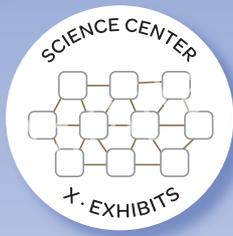


THE ENRICHMENT PROJECT

Badge Program

larajla.com



Science Center X: Build

This badge program deals with possible ideas for building activities / exhibits in your Science Center.

NOTE: Only general ideas are given for this theme. Be sure to explore ideas online or at your local library.

SCIENCE CENTER X: BUILD

Steps

1. Purchased sets.

Tinker toys, Lincoln logs, LEGOs – all of these are items you can purchase for building. These cost more, but are easier for the kids because they've played with them. Look at the cost of these items, but don't limit yourself to new sets as you can sometimes find them at garage sales and other locations.

2. Foam and soft shapes.

Like wooden blocks, you can buy foam in a variety of three-dimensional shapes. Challenge the players to build the highest, use the most blocks, etc. Keep a tally board nearby so they can see how they're doing.

Foam shapes do not have to be small. They can be large enough to sit on. My daughter's favorite shapes were the actual life-size pieces to create an arch. She needed help holding the sides until the keystone was placed and held it together as a freestanding unit.

3. Mud bricks.

In ancient Egypt and Rome, they built with bricks. Why not make your own and build with them? You don't need to make something big enough for a house, just use ice cube trays for your bricks. We did this with small bread pans that took forever to dry. Experiment with your mixture and try this in an outdoor exhibit. Hint: Plaster of Paris helps.

4. Tall towers.

Often, building the tallest tower with marshmallows (or Cheetos, Tootsie rolls, gummy bears, etc.) and toothpicks is an icebreaker. You can use this as a building exercise, allowing experimentation to create a stronger structure. You can replace the toothpicks with dry spaghetti noodles or other stiff items. Do you know of any similar activities that get people thinking about structure, stability and strength?

5. Nature blocks.

You can make blocks out of a variety of materials including natural ones. Slices of a log, pieces of bark and even stones can be used for building. Create a nature block activity area as an exhibit.

6. Flat puzzles.

I have made dinosaur puzzles that were flat plastic canvas pieces with notches in them. They can also be made out of wood, plastic or any other "flat" materials. Anything you can think of in a silhouette form can be made into a 3D puzzle. Check out the pattern samples supplied with this badge program for simple items. What else can you create?

7. Homemade construction set.

Create a homemade cardboard construction set by cutting out slices so you can create a 3D structure. This is a low-cost way to create a building exhibit that can be replenished. You can create constructs with straws, cardboard tubes, cup stacking, etc.



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8. **Plastic canvas shapes.**

You can create squares, cylinders and more out of plastic canvas. The reason I like to do this is the pieces will collapse if kids fall on them and are less likely to get hurt. Check out a few of the simple shapes provided with this badge program. Do you think kids could use these for building?

9. **Paper toys.**

Building paper toys that can be moved around is a lot of fun. From silhouette plays to moving devices, there's a lot you can do with paper. Explore the paper supplements that go with this badge program and / or the links below.

10. **Design Squad.**

Design Squad has a slew of building ideas on their site. Check them out and find some to incorporate into your theme.

11. **Challenges.**

Check out the challenges of the PBS show, Design Squad. Teams get to choose materials and try to build better ways to accomplish a task. Perhaps you've seen or done a few of these yourself: You don't need to go to this extreme as you have a limited time for activities. Start brainstorming with these challenges.

- Successfully drop a raw egg
- Create a catapult to shoot the furthest, highest, most accurately
- Build a bridge over a small waterway (real or imagined) from everyday materials
- Complete tanagram shapes

Make the exhibit a challenge and compare different designs and describe the strengths / weaknesses of the designs.

12. **Simple circuits.**

When you have electricity, circuits provide a way to move it. Build a circuit with wire or other metals. Attach a bulb or something that shows your circuit is complete. Show the differences between a series and parallel circuit and the benefits of both.

13. **Mindstorm LEGOs.**

Check out the Enrichment Project badge program Robotics: FIRST LEGO League to learn a bit more about these types of LEGOs and the challenges that students face in the yearly competition.

14. **Papermaking.**

Paper can be made from recycling existing paper, plants, rags, acrylic paint and more. In addition to these items, you can add items. For example, adding seeds to the paper for a card allows you to plant it when you're done with it. Flowers can be dried and pressed into paper. Experiment with ways to "build" paper.

15. **More about engineering.**

www.engineeryourlife.org

Interested in engineering? This site gives information about advising your kids and training others. This might help direct you into more activities or add-ons you can incorporate.



Supplements

SUPP_Mud Bricks.pdf

How to make mud bricks

SUPP_SCR_Build It.pdf

Scramble: Build It

SUPP_WF_Build It.pdf

Word Find: Build it

SUPP_Exhibit Planner.pdf

Exhibit Planner – Pre-planning and testing questions

SUPP_Scientific Inquiry.pdf

Scientific Inquiry – Printables for use with any exhibit theme

SUPP_GS_Silhouettes.pdf

Information on silhouette play and star, bird, dog, brownie

SUPP_Silhouette Play.pdf

Two spooky backgrounds and characters to put on sticks

SUPP_Game_Tanagram_China.pdf

Printable tanagram puzzle

SUPP_Game_Tanagram_Diagrams.pdf

Printable diagrams to start playing with your tanagram puzzle

GnG_PC Tanagram.pdf

Grab 'n' Go: Plastic Canvas Tanagram

Sites to Explore

www.kidactivities.net/post/School-Age-Science-Center-Supply-List.aspx

pbskids.org/designsquad

pbskids.org/zoom/activities/build

www.discovere.org

happyhooligans.ca/homemade-cardboard-construction-set/#_a5y_p=2191300

www.exploratorium.edu/explore

www.discoveryeducation.com/teachers/free-lesson-plans

kids.usa.gov/teachers/lesson-plans/science/index.shtml

www.teach-nology.com/teachers/lesson_plans/science

www.sciencefairadventure.com

www.yoursciencefairprojects.com

www.sciencefair-projects.org

www.sciencebuddies.org

www.freesciencefairproject.com

tryscience.org

sciencenetlinks.com/lessons

www.education.com/activity/science

pbskids.org/zoom/activities/sci

www.sciencebuddies.org

howtosmile.org

instructables.com

www.msms.bayer.us/msms/MSMS_Home.aspx

www.smithsonianeducation.org/educators/lesson_plans/science_technology.html

***Check out larajla's Enrichment Project
to start your own adventure.***