



Lighthouse Community Public Schools

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Mini Makerspace

A Guide From The Creativity Lab

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About This Project

Beneath the whiteboard in her 1st grade classroom, Virginia McManus has a dedicated "Mini Makerspace," a collection of shelves and bins that contain materials students use for making.

Making does not feel like special time in a separate place. Rather, it is fully integrated into everyday hands-on learning. In addition to using beads and popsicle sticks to construct things, students can also use them to demonstrate understanding of addition and subtraction.

Having a Mini Makerspace built into the classroom has inspired rich, project-based curriculum in the 1st grade.

Our Story

It took Virginia one day over the summer to create her Mini Makerspace (pictured below). This involved putting together Ikea shelves, sawing off the legs so that they would fit under her whiteboard, labeling all of the plastic bins, and organizing materials.

Rebecca Rubin, another 1st grade teacher, also integrates making into her classroom. She hasn't had time yet to put together shelves, so her Mini Makerspace consists of stacks of bins in a corner of her room (pictured to the right).



Materials

Shelves
Plastic bins
Safety glasses
Work gloves
Glue sticks
Scissors
Elmers glue
Hot glue + guns (low temp)
Fabric
Sewing supplies
Yarn + thread
Sandpaper
Files
Saws (flush cut pull saw)
Hammers
Clamps
Corks
Tape
Pipe cleaners
Straws

For more info:
goo.gl/rxQPGD



Making and Math

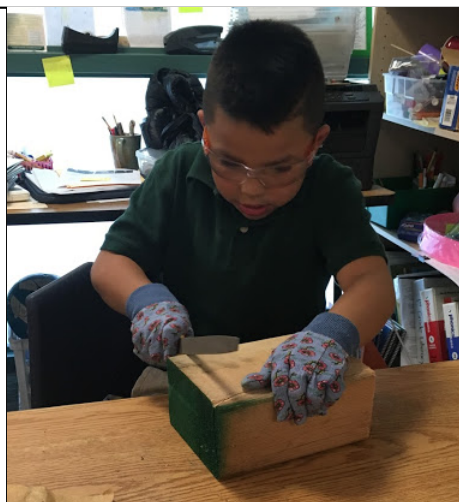
In 4th grade classrooms, students make their own manipulatives to learn fractions. First they define the whole, then decide how many parts to divide it into. How many different ways can students show $\frac{1}{2}$? $\frac{1}{4}$?

There are many online resources for integrating math and making, like <http://makingmathvisible.com>

How to Use the Mini Makerspace

Tips for your classroom

- ◆ Place labels on both the front and back of bins.
- ◆ Create a “hot glue station” with access to a power strip (long extension cords are a tripping hazard).
- ◆ Make cleanup easier by assigning each table a “making tub”. They can store frequently used materials in here so they don't need to put each item back each time.
- ◆ Store overflow materials out of the way, above cabinets, for example, and rotate them into the Mini Makerspace as needed for learning.



Safety

Every student and group is different, but with time and training all can do more than expected! Even a group of squirrely kindergarteners at the beginning of the year can learn to use glue guns, saws and hammers independently and safely.

Some teachers limit use of tools like hammers and saws to a specific table that they can supervise. Other teachers let students take tools back to their own tables. Some teachers use a colored dot system to communicate expectations:

- Green: Feel free to use
- Yellow: Ask first
- Red: Only with an adult

To avoid burning yourself with hot glue, try these tips:

- Use low heat guns
- Use popsicle sticks, instead of fingers, to push pieces of fabric together

Material Management

It's a good idea to teach students the difference between consumable materials, like corks and pipecleaners, which can be used once on a particular project, and non-consumable materials, like markers and rulers, which should be re-used. For instance, if a student hot-glues a fuzz ball to a die, they will never be able to use the die again.

Work with students to create norms that work for all members of the classroom. In Virginia's classroom, students can use anything in the 'making tubs'. If they need more materials, they can ask to take them from the Mini Makerspace. Rebecca only takes out the bins she wants students to use for making that day, and students know that anything out can be used. Clean up works best when students help define the norms.

Project Ideas

Scribble Machines

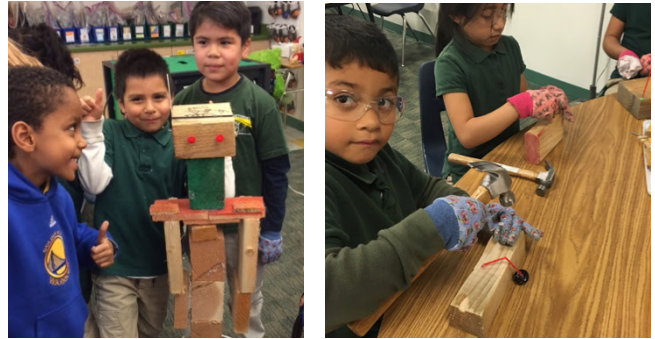
- How can I develop persistence, critical thinking and basic understanding of circuitry?



<http://tiny.cc/CreativityLabScribbler>

Woodworking

- How can I teach myself and my classmates how to use new tools?
- How can I use tools to change raw materials into objects that I design?



<http://tiny.cc/CreativityLabWoodworking>