

JUMP-START SCIENCE

With these professional development activities, early childhood teachers can learn more about science concepts and effective ways to guide children's investigations. A suggestion: Use them at the start of staff meetings!

1. SCIENCE MEMORIES

Purpose: Teachers can reflect on their own experiences learning about science and how those influence their science teaching today.

What to do:

- Ask teachers to write down a positive and negative memory about their own science learning.
- Ask each person to find a partner and share their experiences.
- Gather the whole group and ask for volunteers to share their positive experiences.
- Write these down on a large piece of paper.
- Ask the group to examine the list. Are there any patterns that they can identify?
- Leave the list up in a central location as a reminder of positive science ideas.



2. SHARING SUCCESSES

Purpose: Teachers can share successful experiences they have had with science investigations in their classrooms.

What to do:

- Give teachers a few minutes to reflect on effective science activities in their classroom. These could be experiments, songs, or dramatic play experiences.
- Ask for volunteers to share these.
- If teachers do not think they have successful experiences to share, help them brainstorm ways they can create an environment where children can explore with adult guidance. Ideas include providing open-ended materials and teaching children ways to use tools already in the science area, like the balance scale. Ask teachers to try one of the ideas in the next month and share their experiences at a future meeting.



3. USING SENSES TO OBSERVE CLOSELY

Purpose: Teachers can practice making careful observations with their senses so they can model similar activities for children and guide them in observing closely.

What to do:

- Provide an object for teachers to observe—an apple, corn on the cob, an acorn. Another idea is for each teacher to have something edible, such as salt, to include sense of taste.
- Unless it is edible, pass the item among the teachers so they can touch it, smell it, observe it closely, and listen to it.
- As they pass the object, ask teachers to make one observation, using one of their senses, and share it with the group. Encourage them to make different observations.
- Write down each person’s observation with his or her name next to it. Point out that many different observations are possible. Hang the list of observations in a central location as a record.



4. PREDICTIONS

Purpose: Teachers can practice making predictions that they can model for children.

What to do:

- Provide a fruit with a distinctive inside, ideally one that people are not very familiar with. This could be a kiwi, a papaya, or a dragon fruit.
- Ask teachers what they predict they will find inside. Encourage them to describe that in detail. If they say, “Seeds,” ask more questions, such as, “How many?” “What size?” “What do they look like?” “Where are they located?” Also ask them to explain why they think what they do.
- Provide paper, pencils, and colored pencils. Give teachers time to draw what they predict the inside will look like. Emphasize that a prediction is an idea, not a fact, so people will have different ideas and drawings. This concept is one that is important to share with children.
- Ask for volunteers to share their drawings.
- Ask teachers to reflect on what helped them make the best prediction they could. For example, maybe hearing other people talk about seeds helped them to imagine different kinds of seeds they knew. Discussing this with children will help them see that more accurate predictions are based on what information they already know.
- Cut open the fruit.
- In a classroom, teachers might ask children to make a second drawing showing their observation of the inside of the fruit. Children’s prediction drawings could hang next to their observation drawings.



5. MEASUREMENT IN SCIENCE ACTIVITIES

Purpose: Teachers can think about ways to include beginning measurement activities in scientific investigations.

What to do:

- Label a two-column chart on a large piece of paper: "What to Measure and How to Measure."
- Lead a whole-group brainstorm about things that children can measure in experiments. Some ideas are: the amount of rain that falls each day during one school week, the distances that two balls rolled, and seeds' growth.
- In the second column, list one way to measure the results of each investigation using standard or nonstandard measurement tools. For example, teachers could use a row of construction paper to identify how tall children are: "Henry is four sheets of paper tall."

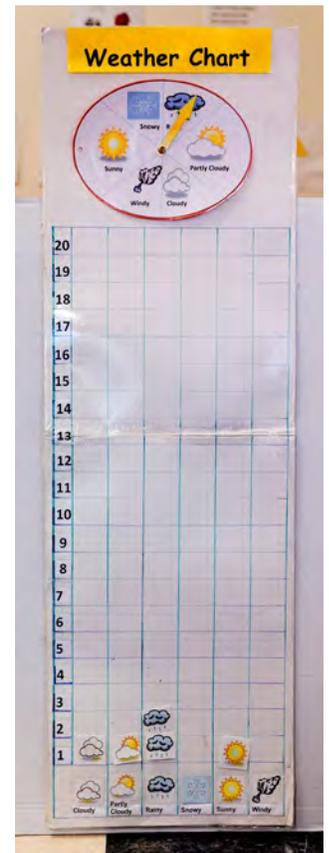


6. ENRICHING THE MORNING WEATHER ROUTINE

Purpose: Teachers can make the morning weather routine more meaningful by using a graph to track weather patterns.

What to do:

- Ask teachers to gather in small groups and give each group a poster-size paper, a yardstick, scrap paper, and pens.
- Ask each group to create a graph to track the weather. Remind groups to give the graph and each axis of the graph a title, such as "Number of Days in the Month."
- Groups can create sample pictures to represent different types of weather on the graph.
- Ask each group to show their graph and describe how they would use it in their classroom.



7. USING A MAGNIFYING GLASS

Purpose: Teachers can practice using a hand lens so they can see details clearly. Then they will be able to help children use them successfully.

What to do:

- Provide a magnifying glass for every teacher or pair of teachers and a bucket of small objects to examine.
- Have each teacher practice looking through the magnifying glass so he or she can see small details well.
- Ask for volunteers to describe their techniques to the group.
- Practice correct use of a magnifying glass: Hold it close to your eye, close the other eye, place the object on the other side of the lens, and bring it forward to the lens until it comes into focus.

