

math and science for preschoolers

Math and Science for Preschoolers: Building Foundations for Lifelong Learning

math and science for preschoolers are essential building blocks that lay the groundwork for a child's cognitive development and curiosity about the world. Introducing young children to these subjects in fun, engaging, and hands-on ways helps nurture their natural inquisitiveness and paves the way for future academic success. At this early stage, learning is less about memorizing facts and more about exploring concepts through play, observation, and interaction.

In this article, we'll dive into why math and science for preschoolers matter, explore effective strategies for teaching these subjects, and share practical activities that parents and educators can use to spark a love of learning in young children.

Why Focus on Math and Science for Preschoolers?

Early childhood is a critical period for brain development, and children absorb information rapidly during these years. Introducing math and science concepts early on helps develop foundational skills such as problem-solving, critical thinking, and pattern recognition. These subjects are often seen as challenging later in school, but when approached playfully at the preschool level, they feel accessible and exciting.

Young children are naturally curious about their environment. Science taps into this curiosity by encouraging exploration and discovery, while math provides tools to make sense of what they observe. For instance, understanding concepts like counting, shapes, sizes, and cause and effect not only supports early numeracy but also enhances observational skills and logical reasoning.

Moreover, early exposure to STEM (Science, Technology, Engineering, and Mathematics) encourages girls and boys alike to view these fields as approachable and fun, helping to close gender gaps and build confidence.

Incorporating Math and Science in Everyday Preschool Learning

Integrating math and science for preschoolers doesn't require a formal classroom setup or complicated tools. Children learn best when lessons are woven naturally into their daily routines and playtime. Here are some ways to seamlessly bring these subjects into everyday activities.

Using Play to Teach Numbers and Counting

Counting games are a simple yet powerful way to teach numerical concepts. Whether it's counting blocks, toys, or snacks, children begin to understand quantity and number sequencing. Using physical objects helps make abstract numbers concrete.

Try activities such as:

- Counting steps while climbing stairs
- Sorting toys by size or color and counting each group
- Playing board games that involve counting spaces

These experiences build number sense and introduce early arithmetic skills like addition and subtraction through playful interaction.

Exploring Shapes and Patterns

Recognizing shapes and identifying patterns are key mathematical skills that preschoolers can develop through creative play. Encourage children to sort objects by shape or color and create simple repeating patterns using beads, blocks, or stickers.

Activities like:

- Building with geometric blocks
- Drawing and coloring different shapes
- Clapping or tapping patterns to music

help children develop spatial awareness and the ability to predict sequences, which are critical for later math learning.

Science Through Observation and Experimentation

Science for preschoolers is all about exploring the natural world and asking "why" and "how" questions. Simple experiments and sensory activities nurture scientific thinking by encouraging observation, hypothesis-making, and

discovery.

For example:

- Watching plants grow and tracking changes over time
- Exploring the properties of water by freezing, melting, and mixing with other substances
- Investigating magnets and what objects they attract

These hands-on experiences teach cause and effect, scientific vocabulary, and foster a sense of wonder.

Tips for Parents and Educators to Support Learning

Teaching math and science for preschoolers can be both rewarding and fun with the right approach. Here are some practical tips to make the most of these early learning opportunities.

Follow the Child's Interests

Children learn best when they are genuinely interested. Pay attention to what excites your child—whether it's animals, construction, cooking, or nature—and tailor math and science activities around those themes. For instance, if a child loves bugs, counting legs or sorting insects by type can be a natural introduction to numbers and classification.

Use Everyday Moments as Teaching Opportunities

From grocery shopping to cooking meals, daily routines offer countless chances to introduce math and science concepts. Measuring ingredients, comparing sizes of fruits, or discussing weather changes provide meaningful context for learning.

Encourage Questions and Curiosity

When preschoolers ask questions, engage with enthusiasm and help them explore answers together. This builds critical thinking and shows that learning is a

collaborative and ongoing process.

Keep Activities Short and Playful

Young children have limited attention spans, so keep sessions brief and enjoyable. Use songs, stories, and games to maintain engagement and make learning feel like an adventure rather than a chore.

Creative Activities to Foster Math and Science Skills

Hands-on activities are the heart of early math and science education. Here are some creative ideas that combine fun with learning.

Math Activity: Shape Scavenger Hunt

Create a list or picture chart of basic shapes—circle, square, triangle, rectangle—and encourage children to find objects around the house or classroom that match each shape. This activity boosts shape recognition and observation skills.

Science Activity: Sink or Float Experiment

Gather various small objects and a container of water. Have the child predict which items will sink or float, then test each one. Discuss why certain objects behave differently, introducing concepts of density and buoyancy in an accessible way.

Math and Science Combo: Building Bridges

Using blocks, popsicle sticks, or LEGO bricks, challenge children to build a bridge that can hold the weight of a toy car. This combines counting, measuring, and scientific inquiry about stability and balance.

How Technology Can Enhance Early Learning

In today's digital age, technology offers valuable tools to support math and science for preschoolers. Interactive apps and educational games can

reinforce concepts through engaging visuals and immediate feedback. However, it's important to balance screen time with hands-on experiences to ensure children develop a well-rounded understanding.

Look for apps that encourage exploration rather than passive consumption, such as those that involve sorting, pattern recognition, or simple experiments. Using technology as a supplement rather than a replacement for real-world interaction is key.

Supporting Emotional and Social Growth Through STEM

Math and science activities also contribute to emotional and social development in preschoolers. Collaborative experiments and problem-solving tasks encourage communication, patience, and teamwork. Celebrating small successes builds confidence, while encountering challenges teaches resilience.

By fostering a positive attitude toward math and science early on, children are more likely to approach these subjects with curiosity and confidence as they grow.

Integrating math and science for preschoolers into daily life creates a rich, stimulating environment where young learners feel empowered to explore and understand their world. Through playful interaction, observation, and guided activities, children develop essential skills that form the foundation for lifelong learning and discovery. The journey of discovery starts with simple steps—counting a handful of blocks, noticing the colors of leaves, or experimenting with water—and blossoms into a deep appreciation for the wonders of math and science.

Frequently Asked Questions

How can preschoolers learn basic math concepts through play?

Preschoolers can learn basic math concepts through play by engaging in activities like sorting objects by size or color, counting toys, and playing with blocks to understand shapes and patterns.

What are some simple science experiments suitable

for preschoolers?

Simple science experiments for preschoolers include mixing colors with water and food coloring, observing plant growth by planting seeds, and exploring magnets to see what objects they attract.

Why is it important to introduce math and science early to preschoolers?

Introducing math and science early helps develop critical thinking, problem-solving skills, and curiosity, laying a strong foundation for future learning and fostering a positive attitude toward these subjects.

How can everyday activities help teach preschoolers about math and science?

Everyday activities like cooking can teach measurement and counting, while nature walks can introduce concepts like weather, plants, and animals, helping preschoolers connect learning to the real world.

What role do parents and teachers play in encouraging math and science learning for preschoolers?

Parents and teachers play a crucial role by providing hands-on learning experiences, asking open-ended questions, encouraging exploration, and creating a supportive environment that nurtures curiosity and discovery.

Additional Resources

Math and Science for Preschoolers: Building Foundations for Lifelong Learning

math and science for preschoolers represent critical components in early childhood education, offering young learners the opportunity to develop essential cognitive skills and a natural curiosity about the world. As educational paradigms evolve, integrating fundamental math and science concepts at an early age has become a focal point for parents, educators, and policymakers alike. This investigative review explores the significance, methodologies, and outcomes associated with introducing math and science to preschool-aged children, highlighting best practices and potential challenges.

The Importance of Math and Science for

Preschoolers

Early childhood is a formative period during which foundational cognitive abilities are established. Introducing math and science for preschoolers supports the development of problem-solving skills, logical reasoning, and analytical thinking. Research indicates that children exposed to these disciplines early on tend to perform better in later academic settings, particularly in STEM (Science, Technology, Engineering, and Mathematics) fields. For instance, a study published by the National Association for the Education of Young Children (NAEYC) underscores the correlation between early math proficiency and later reading achievement, revealing that mathematical skills predict academic success beyond their immediate domain.

Incorporating math and science for preschoolers also fosters natural curiosity. Science investigations, such as simple experiments on plant growth or water properties, encourage observation and hypothesis testing. Simultaneously, early math experiences – counting objects, recognizing shapes, or understanding patterns – build numerical literacy and spatial awareness. These skills are interconnected and crucial for holistic cognitive development.

Developmental Benefits of Early Math and Science Learning

Cognitive scientists emphasize that the preschool years (ages 3-5) are optimal for introducing abstract concepts in tangible ways. At this stage, children exhibit rapid neural plasticity, allowing them to absorb and generalize new information effectively. Math and science activities tailored for this age group promote:

- **Numerical Cognition:** Understanding quantities, counting, and number recognition.
- **Scientific Inquiry:** Engaging in observation, prediction, and experimentation.
- **Language Development:** Expanding vocabulary related to math and science concepts.
- **Fine Motor Skills:** Manipulating objects for counting or conducting simple experiments.
- **Social Skills:** Collaborative learning encourages communication and teamwork.

These benefits collectively contribute to a well-rounded intellectual foundation, setting the stage for success in elementary education and beyond.

Effective Strategies for Teaching Math and Science to Preschoolers

Teaching math and science for preschoolers requires a balance between structured learning and play-based exploration. Young children learn best through hands-on experiences that make abstract concepts concrete and relatable. The following strategies have proven effective in early childhood settings:

1. Integrating Play into Learning

Play is a primary mode of learning during early childhood. Incorporating math and science concepts into games and playful activities increases engagement and retention. For example, sorting colored blocks by shape or size introduces classification skills, while water play can illustrate basic scientific principles such as volume and buoyancy.

2. Utilizing Everyday Contexts

Embedding math and science into daily routines helps children see the relevance of these subjects. Counting steps while climbing stairs, measuring ingredients during cooking, or observing weather patterns outside are practical ways to reinforce learning naturally.

3. Encouraging Exploration and Questioning

Promoting a classroom environment where questions are welcomed encourages critical thinking. Educators can facilitate this by asking open-ended questions like, "What do you think will happen if...?" or "Why do you think this happens?" This method nurtures scientific thinking and curiosity.

4. Employing Visual and Tactile Materials

Preschoolers benefit from visual aids such as charts, pictures, and manipulatives. Items like number puzzles, shape sorters, and simple science kits make abstract ideas accessible and tangible.

Challenges and Considerations in Early Math and Science Education

While the benefits of early math and science education are well-documented, implementing these curricula is not without challenges. One significant concern is ensuring age-appropriate content that does not overwhelm or discourage young learners. Preschool children have limited attention spans and varying developmental paces, necessitating differentiated instruction.

Moreover, access to quality resources varies widely, influenced by socioeconomic factors. Disparities in early educational opportunities can contribute to achievement gaps that persist into later schooling. Addressing this requires targeted interventions and support for under-resourced communities.

Another challenge lies in educator preparedness. Not all preschool teachers possess specialized training in math and science instruction, potentially impacting the effectiveness of teaching. Professional development and ongoing support are essential to equip educators with the necessary skills and confidence.

Balancing Curriculum with Social-Emotional Learning

Integrating math and science for preschoolers must also consider the social-emotional development of children. Overemphasis on structured academic content can detract from playtime and social interactions, which are equally critical at this age. Successful programs strike a balance, ensuring that cognitive challenges do not come at the expense of emotional well-being.

Comparative Approaches: Montessori, Reggio Emilia, and Traditional Preschools

Different educational philosophies approach math and science instruction distinctively. Montessori preschools emphasize self-directed learning with hands-on materials, such as bead chains for counting and natural objects for scientific observation. This method encourages independence and tactile engagement.

The Reggio Emilia approach focuses on project-based learning and collaborative exploration, often incorporating children's interests into math and science activities. Documentation and reflection are integral, allowing educators to tailor experiences effectively.

Traditional preschool programs may rely more on structured lessons and teacher-led activities but have increasingly incorporated play-based

strategies to align with developmental best practices.

Each approach offers unique advantages, and the choice often depends on individual child needs, family preferences, and resource availability.

Measuring Outcomes and Long-Term Impacts

Quantifying the effectiveness of math and science education in preschool settings involves assessing both immediate skill acquisition and longer-term academic trajectories. Standardized assessments for preschoolers typically focus on developmental milestones rather than formal testing, emphasizing growth in numerical understanding, pattern recognition, and inquiry skills.

Longitudinal studies reveal that early exposure to math and science correlates with higher achievement in these subjects during elementary and secondary education. Additionally, fostering positive attitudes towards these disciplines at a young age can reduce anxiety and increase motivation in later years.

Educational institutions and researchers continue to refine assessment tools to capture the multifaceted impact of early STEM learning, including creativity, problem-solving, and collaboration.

Digital Tools and Resources

The advent of technology has introduced numerous digital tools designed to support math and science learning for preschoolers. Interactive apps and educational games provide engaging platforms for practicing counting, shape recognition, and basic experiments. However, experts caution against excessive screen time, advocating for a balanced approach that combines digital and hands-on activities.

Selecting high-quality, age-appropriate digital content is crucial. Features such as adaptive difficulty, clear instructions, and opportunities for open-ended exploration enhance the educational value of these tools.

Future Directions in Early Math and Science Education

As the global economy increasingly values STEM competencies, the emphasis on math and science for preschoolers is likely to intensify. Emerging research explores how integrating interdisciplinary approaches—combining math, science, art, and literacy—can enrich learning experiences. Additionally, culturally responsive teaching that respects diverse backgrounds and learning

styles is gaining traction.

Policy initiatives aim to expand access to quality early STEM education through funding, curriculum development, and teacher training programs. Innovative partnerships between schools, families, and communities play a pivotal role in sustaining these efforts.

In conclusion, math and science for preschoolers constitute foundational pillars in early education, equipping children with critical skills and fostering a lifelong passion for learning. While challenges exist, informed strategies and collaborative efforts can ensure that young learners receive meaningful, engaging, and equitable opportunities to explore these essential domains.

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math and science for preschoolers: Early Childhood Education Kimberly A. Gordon Biddle, Ana Garcia-Nevarez, Wanda J. Roundtree Henderson, Alicia Valero-Kerrick, 2013-01-02 Early Childhood Education: Becoming a Professional is an inspiring introduction to the world of early childhood education, preparing the teachers of tomorrow to reach their full potential in their schools and communities. Written by a diverse and experienced author team (Kimberly A. Gordon Biddle, Ana Garcia-Nevarez, Wanda J. Roundtree-Henderson, and Alicia Valero-Kerrick), this text engages readers to connect contemporary educational and developmental theory and research to developmentally appropriate practices and applications that are easily implemented in the classroom. In response to today's ever-changing educational environment, the text focuses on both the importance of taking personal and professional responsibility, as well as today's issues in diversity—from supporting children with exceptionalities to supporting children and families in broader cultural contexts.

math and science for preschoolers: Preschool Songs & Fingerplays, eBook Carla Hamaguchi, 2005-12-05 Help young children discover how exciting learning can be with this unique compilation of original and traditional songs and fingerplays. The activities complement preschool curriculums and are designed to bolster young learners' language experience, reading and math readiness skills, as well as develop fine and large motor skills.

math and science for preschoolers: Mac Life , 2007-07

math and science for preschoolers: Mathematics Learning in Early Childhood National Research Council, Division of Behavioral and Social Sciences and Education, Center for Education, Committee on Early Childhood Mathematics, 2009-11-13 Early childhood mathematics is vitally important for young children's present and future educational success. Research demonstrates that virtually all young children have the capability to learn and become competent in mathematics.

Furthermore, young children enjoy their early informal experiences with mathematics. Unfortunately, many children's potential in mathematics is not fully realized, especially those children who are economically disadvantaged. This is due, in part, to a lack of opportunities to learn mathematics in early childhood settings or through everyday experiences in the home and in their communities. Improvements in early childhood mathematics education can provide young children with the foundation for school success. Relying on a comprehensive review of the research, *Mathematics Learning in Early Childhood* lays out the critical areas that should be the focus of young children's early mathematics education, explores the extent to which they are currently being incorporated in early childhood settings, and identifies the changes needed to improve the quality of mathematics experiences for young children. This book serves as a call to action to improve the state of early childhood mathematics. It will be especially useful for policy makers and practitioners—those who work directly with children and their families in shaping the policies that affect the education of young children.

math and science for preschoolers: Informal STEM Learning at Home and in Community Spaces Bradley Morris, Brenna Hassinger-Das, Rachael Todaro, Jennifer DeWitt, 2024-03-22 Children in Western countries spend only about 20% of their waking time in school (Meltzoff et al., 2009). Leveraging the 80% of time that they spend outside of school can provide children with opportunities to engage in meaningful, authentic STEM learning experiences with family members, other caregivers, and children. STEM learning and readiness go beyond acquiring content knowledge to include interest, engagement, and motivation for STEM learning as well as the formation of a STEM identity. To date, there has been a dearth of research focusing on children's informal STEM experiences when compared to formal, school-based STEM learning experiences. This Research Topic focuses attention on the authentic, everyday experiences of children and how these experiences provide opportunities for STEM learning, engagement, and identity. In addition, these papers will explore how these everyday experiences can be leveraged and augmented to promote STEM learning and engagement through culturally-relevant design and implementation.

math and science for preschoolers: Handbook of Research on the Education of Young Children Bernard Spodek, Olivia N. Saracho, 2014-01-27 The Handbook of Research on the Education of Young Children is the essential reference on research on early childhood education throughout the world. This singular resource provides a comprehensive overview of important contemporary issues as well as the information necessary to make informed judgments about these issues. The field has changed significantly since the publication of the second edition, and this third edition of the handbook takes care to address the entirety of vital new developments. A valuable tool for all those who work and study in the field of early child.

math and science for preschoolers: Mathematics in Early Childhood Oliver Thiel, Elena Severina, Bob Perry, 2020-11-05 Structured around Bishop's six fundamental mathematical activities, this book brings together examples of mathematics education from a range of countries to help readers broaden their view on maths and its interrelationship to other aspects of life. Considering different educational traditions and diverse contexts, and illustrating theory through the use of real-life vignettes throughout, this book encourages readers to review, reflect on, and critique their own practice when conducting activities on explaining, counting, measuring, locating, designing, and playing. Aimed at early childhood educators and practitioners looking to improve the mathematics learning experience for all their students, this practical and accessible guide provides the knowledge and tools to help every child.

math and science for preschoolers: Early Childhood Education Petr G. Grotewell, Yanus R. Burton, 2008 This book focuses on early childhood education which spans the human life from birth to age 8. Infants and toddlers experience life more holistically than any other age group. Social, emotional, cognitive, language, and physical lessons are not learned separately by very young children. Adults who are most helpful to young children interact in ways that understand that the child is learning from the whole experience, not just that part of the experience to which the adult gives attention. Although early childhood education does not have to occur in the absence of the

parent or primary caregiver, this term is sometimes used to denote education by someone other than these the parent or primary caregiver. Both research in the field and early childhood educators view the parents as an integral part of the early childhood education process. Early childhood education takes many forms depending on the theoretical and educational beliefs of the educator or parent. Other terms that is often used interchangeably with early childhood education are early childhood learning, early care and early education. Much of the first two years of life are spent in the creation of a child's first sense of self or the building of a first identity. Because this is a crucial part of children's makeup-how they first see themselves, how they think they should function, how they expect others to function in relation to them, early care must ensure that in addition to carefully selected and trained caregivers, links with family, home culture, and home language are a central part of program policy. If care becomes a substitute for, rather than a support of, family, children may develop a less-than-positive sense of who they are and where they come from because of their child care experience.

math and science for preschoolers: Teaching STEM in the Preschool Classroom Alissa A. Lange, Kimberly Brenneman, Hagit Mano, 2019 This book is designed to build educators' confidence and competence so they can bring STEM to life with young children. The authors encourage pre-K teachers to discover the value of engaging preschoolers in scientific inquiry, technological explorations, engineering challenges, and math experiences based on learning trajectories. They explain the big ideas in STEM, emphasizing teaching strategies that support these activities (such as language-rich STEM interactions), and describe ways to integrate concepts across disciplines. The text features research-based resources, examples of field-tested activities, and highlights from the classroom. Drawing from a professional development model that was developed with funding from the National Science Foundation, this book is an essential resource for anyone who wants to support preschool children to be STEM thinkers and doers. "I have read a lot of really good early childhood science education books over the years, and as far as I am concerned, this is the best one yet." —From the Foreword by Betty Zan, University of Northern Iowa "This excellent book shows that the important ideas of STEM are within every teacher's and child's grasp." —Douglas Clements, University of Denver "Teaches STEM content while sharing strategies for robust and developmentally appropriate instructional practice. This book is the real deal!" —Beth Graue, University of Wisconsin-Madison

math and science for preschoolers: Early Childhood Mathematics Education Research Julie Sarama, Douglas H. Clements, 2009-04-01 This important new book synthesizes relevant research on the learning of mathematics from birth into the primary grades from the full range of these complementary perspectives. At the core of early math experts Julie Sarama and Douglas Clements's theoretical and empirical frameworks are learning trajectories—detailed descriptions of children's thinking as they learn to achieve specific goals in a mathematical domain, alongside a related set of instructional tasks designed to engender those mental processes and move children through a developmental progression of levels of thinking. Rooted in basic issues of thinking, learning, and teaching, this groundbreaking body of research illuminates foundational topics on the learning of mathematics with practical and theoretical implications for all ages. Those implications are especially important in addressing equity concerns, as understanding the level of thinking of the class and the individuals within it, is key in serving the needs of all children.

math and science for preschoolers: Implementing a Standards-Based Curriculum in the Early Childhood Classroom Lora Bailey, 2017-05-25 Chapter 5: Individualized Language Interventions within a Collaborative School/Family Partnership -- Benefits of Early Intervention -- Research-Based Early Language Interventions -- Research to Practice -- Summary -- Conclusion -- References -- Chapter 6: Teachers' Pedagogical Content Knowledge in Early Math: Setting the Stage for Implementation of the Common Core State Standards in Mathematics -- A Model of Pedagogical Content Knowledge in Early Mathematics -- Early Childhood Teachers' PCK in Early Mathematics -- Developing Teachers' PCK in Early Math for CCSSM Implementation -- References -- Appendix -- Index.

math and science for preschoolers: Ensuring Quality and Accountability Through Leadership, a Training Package , 2000 Intended to help local program managers in developing and implementing action plans to improve curriculum, assessment, teaching and learning opportunities for all children in center-based, home-based, family child care, and in child care partnerships.

math and science for preschoolers: Reinventing STEM in Early Childhood Education Eugene Geist, 2025-05-09 Teaching STEM to young children is about more than helping them learn their numbers and facts. It is an important and complex process that, to be effective, should honor the way children's brains are developing. This book outlines how early childhood educators can best support young children's STEM journeys as children naturally take in information about their environment, synthesize it, and grow in the process. This comprehensive text details different theories of learning; research on how young brains develop; practical information on preparing your environment and yourself for teaching STEM to children; guidance for supporting diverse populations of students; and developmental guidelines, sample standards, resources, and lesson plans. Organized chronologically, the book connects relevant STEM topics with each developmental age range and outlines common school standards for each grade. Reinventing STEM in Early Childhood Education is meant to be a core text for preservice teachers in math and science methods courses and is also important reading for teacher educators and professional development programs.

math and science for preschoolers: Learning and Teaching Early Math Douglas H. Clements, Julie Sarama, 2020-12-29 The third edition of this significant and groundbreaking book summarizes current research into how young children learn mathematics and how best to develop foundational knowledge to realize more effective teaching. Using straightforward, practical language, early math experts Douglas Clements and Julie Sarama show how learning trajectories help teachers understand children's level of mathematical understanding and lead to better teaching. By focusing on the inherent delight and curiosity behind young children's mathematical reasoning, learning trajectories ultimately make teaching more joyous: helping teachers understand the varying levels of knowledge exhibited by individual students, it allows them to better meet the learning needs of all children. This thoroughly revised and contemporary third edition of Learning and Teaching Early Math remains the definitive, research-based resource to help teachers understand the learning trajectories of early mathematics and become confident, credible professionals. The new edition draws on numerous new research studies, offers expanded international examples, and includes updated illustrations throughout. This new edition is closely linked with Learning and Teaching with Learning Trajectories-[LT]2—an open-access, web-based tool for early childhood educators to learn about how children think and learn about mathematics. Head to LearningTrajectories.org for ongoing updates, interactive games, and practical tools that support classroom learning.

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math and science for preschoolers: Touch Screen Tablets Touching Children's Lives Joanne Tarasuik, Gabrielle Strouse, Jordy Kaufman, 2018-02-28 Touch screen tablets have greatly

expanded the technology accessible to preschoolers, toddlers and even infants, given that they do not require the fine motor skills required for using traditional computers. Many parents and educators wish to make evidence-based decisions regarding young children's technology use, yet technological advancements continue to occur faster than researchers can keep up with. Accordingly, despite touch screen tablets entering society more than 5 years ago, we are in the infancy of research concerning interactive media and children. The topic has gained traction in the past couple of years. For example theoretical papers have discussed how interactive media activities differ from physical toys and passive media (Christakis, 2014), and how educational apps development should utilise the four "pillars" of learning (Hirsh-Pasek et al., 2015). Yet there has been little experimental research published on young children and touch screen use.

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math and science for preschoolers: *Research Methods for Studying Young Children* Olivia N. Saracho, 2025-06-20 Research Methods for Studying Young Children is a volume developed to bring together in one source research techniques that researchers can use to collect data in early childhood education.

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