



Science Fun - Authentic Learning at All Ages

► **Most early years educators will say that children learn through:**

- Hands on experiences
- Play
- Sensory experiences
- By doing
- From peers

Tips for Teaching Science

► **Your Job is To:**

- Grab the children’s attention
- Show them that science is fun
- **It is the EXPERIENCE that matters more than the science**

► **Give the children a renewed sense of wonder**

- When they can’t stop asking “*What would happen if...?*”, or “*How did you do that?*” you know you are doing something right

The Scientific Method – Science as Inquiry

1. Observe a phenomenon
2. Ask a question/define a problem
3. Make a hypothesis
4. Experiment to address the problem/test the hypothesis
5. Observe/analyze the result of the experiment
6. Develop a conclusion

Fundamental Process Skills for Young Children	
Observing	Using the senses to gather information about objects or events. This forms a foundation for comparing and organizing
Communicating	Sharing written or oral idea and descriptions in a way that helps others understand the meaning
Comparing	Examining objects in order to discover similarities and differences
Measuring	Skills begin as children compare objects to one another (bigger/smaller, hotter/colder). They then extend this to compare objects to nonstandard units of measure (one block equals 3 counting bears). They then move to standard units (inches, pounds, etc)
Organizing	Skill of grouping, classifying, ordering objects along a continuum and sequencing <ul style="list-style-type: none"> • Age 3: resemblance sorting – one pile with red objects; one pile with square • Age 6: consistent & exhaustive sorting – child uses up all pieces in a set using one consistent rule for grouping such as color • Age 8: multiple membership classifying (ven diagram)
Reasonable Guessing	More than a simple guess – based on prior knowledge
Early Data Collection & Interpretation	Skill gives purpose to activities and further experiments



To Provide The Best Opportunity to Learn:

1. **Producible:** child must be able to produce 'what happens' with her own actions
2. **Immediate:** 'what happens' must occur soon after the child acts
3. **Observable:** the child must be able to see something happen
4. **Variable:** the child must be able to vary his or her actions to produce and observe variations

Examples:

- Sensory:

- Discovery:

- Organizing & Making Comparisons:

- Observing and Listening:

- Measuring/Data Collection Examples:

Specific Scientific Concepts:

- ▶ **Science as Inquiry**
- ▶ **Physical Science**
- ▶ **Life Sciences**
- ▶ **Earth & Space**
- ▶ **Chemistry**
- ▶ **Science & Technology**
- ▶ **Science in Personal & Social Perspective**