|  |
| --- |
| **It’s Construction Time!** |
| *These project activities are meant to build upon each other and be completed over the course of a week or so. They incorporate learning opportunities from multiple content areas such as: Science, Math, Language and Literacy, Physical Activity, Social Studies, Health, World Languages, Career Exploration and Visual and Performing Arts. Some activities are also focused on spending time outdoors. Parents and caregivers need to make appropriate decisions for each child, based on their location and availability of materials. The most important thing you can do for your child is to talk with them during each aspect of their day. Explain what you’re doing, let them be involved and assure them that they are loved and safe every day.* |
| **Introduction**  The following Activity Guide is meant for use by students in the Prek – 2nd grade span along with their parents or families. Through a construction and building theme, children will be learning concepts about building, floating, measuring, and shapes with a hands-on approach! Bolded vocabulary found throughout the activities signal words that children may need to have explained. A glossary is provided toward the end of this document that includes definitions of the terms. |
| **Materials**  Scissors, paper, glue or tape, measuring tools, basic building blocks or reused materials from around the house, magazines/newspapers, writing tools, small square piece of wood, nails and a hammer |
| **Activities**    Activity 1 - My Construction **Toolbox**:  Gather up old magazines, store fliers and newspapers.  Have your child/ren locate and, using scissors (with adult supervision as needed), cut out images of tools and things that may be in a toolbox.  Glue or tape these to a paper or keep in a shoe box.  Older children can write labels of the names of the items.  Activity 2 - Building **Materials**:  If you are in an indoor space, and have building blocks, great!  If not, look around your home for items that with which children can build and create.  Make sure that they are light weight, so if they fall over children won’t get injured. Materials such as empty paper towel rolls, empty soup cans, and boxes of all sizes work well.  Add pictures of buildings and **tower**s, or **affix** them to building materials, and ask your child if they can build those **structures**.  If you have an outdoor space, have children collect items such as sticks, branches, rocks, pinecones, etc.  Provide them with glue, tape, bits of cloth and other materials that will help them build their **structures**. If children struggle for ideas, offer guidance. For example, “What if we turn this acorn into a little friend. Let's build him a home.”  Encourage children to build their own creations using the materials they have collected.  Ask them to draw what they have created and tell you a story about how they created it.  Next, ask your child to take apart his/her structure and rebuild a new structure using all of the same materials. Building and rebuilding using the same materials provides an important foundation for children’s later understanding that the same atoms can be rearranged to form new molecules.  Activity 2- Day 2:  Making **Blueprints:**  Add paper and drawing materials to the building area.  Black paper and white chalk or colored pencils work great, but any materials will do.  Have your child draw or **trace** building materials to form a **structure** and then use that **blueprint** to build the structure.  Have them count how many items they used to build their **structures**.  Activity 3 – Building Objects that Float:  Using materials that your child has already worked with, and/or using new materials, such as tin foil, **Styrofoam**, etc. **challenge** your child to build a structure or creation that they think will float.  Fill a small tub or bucket with water and let them **experiment** with their structure.  If it does float, ask them to add more materials to see if it still floats.  Have them **predict** how many small items their structure may hold before it sinks, such as pennies or small pebbles.  Discuss why they think their structure is floating.  If their structure does not float, ask them why this may be.  What can they change or do differently to make it float?  Activity 4 - Homemade Geo Boards:  An adult can make these or help a child to make them.  Using a **square** piece of wood, or thick square of **Styrofoam**, hammer 9 -12 nails in **equal** rows of 3 or 4.  Children can use rubber bands to make shapes around the nails.  You can also use golf tees with the Styrofoam!  Activity 5 – **Measuring** Time:  Gather any measuring items you have around your home:  **tape measure, ruler, yardstick**, etc.  Show your child how the items work to **measure** things.  Have children use a notebook or paper to list the items they measure, using words or pictures, and have them record the **length** or **height** of the item.  Talk to them about which items are taller or shorter.  Children can also use other items such as markers, books, etc. to measure.  They can record how many markers tall an object is, and even measure themselves!  Have discussions around measuring family members:  Who is the tallest?  Who is the shortest?  How many (markers) taller? |
| **Glossary:**  **Toolbox:**  A box or bin where you keep your tools  **Materials:** Items that you use to make build things  **Tower:**  A tall narrow (thin) building or structure  **Affix:** Attach or fasten something to something else  **Structure:** An arrangement of parts and pieces (materials) into an organized object  **Blueprints:** Drawings on paper that show how one builds a structure  **Trace:** To copy an image or object by drawing lines around it (on paper)  **Styrofoam:** A light material used for variety of things (in this case, building something that floats)  **Equal:**  Being the same in size, quantity or value  **Measure:** Using an instrument to figure out the length of an object, or comparing one object with another of known size  **Tape Measure:** Tool used to measure objects, especially in construction    **Ruler:** A tool that is one-foot in length, used to measure an object  **Yardstick:** A tool that is three-feet in length, used to measure an object  **Length:** The measurement of an object end to end  **Height:** The measurement of an object top to bottom  **Experiment:** A scientific procedure to test a guess or to make a discovery  **Predict: T**o guess that a specific thing will happen (or not happen) |
| **Additional Readings/Links:** If available, choose books about construction and building to read and talk about with your child/ren.  These are a few suggested titles:    Mighty, Mighty Construction Site by Sherri Duskey Rinker  Or, hear it read aloud here: <https://www.youtube.com/watch?v=SthyWkRl8us>  If I Built a House by Chris Van Dusen  Or hear it read aloud here: <https://www.youtube.com/watch?v=XYfB2MS-ouo>  Billions of Bricks by Kurt Cyrus  Or, hear it read aloud here: <https://www.youtube.com/watch?v=2o53FKZgOKE>  What Can You Do with a Toolbox? By Anthony Carrino  Pete the Cat: Construction Destruction by James Dean  Or, hear it read aloud here: <https://www.youtube.com/watch?v=B8mTjJiKM7A>    Inch by Inch by Leo Lionni  Or hear it read aloud here: <https://www.youtube.com/watch?v=UlB_xk1-3CE>    And here is a fun song that teaches about measurement and tools!  <https://www.youtube.com/watch?v=ypVQDZL18SQ> |
|  |