Articles on Tinkering

# Tinkering Offers Valuable Skills to Kids

Creative Discovery Museum

What do you do when you find that your 8-year-old has taken his new video game apart? Or, when your 4- year-old would rather play with boxes over the new tea set you bought for her? What can be done when your child is set on dismantling everything in sight?

Encourage it. When you allow a child to take something a part, it cures their interest with feelings of confidence and discovery.

For ages children have taken things apart to learn how they work. Tinkering for many children fuels their natural curiosity about life. But, while tinkering is fun, what are the benefits to the demolition crew running around your house?

Tinkering during play can teach children valuable lessons by helping develop fine motor skills, problem solving abilities, and peer relationships.

Fine motor development involves the coordination of small muscles in fingers and hands. Strong fine motors skills are necessary for writing, cutting, using utensils, and tying shoe laces. Without these acquired fine motor skills, children may find difficulty in performing simple tasks.

“Tinkering during play is critical to children’s motor skills by teaching children to use their hands to shape, move, and manipulate,” said Lu Lewis, Creative Discovery Museum’s Early Childhood Coordinator. “So often, children have underdeveloped fine motor skills.”

Developing problem solving skills is an equally important tinkering quality at any age. Childhood expert Lilian Katz, professor of Education at the University of Illinois Urbana-Champaign, explains why problem solving skills need to be developed. “It is in the building of the play environment that much problem solving occurs for young investigators. [Younger] children engage in problem solving as they figure out how to make a window for a bus, or how to make a horse’s head stand up straight on their pretend horse,” said Katz. Problem solving skills benefit children at any age and can help older children develop confidence and stimulate creativity. By providing problem solving practice in play time, you are equipping your child with a lifelong skill that can be used in all areas of learning.

Tinkering activities also build peer relationships in children. Tinkering activities can support team work and collaboration to improve the social relationships between children.

“The long-term benefits of tinkering time are remarkable,” said Katy Scott, Education Technology Specialist at the Monterey Bay Aquarium in California. “In many ways, tinkering resembles inquiry- based learning, cooperative learning, and project-based learning, all of which have been proven to have long-term positive effects on student achievement and success.”

**\*Tinkering Tip:** If your child loves to take things a part and is old enough to use tools, consider finding him or her second-hand items such as wall clocks and stereos. It will meet the needs of their natural curiosity while saving you time and money!

# Tinkerlab: What is Tinkering?

By Rachel <https://tinkerlab.com/what-is-tinkering/>

Tinker /ˈtiNGkər/ n.  to make small changes to something in order to improve or repair it [(MacMillan Dictionary)](http://www.macmillandictionary.com/dictionary/british/tinker)

You may have noticed this quaint little word that’s at the heart of my blog title, and today I’d like to talk a bit about tinkering. I have a fun tinkering challenge up my sleeve (come back for that next week!), so consider this my introduction!

What is Tinkering?

The definition above suggests that it’s about improving something by making changes to it.

The Oxford Dictionaries says that to tinker is to “attempt to repair or improve something in a casual or desultory (unfocused) way.”

The Free Dictionary says that a tinkerer is “one who enjoys experimenting with and repairing machine parts.”

These are all helpful starting points, but hardly conclusive. The kind of tinkering that I’m advocating for is not the kind that’s unfocussed or lacking in purpose, although I can see how tinkering can appear unfocussed to someone who observes it in action. And it doesn’t have to be limited to machine parts and hammers, although it certainly finds a good home amongst these tools.

While we can easily imagine someone tinkering with a screw driver and an old toaster, let’s also consider how we could tinker with paint and brushes, paper cups and glue, an irrigation system, a 3-D printer, photo editing software (who’s spent hours editing a photo book or playing with Photoshop?), and ideas. This last one, ideas, is an extra fun one. Imagine a room full of creative thinkers with some sticky pads and Sharpies, and you get a clear picture of people tinkering with ways to make the world a better place.

When I think about a tinkerer, I envision a more expansive definition that looks like this:

***Tinkerer: one who experiments with materials and ideas to fully understand their capacities, and who further iterates on their learning to find better solutions to current problems.***

Tinkering is about **hands-on experiences, learning from failures, and unstructured time to explore and invent.**And through the processes of exploration and invention lies the potential for **innovation.**

# Why is Tinkering Important?

By Rachel <https://tinkerlab.com/why-is-tinkering-important/>

***I have not failed. I’ve just found 10,000 ways that won’t work.****-Thomas Edison*

## **Why is tinkering so important and why should we care?**

Tinkering is important because it can help children understand how things are made, enables children to have focussed and unstructured time to explore and test ideas, and it’s at the heart of invention.

Think of Thomas Edison as a classic example.

Edison may be best known as one of the **most prolific inventors in history.** He’s responsible for the first light bulb, stock ticker, electrical power, and motion pictures.

**And do you know how it all began?**

Edison had a rough childhood. Due to illness, he started school late at the age of eight and was deemed unfit for education by the schoolmaster. Hard to believe, right? His mother chose to homeschool her son, where he learned at a much higher level than he would have been at in school.

At age ten, Edison built a chemical lab in his cellar. Soon thereafter, he was obliged to take a job selling sweets and newspapers on a train. He found an opportunity in what could have been drudgery, and built another laboratory for himself in the back of the train (very industrious and tenacious of this young boy!). In this train job, he further learned morse code and became a proficient telegraph operator.

Overall, he learned how things work together, he was a resourceful self-starter, and he created opportunities to test his ideas from a very young age.

The world has changed a lot since Edison, but opportunities for tinkering and invention still abound! So I pose this question as something that we can unpack together:

**What can we do to give our children opportunities to think like Edison?**

Raising a maker-kid doesn’t mean we have to outfit our homes or classrooms with high tech equipment or tools that our outside of our budget or comfort zone. Think back to Edison who was motivated to build a lab in his basement. What we CAN do is provide our children with opportunities to explore materials, take things apart, and imagine new possibilities through the process of invention. And this can be done simply by providing them with **low-cost materials and time to tinker.**

We’re entering a new era of invention and innovation, and if we want our kids to be prepared for this DIY movement, now is the time to provide them with cardboard boxes, rolls of tape, tools, and a lot of free time to explore and experiment.