

While the following list is not to be used “carte blanche” in every situation and is not a script to read step-by-step, it is a collection of open-ended questions that can be helpful to early childhood teachers as they interact with children who are working with objects.

**Safe Questions  
Almost Anybody Can Ask  
About Almost Any Activity  
At Almost Any Time, Any Where**

- “Can you tell me about what you have done (are doing)?”  
“How did you do that?”  
“What did you do first?”  
“Where did you start?”  
“Why did you put these here (point to part of arrangement)?”  
• “Does it have a special name?”  
• “Are there any that are alike? How?”  
• “Are any of them together? Which ones? Why?”  
• “If you close your eyes and I take a piece and hide it, can you tell me which one I took? Where does it go? How do you know?”  
• “What will come next?” or “What would you put here?”  
• “Can you do it backwards?”  
• “Can you think of another way?”  
• “Do you think there are many pieces missing from the set? Why do you think so?”  
• “Can you find two that are different? How are they different? Are they alike in any ways? Can they be alike **and** different?”  
• “Can any of them go in other places?”  
• “How many are there? Which has the most? Which has the fewest?”  
• “Could you another one just like it?”  
• “Could make a picture or write a story about it?”

Phillips, D.R., 1988. *Developing Logical Thinking in Children*. Pg. 80

**Questions Specific to Measurement**

Many questions can facilitate a child’s thinking about measurement concepts. Teachers need to be sensitive to the pace of children’s thinking and exploration, taking care not to interrupt the rephrasing or follow-up queries while the child is still pondering the original question. Questions are listed here as they related to the different areas of measurement.

**Length**

- Which one is longer? Shorter? Medium-sized?
- Can you find something that is longer/shorter than this? How can you show me?
- Can you put these three straws in order from the shortest to the longest? Show me. Where would you put this fourth straw? How did you figure that out?

**Area**

- Which shape can you cover with the most/least number of blocks?
- Will it take more blocks to cover the table or to cover the book? Why do you think so? How can

you find out?

- To cover this book, would it take more cubes or more blocks?

### **Weight**

- Which is heavier? Lighter? How do you know?
- Put these three blocks on a balance, one at a time. How can you tell which rock is the heaviest? The lightest?

### **Capacity**

- Which of these two containers hold more/less? Why do you think so?
- How can you find out which container holds more water?
- If you have three containers and you can only fill one of them, how could you find out which one holds the most water?
- You are measuring how much this container holds. What are you counting? Show me how you are measuring.

### **Time**

- Will it take longer to walk to the door or write your name?
- What do we do when we come to school? What do we do after that? Before lunch?
- What do you think takes longer/shorter?
- You are measuring how much time it takes to [wash your hands]. What are you counting? Show me how you are measuring.

Copley, IV. (2000). *The Young Child and Mathematics*, Washington, D.C.: National Association for the Education of Young Children.

## **Questions That Promote Mathematical Thinking in Young Children**

### **Questions Specific to Number Concepts**

Teachers provoke children's thinking about number and numeration when they use certain kinds of questions or suggestions. Excellent teachers ask variations of these questions during large-and small — group times, when children are engaged in the various centers, and during routines such as snack or getting read for recess.

Some questions that facilitate thinking about number and operations:

How many more are in this group?

Is there any other way to show ?

Can you show me another way to make?

What number comes after? before?

How is this number different from ?

What would happen if I put 2 more with this number? 2 less?

What if I cover some of these? How many are hidden? How do you know?

You have told me that 3 and 4 are parts of 7. Are there different numbers that are parts of 7?

Can you show me? How did you figure that out?

- Do you think there are more than 10 in this set, less than 10, or about 10?
- Estimate how many there are in ?
- Count backwards from . Count forward from .
- How many different ways can you make the number \_\_\_?
- About how many are there in my hand?

### **Questions Specific to Patterns, Functions, and Algebra**

Many of those questions connect to other mathematics content areas and can also be asked about stories, science, or experiences in other content areas.

To facilitate children's thinking about patterns, functions, and algebra, teachers may ask:

- How are these alike? How are they different?
- Do you see a pattern? Tell me about it.
- What comes next? How could we make a pattern with these different materials? Could you tell a friend about this pattern and see if he/she can pick out which you mean?
- How can we remember this pattern? How can we make a picture to help us? Could we use numbers?

How?

- Can you dance your pattern? What would you do first? Second?
- What do you think will happen next? Why do you think so?
- Tell me about these two things: which one is bigger (heavier, smaller, lighter, more, less)?
- What happens over and over again with these [beads, tiles?]
- How can you read this pattern? Can you think of another way?
- What would happen to the pattern if I changed \_\_\_\_\_

Copley, J.V. (2000). *The Young Child and Mathematics*, Washington, D.C.: National Association for the Education of Young Children.

### **Questions Relating to Geometry and Spatial Sense**

Although experienced early childhood teachers ask many questions, they often overlook questions relating to spatial sense and shape. Here are some possibilities:

- How is that shape like this one? How is it different?
- What isn't this shape an oval? What makes it a circle?
- What if I turned this shape? What if I flipped it? What would it look like if I slid from your paper to my paper?
- Where have you seen this shape before?
- Can you find something like this at home?
- (When a child has made a picture out of shapes) How did you decide to use this triangle for the roof?
- How did you decide what to copy/draw?
- Do you think this shape would roll? Slide? Could we stack these?
- How could you cut this paper to make another shape?
- What shape could you make out of these shapes?
- Could we make the cone roll straight, or would it roll crooked? What about the cylinder?
- Have you found all the ways to put those shapes together? How do you know?

### **Questions about Data Analysis**

Depending on the focus, there are many questions that can be asked to help children sort, classify, and analyze data. They include:

- How are these alike (the same)? Different?
- Why do these belong here? Why does this not belong?
- Is there anything that doesn't belong here?
- Can you find or make another one that would go in this group?
- What name could you give this group?
- Which group has the most? How can you tell without counting?
- Which group has the least? How can you tell without counting?

Copley, J.V. (2000). *The Young Child and Mathematics*. Washington, D.C.: National Association for the Education of Young Children.