

Rigor Mortis: How Sloppy Science Creates Worthless Cures, Crushes Hope, and Wastes Billions

Millions of children will grab lunchboxes, backpacks and rolling bags and head to their first day of kindergarten this year. Some will go for a half day and some for a full. Some will attend private schools and some will go public. For all, however, the first day of kindergarten will inaugurate their arrival in a system where they will spend a dozen years receiving basic education.

It begs some questions. What are the hallmarks of a high-quality kindergarten classroom? What can parents expect to see in the curriculum? How can mom and dad continue educating at home? In short, what do kids learn in kindergarten?

The answer is that kindergarten provides the building blocks of physical, social and emotional development, as well as the basics of language, literacy, thinking and cognitive skills. Equally important, it provides a bridge from education at home or in preschool to education in a more traditional classroom, where children must interact with a teacher, a set of rules and each other in order to learn.

“I think kindergarten is a good entry point into our education system,” says Alissa Mwenelupembe, senior director for early learning program accreditation at the National Association for the Education of Young Children, a professional organization that works to advance the quality of early learning. “It can really support some of the social-emotional goals that children need to meet so that they can be successful in future academic pursuits.”

Kindergarten Across the U.S.

Almost 4 million children attend kindergarten in the United States each year, according to the U.S. Census Bureau, but kindergarten instruction can be different in every locale, based on a number of variables.

For starters, while kindergarten is available almost everywhere, attendance is only mandatory in 19 states and Washington, D.C., according to the Education Commission of the States. In most communities, both full- and half-day programs are available.

Seventeen states plus Washington, D.C., require full-day kindergarten, and 39 states require districts to offer both full- and half-day options. About 81% of children in kindergarten attended full-day programs as of 2018, the latest year for which numbers are available from the National Center for Education Statistics. That number has increased over the years, climbing from 60% in 2000.

What students learn in kindergarten may also be affected by whether they are attending public school or private. Among the U.S. students who attend kindergarten, only about 15% do so in a private school, according to an analysis by the research firm Statista using 2019 data.

There are also regional differences. In some parts of the country, more emphasis is placed on academic subjects like reading and math, says Tamar Lindenfeld, founder of Chalkdust Inc., which provides tutoring, supplemental learning and

academic consulting.

“In New York, the focus for the past 10 or maybe 15 years has been a lot more academic and a lot more rigorous,” she says.

Learning in Kindergarten

According to a primer by the National Association for the Education of Young Children, a high-quality kindergarten should address learning in several categories:

Physical development. This is the development of large motor skills, meaning movement of arms and legs, and fine motor skills, or use of hands and fingers. Playing outside and doing physical activities as a class address the former. Puzzles, drawing and other in-class activities address the latter.

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This develops communication through reading, writing, talking and listening. Literacy is a major focus in early learning, and particularly in kindergarten, because these skills are so critical. Students learn to read so they can read to learn in later grades. Thinking and cognitive skills. This encourages students to investigate, make observations, ask questions and solve problems. "Teachers help children plan what they're going to do, encourage children to discuss and think more deeply about ideas, and include children when making decisions," the association wrote.

Subjects like math, reading, writing, science, social studies and art are also offered in high-quality kindergartens. Mwenelupembe, who is involved in accrediting facilities, says what she looks for in a healthy kindergarten classroom is energy and activity, with children engaging both learning materials and each other to facilitate all aspects of development.

"What is important in kindergarten, but you don't always see, is that playful learning is happening," she says. "When children are sitting at desks all day and doing things like worksheets, it doesn't really connect with what we know about the brain and how children's brains learn."

How Parents Can Help

There is much that parents can do to help kindergarten-age children develop in all of these categories, according to education experts. "Parent participation is key," Clare Anderson, an educational consultant in Maryland, wrote in an email.

"Skills such as persistence and stamina are critical for children to tackle foundational tasks for oral language, vocabulary, and number sense," she says. "Parents can play an enormous role in encouraging children to wonder, question, and explore."

Here are some things that parents can do to help kindergarteners learn:

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children to learn everything from cognitive skills to literacy. One example is a simple trip to the grocery store.

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Engage in conversation. Taking the time to have full conversations with children and explain the things happening around them at home can be extremely beneficial, whether that’s cooking a meal or watering the garden. “Being able to speak and fully explain the things that you're doing to your child provides them with so much vocabulary and so much understanding,” Lindenfeld says.

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Few things do more to further literacy than reading to and with a child. Having a large and compelling selection of books at home and reading those books together is always time well spent. Reading to your child is always beneficial,” Lindenfeld says. “No matter the age, no matter how long you're doing it for. If you only have 15 minutes a day, those 15 minutes of reading will be very valuable to your child.”

Build everyday skills. Anything that requires thinking and cognitive skills can help children learn. “To reinforce kindergarten learning, I would think (about) anything that promotes the development of the brain's executive functions,” Lindenfeld says. “So like anything that builds the ability to think critically, problem solve, multitask, organize, plan or analyze.”

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“So like anything that builds the ability to think critically, problem solve, multitask, organize, plan or analyze.” Encourage physical activity. Opportunities to build motor skills are abundant, but experts also say physical activity can be combined with reading and other subjects to make learning more fun and beneficial. For example, after hearing an adult read a story, children can draw a picture or act out what was read. As Mwenelupembe puts it, “Children learn with their whole bodies.”

Reference

[How Science Works: Evaluating Evidence in Biology and Medicine](#)

[Super Gut: A Four-Week Plan to Reprogram Your Microbiome, Restore Health, and Lose Weight](#)