

Developing Scientists—AGE by AGE

Here is a quick overview of how children approach science stage by stage.

Three-Year-Olds may:

- * choose sensory and physical activities over problem-solving activities. Provide hands-on activities that invite them to dive into materials and be messy!
- * like to do more than watch. Avoid teacher-directed and complicated science activities that require children to watch and wait.
- * begin to “play with science for a purpose.” They can make a simple prediction and (with some help from you) test it out.
- * have difficulty manipulating small items and science tools. Choose things such as large, unbreakable magnifiers, big bucket pan balances, and large horseshoe magnets.
- * want to talk about their findings but may not have the vocabulary. Narrate their explorations—See how your puddle is smaller? It evaporated!—and model science words and language.

Four-Year-Olds may:

- * begin to think ahead, plan, and imagine many different outcomes to an experiment.
- * start to infer information gained from one experience and apply it to a new situation.
- * like to use dramatic play to pretend to be scientists and to help themselves make sense of fact and fantasy.
- * make simple drawings and fill in charts to record their observations and experiments.
- * enjoy discussing a discovery and using new science words in context.
- * take a more purposeful approach to science experiments.

Five-Year-Olds may:

- * look at the world with more abstraction. They delight in taking their observations from the concrete to the representational level.
- * follow directions (on a task card or from a teacher) for an experiment that involves many steps.
- * like to look up information in books, charts, photos, and on the computer.
- * enjoy telling others about their findings in a group meeting or small groups.
- * be able to draw and write their findings in science journals and field books.
- * feel like they “know all” about a science topic but usually have many gaps in their understanding. (But they DO enjoy filling them in!)