Supporting Children's Thinking Through Questioning Strategies and Inquiry

The child amidst his baubles is learning the action of light, motion, gravity, muscular force...  
— Ralph Waldo Emerson

CHILDREN NATURALLY LEARN THROUGH INQUIRY

- The cycle of inquiry (or scientific method) is a thinking tool—not a specific activity. This tool helps us think critically in order to solve problems, such as figuring out why a lamp is not working.
- Inquiry relies on following curiosity and questions that arise from personal observation rather than focusing on learning specific facts or content areas.
- During their everyday interactions with people and the world around them, children naturally learn through inquiry by observing the world, asking questions, collecting data, forming theories, and testing them. This process continues as children form and adjust their ideas about how the world works.

ADULTS CAN SUPPORT CHILDREN'S THINKING AND LEARNING BY:

- Gaining comfort speaking the language of inquiry. For example, encourage children to observe, compare, predict, and experiment throughout the day. Talk about each step with them.
- Creating space for exploration and inquiry by allowing children time to explore and play with materials so that observations and questions arise naturally.
- Encouraging exploration and curiosity (rather than facts) during activities.
- Asking open-ended questions that expand children's thinking and encourage curiosity.
- Modeling curiosity: try not to present yourself as the "expert" all of the time. Encourage exploration by participating as part of the group.
- Using language that allows space for more than one correct answer. For example using "what does this remind you of?" instead of "What is this?"
- Welcoming questions by using a "Wonder Wall" or other way to save and display children's questions in your home, center, or classroom.
QUESTIONS TO ENCOURAGE INQUIRY AND PROBLEM SOLVING

Observe
What do you see / hear?
How do they sound and smell?
How are they the same?
How are they different?
What happens when you try?
You seem curious about...

Explore
Let's investigate.
What do you notice?
What is changing?
What did you try?
What do you think will happen next?
Let's draw what we see.

Question
What are you curious about?
What do you want to know?
Are you wondering if...

Predict
What do you think will happen?
What are your predictions?
Why do you think that?
How could we find out?

Reflect
What were your predictions?
What happened?
What did you notice?
Why do you think that happened?
What could we investigate next?

Be careful with “why” questions, which are usually large and complicated to answer:

Adult: Why is the object balancing?
Child: I don't know

Try using questioning strategies instead:

Adult: As you were trying to get the object to balance on your finger, what things did you try?
Child: I tried holding it in the middle.
Adult: What happened?
Child: It fell off my finger.
Adult: What was preventing it from staying on your finger?
Child: There was too much weight on one side, and the extra weight pulled it down.
Adult: How did you change the way you held it to fix this problem?
Child: I had to hold it closer to the heavier side so that there is the same amount of weight on both sides of my finger
Adult: Wow, that's really cool! Can you show me so I can do it do? I wonder what else we could balance!

ADDITIONAL RESOURCES

- Institute for Learning & Brain Science online learning modules: [http://modules.ilabs.uw.edu/](http://modules.ilabs.uw.edu/)
  - Free online educational module on early learning and child development from the Institute for Learning & Brain Sciences (I-LABS).

- [Essential Questions](http://www.escd.org/publications/books/109004/chapters/What-Makes-a-Question-Essential%2A2.aspx)
  - Questioning strategies, examples, and discussion about how the way we ask questions affects thinking and responses.

- [How To Smile](http://www.howtosome.org)
  - Free online repository of interactive STEM activities uploaded by science museums, public television stations, universities, and other educational organizations. Searchable by things like age, material costs, and learning time. Great source for classroom activity ideas!