, recall)	• What color is this vegetable? • How many dimes are in this cash register? • What color is that scarf you chose?
2	**Understand** (describe, discuss, explain, summarize)	• What did you put in the bowl first? next? last? • Describe the flowers you put in your flower shop. • Are you and Dino part of the same family? How are you related?
3	**Apply** (explain why, dramatize, identify with/relate to)	• I see you're setting up all of the different hairstyling products and tools in your hair salon. Show me how you will use some of them on your customers' hair. • Now that you are the grandmother in the family, how can you get the babies to stop crying? • When have you seen this kind of menu before?
4	**Analyze** (recognize change, experiment, infer, compare, contrast)	• How do you think you could turn this piece of fabric that your mom gave us into a piece of clothing for dress-up? • How can you get the same amount of soup into each of these bowls? How do you think you'll be able to tell if all the bowls have the same amount of soup? • How can we use this pencil and notebook to help you organize which patients you see first in the animal hospital?
5	**Evaluate** (express opinion, judge, defend/ criticize)	• Which of these tools do you think is the best choice for making your customers' hair curly in your hair salon? Why? • Which is your favorite scarf in this basket? Why do you like it so much? • How do you think Mayumi is feeling since you told her she can't be part of the doctor's office you set up here?
6	**Create** (make, construct, design, author)	• Let's use some classroom materials to design something that helps the baby doll sit higher up at the table so you can feed her more easily. • Everyone seems to be having a hard time remembering where these materials go at cleanup time. What types of labels can we make that would help everyone know where to put materials away? • I wrote down the story you were telling your patient when she said she was afraid of the dentist. Maybe you can illustrate the story and we can make a book.

Block Area

2

Rosanne Regan Hansel

Five-year-old Luciana wants to use the unit blocks to build a train station like the one that she passes on the way to school every day. Her teacher, Ms. DaNita, listens to Luciana explain her idea and asks her to say more about it.

Luciana: I'm trying to make it strong like the brick house in *The Three Little Pigs*, so when the trains rumble in, they won't knock the building down.

Ms. DaNita: I noticed that when you first started, your building kept falling down. What will you do this time to make your building stronger, so it doesn't fall down?

Luciana: This time I'll put the long blocks on the bottom and then stack the smaller blocks very carefully on top.

Ms. DaNita: That sounds like a good plan. Would it help if you look at the photos of the buildings we took when we went on our neighborhood walk to see if you can find a picture of the train station?

Luciana: (looking through the binder of photos from the neighborhood walk) Yes, I found it! Look! The train station is kind of square and not as tall as a skyscraper. Oh, and it has cylinder shapes in front of it like these (as she holds up two wooden cylinders).

Ms. DaNita: They are called columns. How many cylinder-shaped columns do you see in the photo?

Luciana: (pointing to the photo as she counts) Six!

Ms. DaNita: Okay! Are you ready to get started?

In the opening vignette, Ms. DaNita models skilled listening as she helps Luciana flesh out her ideas for building a train station. By being fully present during Luciana's play with blocks and responding appreciatively to her efforts by noticing what she is building and asking questions, the teacher shows Luciana that she values her work. Taking this important first step, observing and commenting on children's play, sets the stage for expanding on the ideas children are exploring.

the block area to invite children to draw what they have built or to plan out what they would like to build. Children with language delays or who are dual language learners often communicate what they know through their drawings before they have the ability to verbalize that knowledge. Be sure to encourage them to express what they are thinking. This helps to uncover misconceptions children might have.

Here are some questions you might ask or comments you might make while children draw their structures:

- What part would you like to draw first? (If children are frustrated when trying to draw their block structures, you might help them break the task into steps by starting with this question.)
- What shapes did you use in your drawing of your train station? Are those shapes in the train station you built? Where?
- You said you made a tunnel so the trains can get into the building. Tell me more about that.

During Group Discussions

Knowing how to ask good questions is challenging, but knowing how to nurture children's curiosity and encourage them to confidently ask their own questions during group discussions can be even more challenging! One strategy is to make reflection an important part of the day. When you create a classroom culture where children learn to listen to one another respectfully in a whole group setting, it helps everyone feel safe and valued. For example, when Luciana completes her train station, Ms. DaNita invites her to share

the drawing she made of the train station with her classmates at group time. The teacher models for the children what it means to show respect for Luciana by looking at her, being quiet when she speaks, and asking her thoughtful questions. Ms. DaNita records important questions and observations the children make on chart paper, clarifying the difference between making an observation and asking a question, and then posts them in the block area. She gently reminds some children not to interrupt when Luciana is speaking and explains that it is an important responsibility of group members to appreciate and acknowledge others' contributions and to give everyone a turn to speak. Engaging children in reflection helps them become more aware of their thinking and what they have learned.

Questions you might ask a child who is sharing her ideas:

- What do you want people to know about your construction?
- What was the most difficult part about creating your _____?
- What did you do about it?

Questions that might arise during group discussion and reflection:

- How did you make the _____?
- Was that hard for you to make? Why or why not?
- How could you make your _____ better or different?

When children plan, construct, and represent their experiences with blocks, they progress in many areas of development and learning (Hansel 2015). You can take what children learn to an even higher level when you ask open-ended questions that encourage children to become more deeply engaged, persist a bit longer, think more creatively, solve challenging problems, collaborate with others, communicate what they know, and apply what they learn to new situations—critical skills that will help children thrive in early childhood and beyond.

The Picture Book Connection

Building a House, by Byron Barton

Dreaming Up: A Celebration of Building, by Christy Hale

The Lot at the End of My Block, by Kevin Lewis, illustrated by Reg Cartwright

Roberto: The Insect Architect, by Nina Laden

When I Build With Blocks, by Niki Alling

Blocks

Expand Children's Thinking and Learning by Asking Questions

1	**Remember** (identify, name, count, repeat, recall)	• What shape is your block hotel? • How many blocks are in your tower? • Who lives in your building?
2	**Understand** (describe, discuss, explain, summarize)	• What patterns did you make with your blocks? • I noticed you put the heavier blocks on the bottom. Why? • I see your building is different from the drawing you made while planning it. Why did you change your building?
3	**Apply** (explain why, dramatize, identify with/relate to)	• Use your body to show me how the animals get in and out of the barn. • How were you able to get the shape to stand up that way? • How did you get the roof to stay on? Show me how.
4	**Analyze** (recognize change, experiment, infer, compare, contrast)	• How is your building different from the one Lucas built (from the one in the photos we looked at earlier)? • What are some other ways to keep the bridge from falling down? • Which blocks are you going to use for building the castle? Why?
5	**Evaluate** (express opinion, judge, defend/criticize)	• Which part of your bridge was the trickiest to build? Why? • What do you think would happen if we took this block out to make a doorway? • Which blocks make the most interesting buildings? Why do you think so?
6	**Create** (make, construct, design, author)	• How will you create your skyscraper on paper? What will you write so you'll remember it when we put the blocks away? • You said that it is very hard to figure out where to put the blocks at cleanup time. How can we make it easier? • You said that the garage you built is too small to hold all the cars. How can you create a garage that is big enough to fit them all?

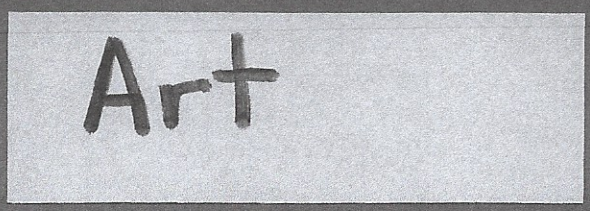
Expand Children's Thinking and Learning by Asking Questions

1	**Remember** (identify, name, count, repeat, recall)	• What material(s) are you using? • How many planks are you stacking? • Which screws are longer (shorter) than the one you're using?
2	**Understand** (describe, discuss, explain, summarize)	• Tell me how you're using the planks. • What happens when you drop the marble in? • How did you fix the flashlight?
3	**Apply** (explain why, dramatize, identify with/relate to)	• Where else have you seen this liquid? • Show me with your hands what would happen if the tube for the marbles went side to side instead of up and down. • Why do you think the plant leaves turned brown?
4	**Analyze** (recognize change, experiment, infer, compare, contrast)	• What happened when you mixed the oil and water? • Which material worked better in this experiment? • Why is the AA battery giving the robot more power than the button cell battery?
5	**Evaluate** (express opinion, judge, defend/ criticize)	• Why did the marble get stuck? • What are some reasons your machine worked (didn't work)? • Why do you think that would be the best tool to tighten the screws on your machine?
6	**Create** (make, construct, design, author)	• How will you make a complete circuit? • What kind of maze can you create for the robot? • How will you write (draw) the directions to explain how you made the hot air balloon?

Science

Expand Children's Thinking and Learning by Asking Questions

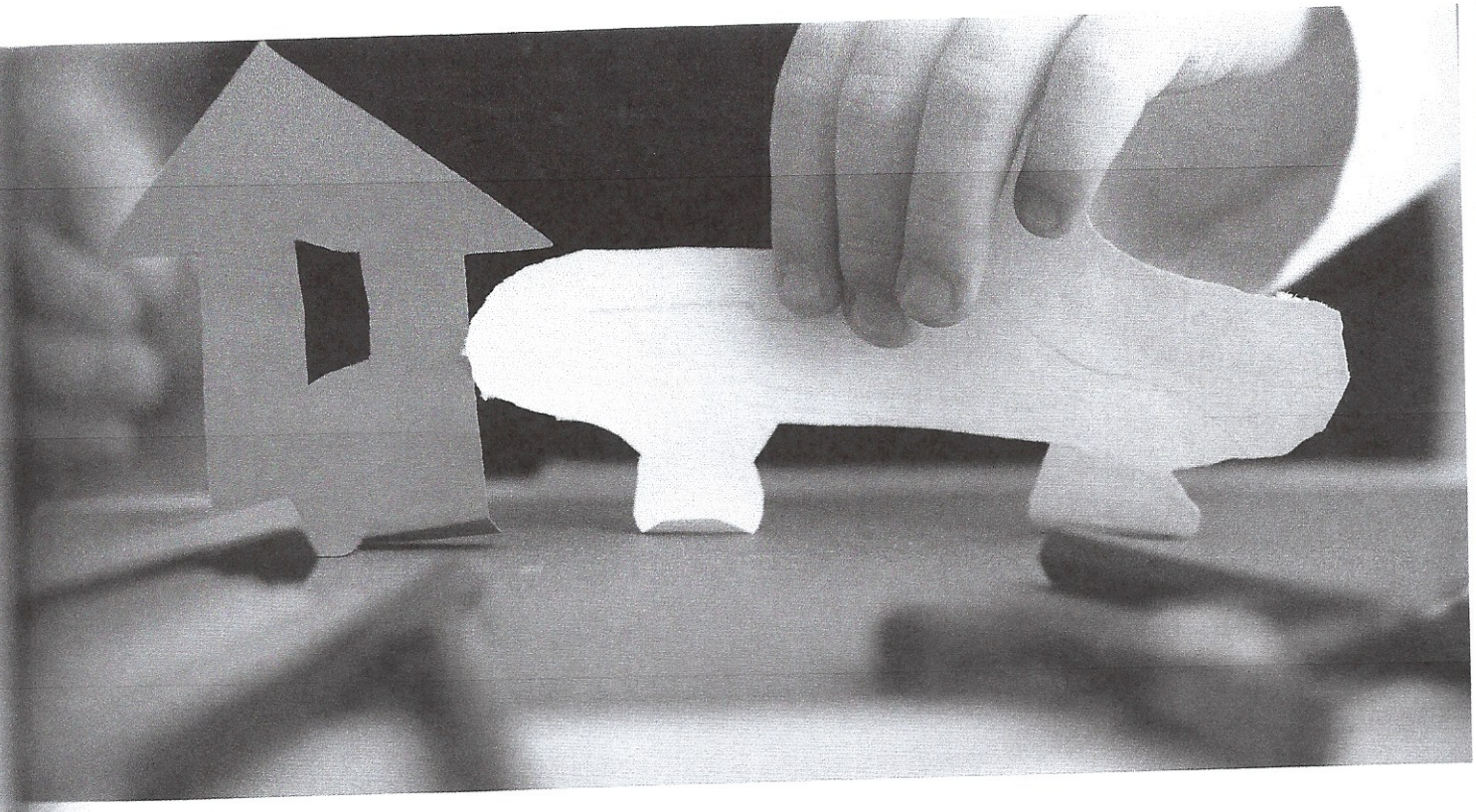
1	**Remember** (identify, name, count, repeat, recall)	• What shapes did you use to print with yesterday? • What are the names of these materials in our collage box? • What colors did you use in your painting?
2	**Understand** (describe, discuss, explain, summarize)	• Describe how this material looks (feels, sounds). • Explain how you made purple for your painting when you started with only red, yellow, blue, black, and white paints. • How did you fit all of these shapes on top of your sculpture?
3	**Apply** (explain why, dramatize, identify with/relate to)	• In what kind of building might you see this material? • If you could live somewhere in this artwork, where would it be and why? • Can you make the same sound as this material when I crunch it all up? How?
4	**Analyze** (recognize change, experiment, infer, compare, contrast)	• How is the tissue paper the same as the construction paper you used, and how are they different? • What do you think might happen if you made your sculpture taller (shorter)? • Bella and Charlie, how would you compare the paintings you each did of your families?
5	**Evaluate** (express opinion, judge, defend/criticize)	• What parts of your artwork are your least favorite? Why? • Which part of your mural are you most proud of? Why? • Which of these famous artists do you think has the most interesting style—Van Gogh, Picasso, or Pollock? Why?
6	**Create** (make, construct, design, author)	• What type of artwork are you interested in creating for the cover of your *All About Me* book? • How will you begin your family collage? • What should we title our mural about our families?



Expand Children's Thinking and Learning by Asking Questions

1	**Remember** (identify, name, count, repeat, recall)	• What kind of tree is Todd? • What animals did we see in the park? • How many swings do we have on our playground?
2	**Understand** (describe, discuss, explain, summarize)	• What did you notice today when we visited the car wash? • Why is it important to put birdseed in the feeders every day during the winter? • What are some other things we can do when we play outside?
3	**Apply** (explain why, dramatize, identify with/relate to)	• What can you do with your body to make yourself look just like Todd, the oak tree? • Why do you think the squirrels liked the acorns? • Where have you seen this kind of fence before? Why do you think people need fences?
4	**Analyze** (recognize change, experiment, infer, compare, contrast)	• Let's take a look at a picture of our visit to Todd last week and a picture from this morning. What is different about Todd than the last time we visited? • Some of you are saying we found acorns and some are saying they are nuts. I wonder how we can figure out whether they are acorns or nuts. • Look, there is a store here right next to a house. What is the same (different) about the storefront and the house?
5	**Evaluate** (express opinion, judge, defend/criticize)	• Today we learned about hermit crabs and how they protect themselves by living in shells. I wonder if any other animals use a shell to protect themselves. What do you think? • Which do you think is the oldest (strongest, most beautiful) tree? Why? • If there could be only one type of plant on the street where you live, what plant would you choose? Why?
6	**Create** (make, construct, design, author)	• I've added *Nuts to You!* by Lois Ehlert to the block area, along with some tree blocks, plastic squirrels, leaves, and acorns. What kinds of constructions will you create with these materials this week? • What will you add to our mural to remind us of all of the things we saw on our walk? • What will you add to our class book, *What We Know About Trees*?

Outdoors



Boosting Vocabulary

Instead of saying . . .	Try saying . . .
"Today we are making . . . "	"Today is the first day of our exploration!"
"What did you make?"	"Tell me about this part of your creation (structure, contraption)."
"Are you done?"	"Tonight, think about what you might like to add or change tomorrow."
"This part is not working. Here's how you fix it."	"What can you do to get this part to work the way you want?"

The Picture Book Connection

Balancing Act, by Ellen Stoll Walsh

Cubes, Cones, Cylinders, & Spheres, by Tana Hoban

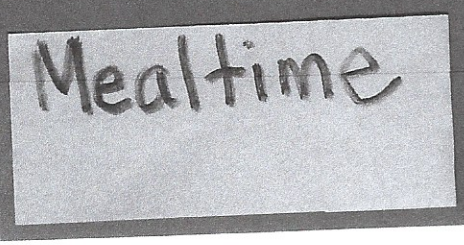
Dreaming Up: A Celebration of Building, by Christy Hall

Perfect Square, by Michael Hall

What Do Wheels Do All Day? by April Jones Prince, illustrated by Giles Laroche

Expand Children's Thinking and Learning by Asking Questions

1	**Remember** (identify, name, count, repeat, recall)	• What did you have for breakfast? • What snacks does your family eat? • What shapes are the foods on your plate?
2	**Understand** (describe, discuss, explain, summarize)	• I see your sandwich today has a lot of ingredients! Describe some of them for us. • Tell us about where you eat most of your meals. Who usually eats with you? • Explain how the adults in your family cook your meals. What ingredients do they put in the foods? How do they cook the meals?
3	**Apply** (explain why, dramatize, identify with/relate to)	• Which pictures in *Bread, Bread, Bread* remind you of your home and family? Why? • Show us how you sit and eat at home. What kinds of things do you talk about or do while you eat at home? • Pretend you invited a friend to eat dinner at your house. How would you cook and serve the food? What would your family serve?
4	**Analyze** (recognize change, experiment, infer, compare, contrast)	• Yesterday at small group time, we drew pictures of our favorite foods. How is your picture the same as (different from) the pictures your friends drew? • This morning we read *Rah, Rah, Radishes! A Vegetable Chant* and *Go, Go, Grapes! A Fruit Chant*. What did you notice about them that is the same (different)? • What happens when you sit with your chair far away from the table and your feet up compared to when you sit with your tummy pressed close to the table and your feet on the floor?
5	**Evaluate** (express opinion, judge, defend/ criticize)	• Is your favorite meal nutritious for you? Why or why not? • What could we do to make our meals healthier (e.g., drink water instead of soda)? • How do you think your friend feels when you touch his food and kick him under the table? Where might be a better place to put your hands and feet so he doesn't feel bothered?
6	**Create** (make, construct, design, author)	• I wonder how you could create this lunch by using playdough or some of the recycled materials in the art area. Maybe after lunch you could try out some of your ideas. • Pretend you are eating your favorite meal, and all of a sudden, an alien comes down from a spaceship and says, "I've never seen any of this food before. Tell me about it!" What would you say? Let's make a story out of it. • How can we make a list for the dramatic play area showing some of the foods we eat at home and at school? Where can we find photos of all those foods? How do we make it into a menu with words and pictures?



Level 1: Remember

(identify, name, count, repeat, recall)

What is this called?

How many _____ are there?

What do you remember about _____?

What color (shape) is this?

Point to the _____.

Level 2: Understand

(describe, discuss, explain, summarize)

What happened first (next, last)?

What can you tell me about the story (block structure, painting, character)?

How would you sort (separate) these pattern blocks (teddy bears, buttons)?

How can you describe the picture (puzzle, block structure)?

Tell me more about that story (friend, family member, picture).

Level 3: Apply

(explain why, dramatize, identify with/relate to)

Why did you paint your picture (build your structure, end your story) that way?

Where else in your life (in the classroom, in another book) do you see this?

What would happen if you change the characters in the story (block structure, collage)?

What material(s) could you get from the art (dramatic play, block) area to help complete your creation?

What does your mom (dad, grandma, sister) do at home to make you feel better when you are sad (sick, tired, worried)?

Level 4: Analyze

(recognize change, experiment, infer, compare, contrast)

How do you think the character (friend, animal) feels? Why?

How is the beginning different from the end?

How does this look different from when you started?

Is this story real or pretend? How do you know?

How can we experiment with LEGO bricks (blocks, art materials) to make your creation stand up on its own?

Level 5: Evaluate

(express opinion, judge, defend/criticize)

How could he (she) have solved this problem differently?

Do you think the _____ in the story did the right thing? Why?

Which is your favorite animal (story, painting)? Why?

Do you agree with the way that story ended? Why?

How do you feel about your drawing (friend's actions, new baby sister, dad moving away)?

Level 6: Create

(make, construct, design, author)

How can we solve this problem?

Can you make something that holds pencils (pulls cars, stops animals from escaping)?

How can we create a new song using that tune?

How will you create a story about that?

What ideas do you have for a mural (collage, class book)? What materials do you want to use to create it?