



# Fun Activities

for Children

Spring 2022

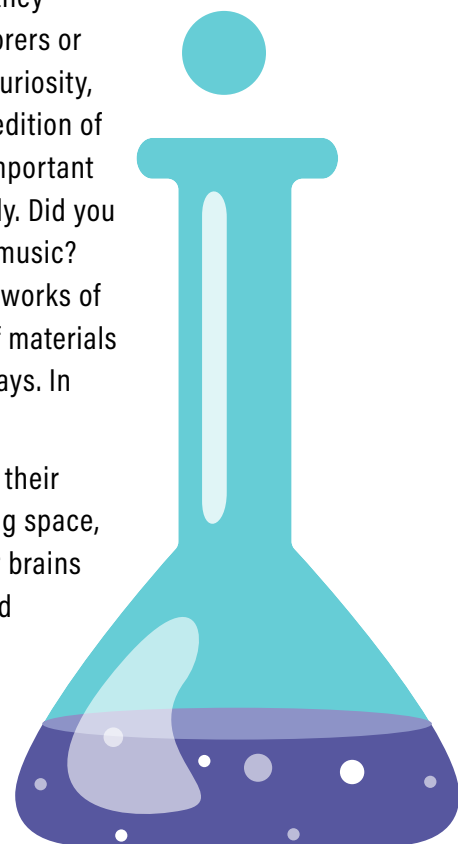
## Home Science Fair





Young children are naturally inquisitive, full of questions about the world around them and they have a drive to investigate how things work. You may have even heard the terms “little explorers or scientists” used to describe children. In this activity book, we will take advantage of their curiosity, and start channeling their enthusiasm for scientific discovery as early on as possible. This edition of our Family Activities Book, we’ll explore some of the reasons why science education is so important in early childhood, and how you can support this in your home environment, with your family. Did you know that scientific activities include building or constructing structures, works of art and music? Singing, playing an instrument, playing with ramps and towers, mixing colors, and creating works of art using natural materials provide real sensory experiences. When we provide a variety of materials and experiences, children build on their ability to use them to imagine their world in new ways. In turn, the brain creates new connections, ideas, and memories that help children learn.

**Scientific Exploration** is what happens when children are given the opportunity to explore their environment. Why are they driven to explore? Literally, as children move through their living space, they are doing very important work. Each experience they have, builds connections in their brains that stimulate more exploration and more connections. They figure out how things work and why they work that way. They learn how their families work. They learn, as they build their brains. These new connections stimulate growth across all the developmental milestones, resulting in important gains and growth for your children. This book is filled with ideas for you to think about that will stimulate such growth. Come on!! Let’s try something new and help your little one. Remember: Those brains are under construction.



## Here's a look at how children develop science skills, by age:

At this age	A Child Might
<b>Birth-2 years</b>	<ul style="list-style-type: none"><li>• use her senses to identify objects and people around her.</li><li>• begin to predict and anticipate sequences of events and notice cause and effect.</li><li>• begin to classify objects in a simple but intelligent way.</li><li>• use language to classify objects according to basic characteristics (toy animals, blocks, books).</li></ul>
<b>2-3 years</b>	<ul style="list-style-type: none"><li>• ask many questions about why things are the way they are and how things work.</li><li>• observe similarities and differences between objects.</li><li>• conduct his own experiments, such as stacking the blocks in a new way.</li><li>• be able to predict cause and effect.</li></ul>
<b>3-4 years</b>	<ul style="list-style-type: none"><li>• enjoy sorting and classifying objects.</li><li>• begin to classify things by their functions.</li><li>• notice and compare similarities and differences between objects.</li><li>• use words to describe the things she observes.</li><li>• become interested in complex experiments and using new materials in a variety of ways.</li></ul>
<b>4-5 years</b>	<ul style="list-style-type: none"><li>• enjoy exploring and using new materials and objects.</li><li>• use concepts such as height, size, and length to compare objects.</li><li>• enjoy learning about real-life places and things and how they work.</li></ul>
<b>5-6 years</b>	<ul style="list-style-type: none"><li>• engage in long-term science projects such as growing plants, recording the weather, and collecting and comparing shells.</li><li>• classify items by a variety of similarities and differences.</li><li>• have a long attention span for activities that interest him.</li></ul>

### The sound of science

Music based in science: sound is produced when something vibrates – and those vibrations are brought to the ear as sound waves. Music is also mathematical, varying in pitch, volume, tempo, and rhythm. Music touches all areas of child development and skills for school readiness, like intellectual, social-emotional, motor, language, and overall literacy. Music has a powerful effect on our emotions. A quiet, gentle lullaby can soothe a fussy baby or older child, and a majestic chorus can make us swell with excitement. Children who grow up listening to music develop strong music-related connections in the brain. Listening to classical music seems to improve our spatial reasoning, at least for a short time. And learning to play an instrument may have an even longer effect on certain thinking skills.



### The color of Science

Art allows children to practice a wide range of skills that are useful not only for life, but also for learning. In addition to helping youth develop important skills, free expression is also good for overall health and well-being. Giving your child a creative outlet can help relieve stress and work through things happening in their lives. By encouraging artistic expression, you can help facilitate learning. Get your child ready to create and learn!





Here are some simple strategies you can try at home:

- 1. Talk with your child about their work.** Remember to use open-ended statements like “Tell me about your picture.” You can also describe specific things your child is doing by saying things such as, “You’re making short lines, I see you are using red, green and blue.” You can also describe the actions your child is taking or the materials they are using.
  - 2. Imitate your child.** Instead of drawing your own picture, sit down with your child and imitate their actions. Make big scribbles, small lines or practice drawing circles. If your child is focused on what you are drawing or how “good” your picture is, they are less likely to be imaginative and creative on their own.
  - 3. Provide choices.** Gather a wide range of materials for your child to use like paint, colored pencils, chalk, play-dough or clay, markers, crayons, scissors and stamps. Mix it up by bringing in unexpected materials like Q-tips, toy dinosaurs, buttons, rocks, or cotton balls.
  - 4. Support, don’t lead.** let them decide what materials they want to use and how and when to use them. Maybe they want to peel the paper off a crayon and use it lengthwise on the paper, instead of writing with the tip.
  - 5. Keep it open-ended.** Instead of sitting down with a specific plan or outcome in mind, let your child explore, experiment and use their imaginations. They might make a big mess or change their mind several times—this is all part of the creative process.
  - 6. Focus on the process, not the product.** If a lot of attention is given to the final product or use too much energy praising the end result, a child may be more likely to do things to get your approval instead of doing what they want to do. Notice their hard work!
- Let it go.** As long as a child is safe (i.e., not running with scissors), let them explore! Children learn through playing, exploring and trial and error. When we give them freedom to discover, they are learning to create and experiment in new and innovative ways.





## The Science of building towers

Encourage children to think about construction by asking; what do you think makes a tower stand up?

**Development skills:** large and fine motor, cognitive, social (if building with other children or adults).

**Learning focus:** problem solving, math concepts, gravity



## Will it Sink? or Float?

This activity combines a science activity and water. Place objects in the water one at a time, while describing the object.

**Development skills:** cognitive, language, fine motor (if spoons, buckets, tongs, or other materials are used).

**Learning focus:** language and new vocabulary to use: bouyancy, density, cause and effect, observations comparison, reasoning, and data gathering.



## How Science Feels

Creating feelings and emotions charts, or engaging in activities, helps children identify, express, and manage their feelings. Try creating simple puppets, and using toy animals to enhance children's ability to talk about their feelings. You can incorporate questions like, how do you think the doll feels today?

**Development skills:** social and emotional development, fine motor skills (if they help you create something), self-regulation and attention maintenance.

**Learning focus:** language, empathy for others, expressing, managing and identifying emotions



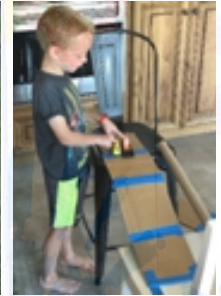


## The science of ramps

Playing with ramps helps children practice scientific skills. They make predictions before sending items down the ramp and then draw conclusions about what actually happened. Anything can be used as a ramp. Allow children to use a variety of toys or materials to go down (or up) the ramp!

**Development skills:** large and fine motor, math, spatial awareness, hand-eye coordination.

**Learning focus:** new vocabulary to use: gravity, motion, friction



## Magic Magnets

Playing with magnets can help children increase their language skills, and enhance their scientific curiosity. Why do magnets stick to metal but not wooden surfaces?

**Development skills:** fine motor, cognitive (creative thinking), language

**Learning focus:** problem solving, hand eye coordination, exploration

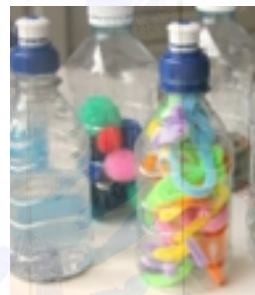


## Science in Action

Science is embedded in physical activity in many ways. Riding bikes, crawling, shaking, running and even jumping are linked to children's brain development.

**Development skills:** large and fine motor, cognitive

**Learning focus:** movement, energy, balance, gravity,



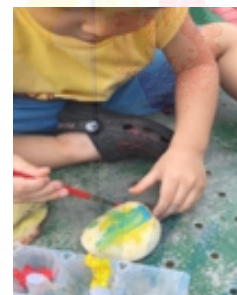
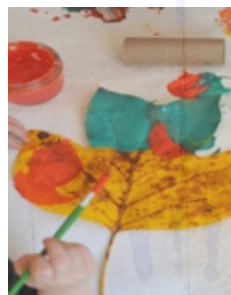
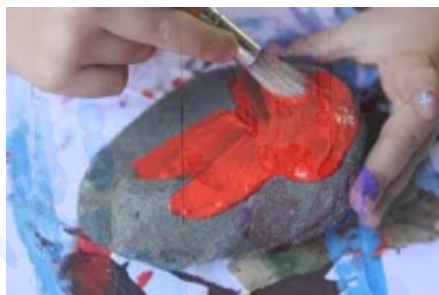


## The Art of Science

Art activities develop brain capacity in children. Several of children's senses are engaged because it is open ended play and provides scientific exploration.

**Development skills:** fine motor, language, math, cognitive, emotional

**Learning focus:** stimulation of senses such as touch, visual and smell, problem solving, math concepts, creativity



## Art with unusual materials



Marble painting (this activity is designed for older children and should be done with supervision)

## Color mixing



The Predictions chart

Here is a predictions chart you can use with your child, and add more pages to it if you like. A **prediction** is a guess or something you think will happen.

Family experiment prediction chart	
	
What we think will happen...	What really happened...



## Science in Literacy and Language Development

Scientific concepts can be used to strengthen language and literacy skills. Here is a list of books for all children to enjoy that are fun and interesting. Each have a scientific connection. If there is a library near you, check to see if they are available and in your home language.



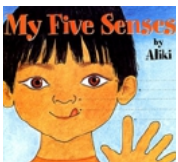
1. Stellaluna by Janell Cannon



2. How Do Dinosaurs Eat Their Food? By Jane Yolen & Mark Teague



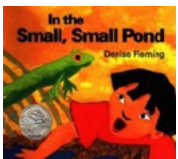
3. Pete the Cat and the Supercool Science Fair by Kimberly and James Dean



4. My Five Senses by Alike



5. Interstellar Cinderella by Deborah Underwood  
Read aloud on Youtube:  
<https://www.youtube.com/watch?v=TIMzsB2Y0GQ>

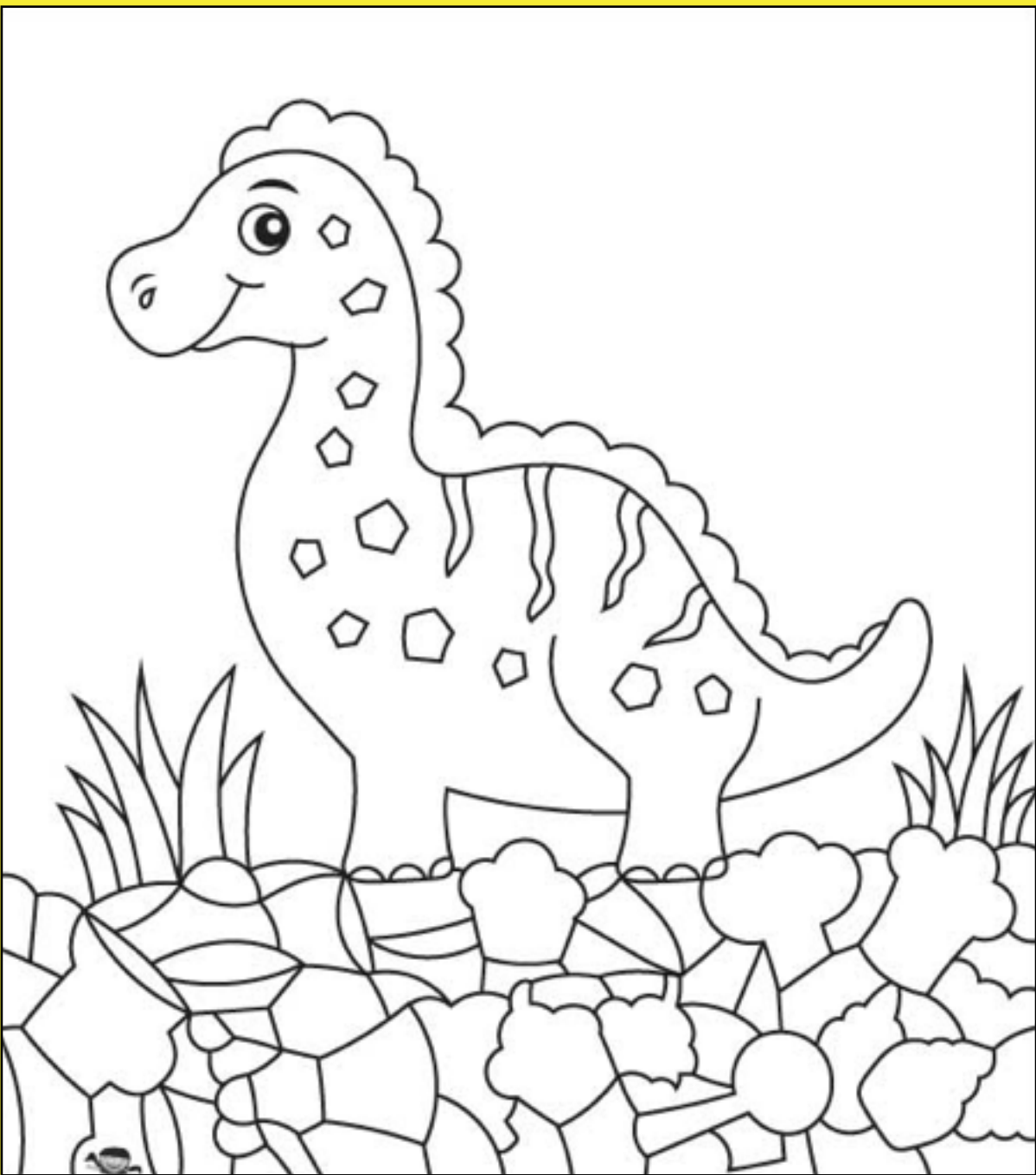


6. In the Small, Small Pond by Denise Fleming



# Hidden Pictures

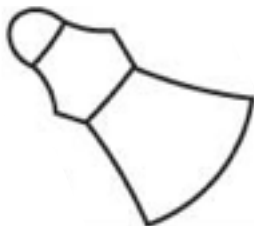
## Dinosaur



Feel free to color the image above.  
Can you find all six items?



Can you find these  
**Hidden Pictures**  
on page 14?



### Resources and references

1. Why science Education is Important in Early Childhood/ <https://www.firstdiscoverers.co.uk/science-education-early-childhood>.
2. Science Development and Young Children by Early Childhood Today Editorial Staff: This article originally appeared in the March, 2001 issue of Early Childhood Today.
3. <https://ca.pbslearningmedia.org/resource/science-of-music-sound-whats-good/the-science-of-music-and-sound-whats-good>
4. The art of creating: Why art is important for early childhood development; Kylie Rymanowicz, January 22, 2015/Michigan State University Extension
5. The Role of music: <https://extension.uga.edu/publications/detail.html?number=C1053-06&title=The%20Role%20of%20Music>
6. Children and Music: Benefits of Music in Child Development; Bright Horizons.com Apr 15, 2021)





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