

Cylinder Systems

Activity plans
December 2019

Activity title: CYLINDER SYSTEM EXPERIMENTS

Aim/Objective: to communicate ideas and thoughts, to conduct an experiment using cooperation and communication skills, to present the product, etc.

Resources/Materials needed: reel, rope, piece of wood, weight, objects of various weights to be tested, silicone gun

Activity:

Step 1: Introduction: All materials are placed in front of the children. then he creates a story, they are said to have bought a last-floor apartment in an apartment, but not an elevator. They're asked how they can move things.children's answers are listened to.Talk about solutions.

Step 2: a roller system elevator is then designed using materials.

Step 3: experiments are conducted using objects of various weights . It is final about the objects they can remove and forced to remove..

Step 4: Children are asked the following questions:: 1-Why do we need an elevator?
2-what materials did we use? 3-which ones are easy to remove?
4- What materials were we forced to remove?

Video Link: <https://www.youtube.com/watch?v=nPzjp37M56U>



Technology

by Barbara Trivelli- Italy

Activity title: What about Pixels?

Aim/Objective: To introduce children to the knowledge of pixels; Learning about how to represent a picture using cylinders; increase creativity; Starting to understand how picture can appear on a computer

Resources/Materials needed: Play corn or hama beads (if you don't have them pupils can stick cut straws); card board grid; sampling patterns, glue

Activity:

Step 1. Discover a pixel art's picture, pupils explain and discuss what they see

Step 2. Present to pupils the cylinders you have chosen and the grid

Step 3. According to your pupils' age and skills give them sampling patterns or let them free to use the cylinders on the grid

Step 4. Let pupils stick together the cylinders in order to form the picture

Step 5. Show their pictures from a distance

Step 6. Discuss: is it different if we see the picture from a distance vs closely? Why?

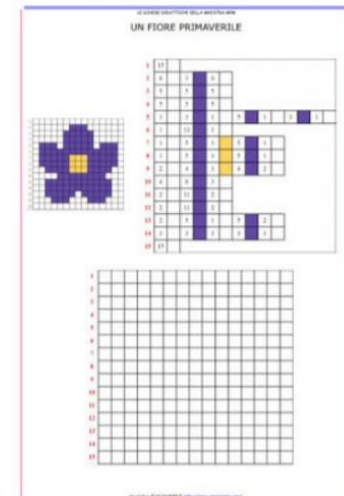
Step 7: Discuss with pupils about picture on computer, show them what show happens when you enlarge an image. Compare with their works and discuss

Videos & other Link:

<https://www.youtube.com/watch?v=m8c1CAT2zEI>

<https://www.autostraddle.com/nerdcraft-craft-like-a-nerd-with-perler-bead-sprites-176533/>

https://www.google.com/search?tbm=isch&sxsrf=ACYBGNRfuc9I_9WBh0IfLTaTxCI7uBSmsA:1568457312644&q=pixel+art+da+stampare&sa=X&ved=0ahUKEwiPsdznjtDkAhXDIIAKHd5bBAEQrNwCCEMoBg&biw=1093&bih=461&dpr=1.25#imgrc=



Activity title: Let's build a car

Aim/Objective: Think like an engineer with what he has learned in cylinder systems. use materials correctly. Be able to cooperate with an adult. Uncover product with residual materials

Resources/Materials needed: 2 pcs big pet bottle cap, 2 pcs small pet bottle cap, one pcs small pet bottle, 2 pcs wooden rods, scissors, adhesive, tape, 1 pcs balloon

Activity

Step 1: All materials are placed in front of children. What can we do with these? Continue Q&A until they say car.

Step 2: The bottles are distributed to children, cut off, bottle caps punctured. Children are given instructions to assemble the pieces.

Step 3: The materials are combined by children in the right way as in the video.

Step 4: Children are asked the following questions:

- 1- How many roller materials have been used in this car?
- 2- What is the power supply that enables the car to advance?
- 3- What else could we use instead of a balloon?

Videos & other Link: <https://www.youtube.com/watch?v=VrAsQxGuy1E>



Arts

by Margarida Barbieri from Portugal

Activity title: Kaleidoscope

Aim/Objective: Promote creativity using paper towel tube or toilet paper tube and develop motor fine skills as cut.

Resources/Materials needed: Paper towel tube or toilet paper tube, card stock or scrapbook paper, Thin clear plastic (can be scrap from packaging) Colorful translucent beads or shinning stars, Cardboard, Aluminum foil, Marker, Washi tape, colorful pens or paints, Glue, Scissors

Activity Introduction: What is a Kaleidoscope? Discussion with children about this topic. Although it is an art activity, it can be explored as a science one as an optical instrument.

- 1) Children can colored the paper towel tube using different technics or use paper use scrapbook paper! Squeeze glue all over the scrapbook paper and roll the paper towel tube up in it.
- 2) Trace the end of the paper towel tube on the scrap plastic three times and cut out all three circles.
- 3) Hot glue one circle on the bottom end of the paper towel tube.
- 4) Drop your beads or little colorful stars, into the tube. Put enough to almost cover the plastic. Then place the second plastic circle inside the tube (you will need to use a pencil or marker to push it down to the bottom and loosely cover the beads/stars, but do not push it snug up against them! If it is too tight, then the beads won't move around between the plastic discs).
- 5) Cut three strips of cardboard that are 1 inch wide and almost as long as the tube you are using. Cover each strip with foil. Glue them into a triangle shape and place inside the tube. This will create the kaleidoscope effect when the kids look inside!
- 6) Now, glue the last plastic circle on the open end of the paper towel tube. This will be the end they look through.
- 7) Let the kids decorate with Washi tape, stickers, or color on it if they didn't already. Once they are done, hold your homemade kaleidoscope up to the light and turn to view!

Videos & other Link: <https://kids.kiddle.co/Kaleidoscope>

<https://www.youtube.com/watch?v=yShrIOj34r0>

<https://www.youtube.com/watch?v=uvPFJpwuzFM>



Arts

by Georgia Voudouri Greece

Activity title: Christmas ornaments made by toilet rolls

Aim/Objective: Use useless materials to make an ornament, develop skills

Resources/Materials needed: Toilet roll tubes/wrapping tubes/towel tubes, brown wallpaper samples (you could use sand paper or brown paint), brown pipe cleaners, red artificial berries or pompoms, googley eyes, glue.

Activity

- We cut our toilet rolls in half and cover them with a brown wall paper sample. Alternatively, you could paint yours toilet roll or cover it with a piece of brown felt or sandpaper)
- Then you have to poke a hole in each side of the top of the tube for the kids to slide their pipe cleaner “antlers” through. For the noses, you can use some artificial berries or a piece of red paper or pom pom. You can glue the eyes and they are ready .

Videos & other Link: <https://happyhooligans.ca/toilet-roll-reindeer>



Maths

By Charmaine Attard Malta

Activity title: Treasure hunt for cylinders

Aim/Objective: To enhance awareness about objects in our daily life that have cylinder shapes while improving pre-writing skills while taking a tally count on a whiteboard

Resources/Materials needed: whiteboard, whiteboard marker, cylinder shapes, location (outdoor/indoor etc.)

Activity

- **Step 1:** Introduction: Present students with different cylinders and ask them why are they useful in our daily life.
- **Step 2:** Give students a whiteboard each (or per group) and take them to a location to seek for cylinders around them. (in the school yard, classroom, gymnasium etc etc).
- **Step 3:** Allow students to take pictures of their findings to help them evaluate and remember later.
- **Step 4:** Check the tally boards and count how many cylinders you managed to find around your location/s. To conclude evaluate how many of these (link below) cylinders you have come across during your treasure hunt

Videos & other Link: https://www.youtube.com/watch?v=IIA_yaLzpw0

