Maker Education and Maker-Spacing Your Home

Maker education is a way of teaching and learning that focuses on giving students hands-on experiences to foster critical thinking, creativity, problem solving, perseverance, and many other lifelong skills that result in the creation of a product. It allows students to learn the value of failure, and see how it can lead to improvement by focusing on the making process. It is often open-ended and passion-driven which gives students room to explore unique possibilities for solving problems. The emphasis of this experiential learning is not on the product, but on the discoveries that happen throughout the process of making.

Before your child begins making at home, assist them in thinking through some logistics. It also helps to have a designated makerspace. A makerspace is an area or room that has been set aside to give people an opportunity to make something tangible. Below are some ways that you can set up a makerspace in your home to promote an environment of making.

Tips for Maker-Spacing Your Home

1. Go on a materials hunt.

What materials can your child use from around the house to make solutions to challenges posed? Discuss this with your child. It can be helpful to gather some options for children to have on hand for when they start making. Limiting the amount of consumables children have easy access to can be helpful, particularly for younger students. This can assist in teaching them to use only what they need.

Some helpful materials from around the house could include:

- Craft sticks
- Skewers
- Toothpicks
- Cotton balls
- Disposable cups of any size
- Disposable plates and silverware
- Paper (loose-leaf, notebook, cardstock, and/or poster)
- Coloring supplies
- Painting supplies
- Rubberbands
- Paper clips
- Binder clips
- Adhesives (liquid glue, glue sticks, hot glue, masking tape, duct tape, scotch tape)
- Scissors
- Fabric scraps
- Tinfoil
- Plastic wrap
- Foam or bubble wrap
- Felt
- Play-Doh or other clay
- Balls (any size)
- Building blocks
- LEGOs® and/or K'NEX
- Other toys that might be used to build or create something
- Objects from nature like sticks, rocks, and/or leaves
- Pool noodles

The materials listed above are simply ideas and are not required in a makerspace. Maker education emphasizes thinking outside of the box, so please feel free to use anything that is available to you.

One makerspace component that is recommended for all makers is a recycled materials collection to keep for your child's making. Items such as cardboard boxes, plastic bottles, milk and egg cartons, paper towel rolls, and even packaging material can be very useful.

2. Find a space for making or make a mobile makerspace.

It is no surprise that making can get messy. Talk about organization with your child. An important part of making is drafting prototypes through brainstorming and drawing. This helps students sort out their thoughts and can even limit materials used (and wasted) as planning focuses their ideas. Will these drawings be a requirement at home as well? Make a plan and set up their making space. This could include an organized spot in your home with materials readily available, or it could be a mobile makerspace stored in a container that can be pulled out when children are ready to create.

3. Talk about safety and/or expectations for making.

This is an important element to setting up any makerspace, at home or at school. Talking about safely using materials and tools with your child is imperative. They need to be aware of what using materials safely looks like and what it does not look like. What materials and equipment can be used without parent or older sibling supervision? How do we make the materials safe for others to use by properly sanitizing them when we are done using them? Will there be certain "hours" for your makerspace, or can making be an activity at any time of day? Who is allowed to use the makerspace? What should it look like when it is not being used? These are all questions that you may want to talk through with your child before they start to make.

If you would like to pose an open-ended challenge to your child, some ideas to get you started are:

- Think of a problem in your everyday life. How could you design a solution to fix that problem? Make a prototype of that solution.
- Research the features that space rovers have, and then build a prototype of your own rover. What unique features would be included with your rover? Why?