

THE ENRICHMENT PROJECT

Badge Program

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Science Center X: Movement

How an object moves and reacts is a great way to explore ourselves. Let's add this to our 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: MOVEMENT

Steps

ACTIVE

1. Discovery rooms.

Discovery rooms provide tools to explore objects, open-ended prompts for creative thinking and encourage visitors to try new things. You will want to limit the number of visitors in a discovery room to allow everyone to explore and discover what is there. You'll want to make sure someone is keeping an eye on the items as well as being able to answer questions and encourage visitors to try new things.

NOTE: You can make this a movable exhibit by creating portable activities.

2. Be active.

Being active can contribute greatly to your health. For your Science Center, don't think about traditional exercises. Instead, set up a dance studio with mirrors so visitors can see themselves move, a basketball court with a super-size net, soccer field and more. You don't have to do structured activities — include a walking trail or free play area. Explore ways to incorporate physical activities and sports into your Science Center.

3. Super-size games.

Check out the Enrichment Project badge program "Super-Size Games" or search for them on Pinterest. Another way to be active is to provide large game boards that the kids can move around and not just sit to play.

MORE "SCIENCE-Y"

4. Gravity.

Experiment with falling objects of different sizes and shapes. Does weight make a difference to speed? Explore ways to physically show gravity that can be documented by various criteria.

5. Waves.

Water isn't the only thing that moves in waves. Sound waves travel to your ear through the air. Seismic waves travel through the earth causing quakes. You can see waves of heat that come off pavement in the summer. Slinkies are a great way to demonstrate waves. How might you show waves in your center?

6. Balance items.

This can be balancing people on two different sides of a see saw. Perhaps you'd like different items to be used to determine a balancing point. This might be as simple as a board with a fulcrum, a "magic box" with a weight attached to an inside corner, balancing toys, etc.



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If you plan on balancing two sides, be sure the weight / shape are varied. You can have your visitors guess or make suggestions during the exhibit. You might build a set of scales so materials can be compared for weight, mass, size and amount. For a single point of gravity, see if they can guess how you do it.

7. Pendulums.

I love the pendulum at the Museum of Science and Industry. It doesn't take much to make your own. You can experiment with string length and bob weights.

NOTE: You can also create a pendulum which draws pictures in sand, uses a pen to draw a design, etc.

8. Inertia.

Have you tried pulling a tablecloth from a table without disturbing the settings? Why not take it smaller for your visitors? Try doing it with the following:

- The Lazy Coin / glass, card and coin
- Tablecloth Trick / mug of water, paper and table (mini-size it)

What other inertia tricks can you find to try?

9. Friction.

Discussing friction may make your visitors yawn, but testing it is fun. With a piece of wood, place a line toward one edge. Place items on the edge. Lift it slowly to see which item moves first. You can also do this with a metal tray. Different items will move at different rates because of friction. You can also add other materials like water to see how it affects friction. How might you include friction-based activities into your Science Center?

10. Explore air and flight.

Airplanes and helicopters are cool. Using toys that fly, discuss how air is manipulated to achieve lift / flight. Show how design can change flight. How else might you create a flight exhibit?

11. Off to the races.

You can have pre-built items for racing or allow your visitors to build their own. This might be paper airplane or gliders, balloon racers or more. If you don't want to race, change this into a challenge instead.

12. Thaumatrope.

The illusion of having one image blend into another is the idea behind a thaumatrope. Find patterns to try online or check out the Grab 'n' Go sheet listed below. Can you explain why this illusion works?

13. Planetary movement.

You can discuss planetary movement as a form of "spin" or centrifugal force. You can create a miniature solar system, pick up a marble with a jar, keep water in a bucket, etc. Explore different ways to incorporate "spin" into your exhibit.

14. Explore more!

Check out the "Science Center X: Experiments" or continue your search online for more movement science.



Supplements

SUPP_SCR_Movement.pdf

Scramble: Movement

SUPP_WF_Movement.pdf

Word Find: Movement

SUPP_Exhibit Planner.pdf

Exhibit Planner – Pre-planning and testing questions

SUPP_Scientific Inquiry.pdf

Scientific Inquiry – Printables for use with any exhibit theme

GnG_Balloon Racer_lrl.pdf

Grab 'n' Go: Balloon Racer on a String > NEED IMAGE TO COMPLETE

GnG_Hoop Glider_lrl.pdf

Grab 'n' Go: Hoop Glider, with printable template > NEED IMAGE TO COMPLETE

GnG_Paper Airplane_lrl.pdf

Grab 'n' Go: Paper Airplane > NEED IMAGE TO COMPLETE

GnG_Paper Airplane Fun_lrl.pdf

Grab 'n' Go: Paper Airplane Fun

GnG_Paper Helicopter_lrl.pdf

Grab 'n' Go: Paper Helicopter, with printable template

GnG_Spinning Blimp_lrl.pdf

Grab 'n' Go: Spinning Blimp, with printable template

GnG_Thaumatrope_lrl.pdf

Grab 'n' Go: Thaumatrope

Sites to Explore

www.letsmove.gov

childrensmuseums.org/let-s-move-museums-gardens

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

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.***