

Virtual kit: Science for Infants and Toddlers



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When we begin to engage children with science activities, at an early age, and provide opportunities for fun and supportive science, we are encouraging children to have a lifelong learning of discovery! Children are natural scientists and we need to support them through their learning by offering an age appropriate science environment and materials for them to safely explore. We as the adult caregiver also must be there to support and engage in their learning processes.

Science is not just knowledge—it's a way of thinking and acting. Science learning at any age involves curiosity, exploration, discovery, and language. Much of this is natural to infants and toddlers. Supporting them through the trial and error of why something doesn't work or stay together encourages their investigation. Adults and caregivers can help young children find answers to their questions and discover more about things that interest them. As an early childhood professional, do you do some of that already? If so, you're helping them learn science!

Infants and toddlers are also inquisitive scientists! They explore physical, natural, and social science anywhere and everywhere. They observe, are curious, and investigate to find out more about their world. They gather information as they solve problems. They communicate the results of their explorations through babbling, laughing, crying, physical gestures, facial expressions, and words. However, even though "science" exploration might come naturally to most infants and toddlers, they benefit from adult support. Adults build and expand on young children's scientific interest when they interact with infants and toddlers as they engage in the scientific process. Adults also provide opportunities, materials, time, and space for exploring and

discovery. This support from staff and families in the early years can lead to positive outcomes later as young children carry their interest and excitement about science and learning into preschool and beyond! Science is not just a body of knowledge, it is a way of thinking and acting!

Science can be added within your current arrangement already. Science materials can be set up in its own space, but materials can be available in all learning areas of the current learning environment. Your environment does not need to be large to have a science area. It just needs to be welcoming and set up for a child to explore and engage in.

Welcoming-

- Remember it is all about how inviting and interesting it is made, how often children are seeing you use the space, and how often materials are rotated to create new experiences.
- Is it visually appealing?
- Is it easily accessible?

Engaging-

- What materials are available to the children to keep engaged?
- Is the space setup for quiet explorations? (observing materials or collections)
- Is the space setup for active explorations? (using scales, magnets, balances, etc)
- Is the space set up for messy explorations? (mixing colors, planting, etc.)

Safe-

- Are the materials safe and age appropriate for children?
- What materials need to have adult supervision?
- What activities offered would need adult supervision?
- Does it have rubber mats to keep from falling?
- Towels or rags to clean spills?

Supervision of the science areas allows for support of the activities and materials, but to also make sure children are using the materials correctly and safely. When we think about safety of infants and toddlers, we need to think about how they can experience the materials safely. Also, when we have age appropriate materials for science, infants and toddlers can explore on their own as well.

Ask:

- What are some ways for infants and toddlers to experience materials safely?
- How can they explore and experience bugs like ants, spiders, worms, etc?

Remember Infants and toddlers are natural scientists!

SHOW ME NOW! (I NEED THIS TOMORROW)

[Exploring Nature With Your Baby](#)

[Growing Little Scientists! Science Learning In Our Classrooms](#)

[Infants & Toddlers/Activities: Sight, Sound and More](#)

[Science In Child Care](#)

[Science Activities for Toddlers to Try](#)

WHAT DOES THIS LOOK LIKE IN PRACTICE? (I HAVE A LITTLE MORE TIME TO READ ABOUT THIS)

[Hands-On Science for Young Children](#)

[Look, Think, Discover: Adding the Wonder of Science to the Early Childhood Classroom](#)

[News You Can Use: Early Science Learning for Infants and Toddlers](#)

[Promoting the Development of Scientific Thinking](#)

[Rocking and Rolling-Sharing the Wonder: Science with Infants and Toddlers](#)

WHAT DOES THE ECRC HAVE ON THIS TOPIC?

Sylva, Kathy; Siraj-Blatchford, Iram; Taggart, Brenda; (2008). [Assessing Quality in the Early Years Early Childhood Environment Rating Scale \(ECERS-E\)](#). Staffordshire England Trentham Books

Barbre, Jean; (2017). [Baby steps to STEM: infant and toddler science, technology, engineering, and math activities](#). St. Paul, MN: Redleaf Press,

Chalufour, Ingrid; (2004). [Building Structures with young children](#). St. Paul, Minn. : Redleaf Press,

Stone-MacDonald, Angela; (2015). [Engaging young engineers: teaching problem solving skills through stem](#). Baltimore, Maryland : Brookes Publishing,

Shonkoff, Jack; Phillips, Deborah; (2000). [From Neurons to Neighborhoods The Science of Early Childhood Development](#). National Academy Press

Breighner, Kathryn; Rohe, Deborah; (1990). [I Am Amazing](#). AGS

Baumgart, Nichole & Kroll, Linda; (2018). [STEAM concepts for infants and toddlers](#). St. Paul, MN : Redleaf Press.

HOW CAN I GET TRAINING ON THIS TOPIC?

Visit these links to collaborative training calendar:

[KCCTO Trainings](#)

[Virtual Lab School](#)

WHAT COURSES DOES KCCTO OFFER ONLINE?

[Notice, Wonder, Explore Science with Children](#)

(To inquire about a specific class, contact the KCCTO office 785-532-7197 or visit KCCTO.org)

WHAT COMMUNITY BASED COURSES DOES KCCTO-KITS ITSN OFFER?

Science for Infants & Toddlers

(To inquire about a specific class, contact the KITS office 620-421-6550 x 1618 or email kskits@ku.edu)

WHAT IF I STILL NEED HELP?

Kansas Early Care and Education providers you may request technical assistance from the KCCTO-KITS Infant Toddler Network Specialists by calling the KCCTO office at 800-227-3578.

EVALUATION

Please take a minute to complete a brief survey to let us know what you think about this virtual kit, and what other topics you would like to see addressed in the future.

<https://www.surveymonkey.com/r/7F79RXC>

REFERENCES

Exploring Nature With Your Baby. (2012). Retrieved from

<https://www.scholastic.com/parents/family-life/creativity-and-critical-thinking/development-milestones/exploring-nature-your-baby.html>

Growing Little Scientists! Science Learning in Our Classrooms. (2019). Retrieved from

<https://dayearlylearning.org/little-scientists-science-learning-in-our-classrooms/>

Hands-On Science for Young Children. (2008). Retrieved from

http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleID=431

Infants & Toddler/Activities: Sight, Sounds, and More. (2020). Retrieved from

<https://www.scholastic.com/teachers/articles/teaching-content/infants-toddlersactivities-sight-sounds-and-more/>

Look, Think, Discover: Adding the Wonder of Science to the Early Childhood Classroom. (2008). Retrieved from

http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleID=192

News You Can Use: Early Science Learning for Infants and Toddlers. (2018). Retrieved from

<https://eclkc.ohs.acf.hhs.gov/school-readiness/article/news-you-can-use-early-science-learning-infants-toddlers>

Rocking and Rolling-Sharing the Wonder: Science With Infants and Toddlers. (2016). Retrieved from <https://www.naeyc.org/resources/pubs/yc/mar2016/rocking-rolling>

Promoting the Development of Scientific Thinking. (2008). Retrieved from http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleId=409%20

Science Activities for Toddlers to Try. (2020). Retrieved from <https://handsonaswegrow.com/science-activities-toddlers/>

Science in Child Care. (2019). Retrieved from <https://childcare.extension.org/science-in-child-care/>