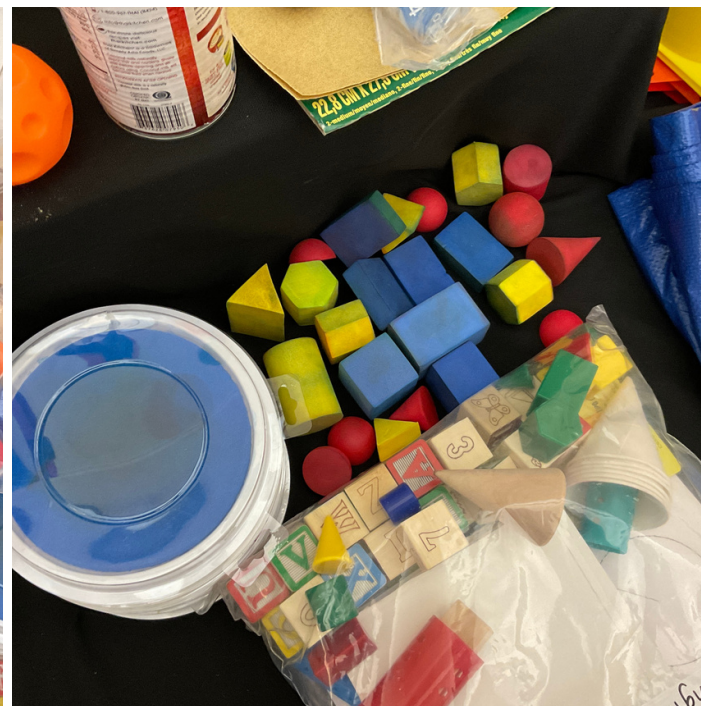


Geometry Party!



Learn about 2D and 3D shapes in this kit! Investigate the properties of different shapes by rolling them around, building with them, and stamping them in ink.





INVENTORY OF TRUNK

Geometry Party!

IN	OUT	
		<u>Activity Binder</u>
<input type="checkbox"/>	<input type="checkbox"/>	Librarian Instructions
<input type="checkbox"/>	<input type="checkbox"/>	Inventory Sheet
<input type="checkbox"/>	<input type="checkbox"/>	Book list/Introduction
<input type="checkbox"/>	<input type="checkbox"/>	Rolling Around
<input type="checkbox"/>	<input type="checkbox"/>	Strength of Shapes
<input type="checkbox"/>	<input type="checkbox"/>	Stamp it Out
<input type="checkbox"/>	<input type="checkbox"/>	More Geometry Resources
<input type="checkbox"/>	<input type="checkbox"/>	Consumable and Restocking List
<input type="checkbox"/>	<input type="checkbox"/>	Extension Activity Ideas
<input type="checkbox"/>	<input type="checkbox"/>	Deconstructing Shapes
<input type="checkbox"/>	<input type="checkbox"/>	Glossary
<input type="checkbox"/>	<input type="checkbox"/>	CREATE acronym
<input type="checkbox"/>	<input type="checkbox"/>	Science Process Skills
<input type="checkbox"/>	<input type="checkbox"/>	<i>Helping Your Child See and Show Mathematical Ideas</i>
<input type="checkbox"/>	<input type="checkbox"/>	<i>Making Math Meaningful for Young Children</i>
<input type="checkbox"/>	<input type="checkbox"/>	<i>Counting on Caps for Sale</i>
<input type="checkbox"/>	<input type="checkbox"/>	<i>One, Two, Buckle My Shoe: Understanding Number Development in Young Children</i>
<input type="checkbox"/>	<input type="checkbox"/>	Strength of Shapes Activity cut outs
<input type="checkbox"/>	<input type="checkbox"/>	Parent surveys
<input type="checkbox"/>	<input type="checkbox"/>	3 laminated sheets
		<u>Books</u>
<input type="checkbox"/>	<input type="checkbox"/>	<i>Triangle</i> by Mac Barnett
<input type="checkbox"/>	<input type="checkbox"/>	<i>Square</i> by Mac Barnett
<input type="checkbox"/>	<input type="checkbox"/>	<i>Circle</i> by Mac Barnett
<input type="checkbox"/>	<input type="checkbox"/>	<i>Shapes, Shapes, Shapes</i> by Tana Hoban
<input type="checkbox"/>	<input type="checkbox"/>	<i>Block City</i> by Robert Louis Stevenson, illustrated by Daniel Kirk
<input type="checkbox"/>	<input type="checkbox"/>	<i>Grandpa's Quilt</i> by Betsy Franco
<input type="checkbox"/>	<input type="checkbox"/>	<i>Color Farm</i> by Lois Ehlert
<input type="checkbox"/>	<input type="checkbox"/>	<i>Bees, Snails & Peacock Tails: Patterns & Shapes... Naturally</i> by Betsy Franco

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <i>Cubes, Cones, Cylinders, & Spheres</i> by Tana Hoban |
| <input type="checkbox"/> | <input type="checkbox"/> | <i>Round is a Tortilla: A Book of Shapes</i> by Roseanne Thong |
| <input type="checkbox"/> | <input type="checkbox"/> | <i>Mouse Shapes</i> by Ellen Stoll Walsh |

3D Shapes

- | | | |
|--------------------------|--------------------------|------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Various wooden blocks |
| <input type="checkbox"/> | <input type="checkbox"/> | Alphabet blocks |
| <input type="checkbox"/> | <input type="checkbox"/> | Golf balls |
| <input type="checkbox"/> | <input type="checkbox"/> | Plastic cylinders with holes |
| <input type="checkbox"/> | <input type="checkbox"/> | 6 mini traffic cones |
| <input type="checkbox"/> | <input type="checkbox"/> | 8 party hats |
| <input type="checkbox"/> | <input type="checkbox"/> | Various plastic shapes |
| <input type="checkbox"/> | <input type="checkbox"/> | Recycled cylinders |
| <input type="checkbox"/> | <input type="checkbox"/> | Varied spheres |
| <input type="checkbox"/> | <input type="checkbox"/> | Plastic cylinders with holes |

Other Activity Items

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Circle cutter |
| <input type="checkbox"/> | <input type="checkbox"/> | 6 Large ink pads |
| <input type="checkbox"/> | <input type="checkbox"/> | 3 particle board ramps (outside of trunk) |
| <input type="checkbox"/> | <input type="checkbox"/> | Plastic table covering |

To Be Provided by Borrowing Library*

- | | | |
|--------------------------|--------------------------|------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Paper tubes |
| <input type="checkbox"/> | <input type="checkbox"/> | Bubble wrap |
| <input type="checkbox"/> | <input type="checkbox"/> | Sandpaper |
| <input type="checkbox"/> | <input type="checkbox"/> | Masking tape |
| <input type="checkbox"/> | <input type="checkbox"/> | 90 lb (or thicker) cardstock paper |
| <input type="checkbox"/> | <input type="checkbox"/> | Wet wipes |
| <input type="checkbox"/> | <input type="checkbox"/> | Additional shapes (optional) |
| <input type="checkbox"/> | <input type="checkbox"/> | 6x6 foam core board squares |

* Some of these materials are provided in the kit but may be recommended to purchase as they will not be restocked by NMSL in the future.

Checked by _____ Date _____

Checked by _____ Date _____

Rolling Around

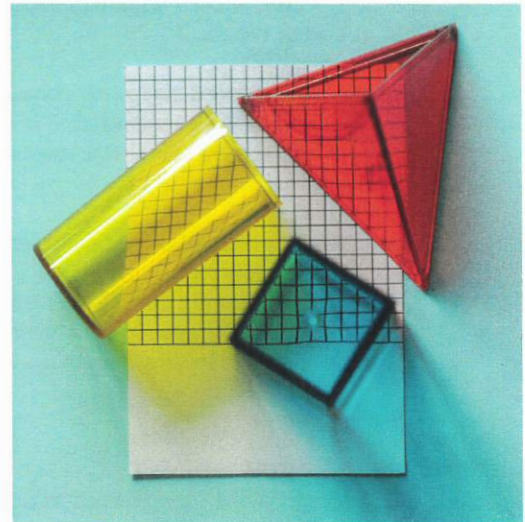
Explore how different shapes roll down bumpy and smooth surfaces.

Beforehand

Check to make sure materials are in good condition; repair and replace as needed.

Materials Included

- 3 - Particleboard ramps with smooth and bumpy surfaces (cardboard may also be used)
- 16 - Cylinders: paper tubes, clean yogurt containers, clean cans
- 16 - Spheres: tennis balls, golf balls, foam balls, rubber balls
- 16 - Pyramids: foam pyramids, plastic pyramids, wood pyramids
- 16 - Rectangular prisms: small boxes, wooden cubes, plastic cubes, foam cubes
- 4 - Lengths of Bubble wrap
- 8 - 12" x 12" Sheets Sandpaper (variety of grits)



Materials to Gather

- Other household 3D shapes (kitchen items, toys, office items)
- Large books, stools, or chairs (to raise or lower ramps)

Setup

Set up the ramp by placing large books, a stool, or a chair under one end. Optional: place a book at the bottom of the ramp. Set out prompt(s), bubble wrap, sandpaper and shapes for rolling.

Key Vocabulary

Dimension, surface, prism

Questions to Extend Discoveries

Invite participants to experiment with putting the various shapes on the top of the ramp and observing their behavior. Participants can explore what happens when their ramp is raised or lowered, or when bubble wrap or sandpaper is added to the rolling surface. Extend discoveries by asking the following questions:

- "What do you notice about how the shapes roll?"
- "Do all shapes roll the same? What are the similarities or differences?"
- "Does it matter which surface you use (bumpy or smooth)?"
- "Can you change the speed of the shapes?"
- "Does adding bubble wrap or sandpaper to your ramp change how the shapes roll? How?"

Strength Of Shapes

Discover the power of triangles, cones, and cylinders. How strong are they?

Beforehand

Make sure all materials are in good condition; repair and replace as needed. Pre-cut circles with slits for cones, score or mark strips for triangles, and cut strips of paper for cylinders.

Materials Included

- 6" x 6" Particleboard squares (cardboard may also be used)
- 2" Wooden blocks
- Cardstock - 90lb+
 - Pre-marked circles for cones and strips for cylinders and triangles included. It is recommended that one of each be saved as a master copy.
- Masking tape
- Circle cutter
- Sample cones (small plastic construction cones, cone water cups, cone party hats)
- Sample cylinders (tin cans, paper tubes, cylinder containers, and/or cylinder packaging)
- Sample triangles (triangle teething toy, triangle blocks)



Materials to Gather

- Optional: Found objects such as books or toys, in addition to included wooden blocks, to use as weights for testing cone strength.

Setup

Place materials on the table along with prompts, including a selection of sample triangles, cones, and cylinders. It is recommended that one or two examples of paper cylinders, triangles, and cones are created in advance and set out as guides.

Key Vocabulary

Cylinder, cone, triangle

Questions to Extend Discoveries

Invite participants to investigate the samples on the table. What observations can they make about these shapes? Participants can then create their own shapes out of paper using pre-cut circles to make cylinders, and strips of paper to make cones or triangles. Encourage participants to make a set of four (or at least 3) so that they can place a piece of particle board on top. Participants can put objects such as the wooden blocks provided, or books, on the particle board placed over their shapes to test for strength.

"Have you seen shapes like these anywhere before? Do they remind you of anything?"

"Which paper shapes do you think could hold the most weight? How could we find out?"

"What happens if you put weights on top of your shape? What if you turn your shape another way and try again?"

"How much weight can your shapes hold?"

Stamp It Out

Investigate what happens when you stamp a 3D shape onto 2D paper.

Beforehand

Check to make sure materials are in good condition; repair and replace as needed.

Materials Included

- 6 - Large ink pads
- 3D shapes: plastic, wood, and foam shapes for stamping
- 2 - Packs 90 lb cardstock
- 1 - Container wet wipes
- 1 - Table cover

Materials to Gather

- If desired, gather other 3-dimensional shapes that participants can use as stamps. For example, small boxes, square containers or blocks, various spheres such as bouncy balls or golf balls, and/or triangle-shaped objects.
- Paper towels



Setup

Place the prompt, shapes, paper, and paint pad on the mat.

Key Vocabulary

Face, corner, vertices

Questions to Extend Discoveries

Invite participants to experiment with putting the shapes on the ink pads and using them as stamps. Extend discoveries by asking the following questions:

"What type of shapes can you create by stamping?"

"What differences or similarities do you notice about the 3D object and the stamp it makes?"

"What happens BOARDto the stamp of the object when it is placed in different ways?"

"Can you combine stamps of shapes to make new shapes?"

Rolling Around

What can you discover about how shapes move? Experiment with putting shapes on the top of the ramp and letting them roll down. Try raising the ramp, or lowering it. What happens if you put bubble wrap or sandpaper on your ramp? Try rolling shapes down the bumpy side!

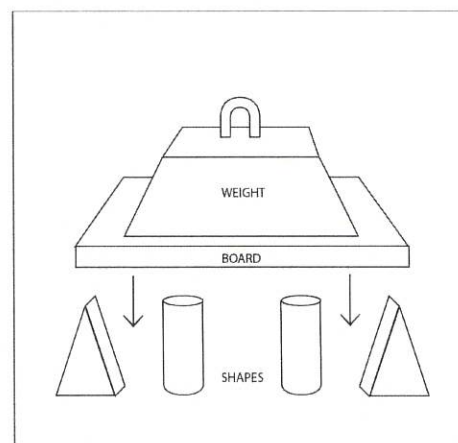
- What do you notice about how the shapes roll?
- Do all shapes roll the same way?
- Does it matter which surface you use (bumpy or smooth)?
- Can you change how fast the shapes roll?
- Does adding bubble wrap or sandpaper to your ramp change how the shapes roll? How?



Strength Of Shapes

Investigate the samples on the table. What do you notice about these shapes? Next, create your own shapes out of paper. You can use pre-cut circles to make cylinders, and strips of paper to make cones or triangles. Try making a set of four (or at least 3) of one shape, then balance a piece of particle board on top of your shapes. Discover how strong your shapes are by putting wooden blocks, or books, on the particle board.

- Have you seen shapes like these anywhere before? Do they remind you of anything?
- Which paper shapes do you think could hold the most weight? How could we find out?
- What happens if you put weights on top of your shape? What if you turn your shape another way and try again?
- How much weight or how many books or blocks can your shapes hold?



Stamp It Out

Experiment with putting different shapes on the paint pads and using them as stamps!

- What type of shapes can you create by stamping?
- What differences or similarities do you notice about the 3D object and the stamp it makes?
- What happens to the stamp of the object when it is placed in different ways?
- Can you combine stamps of shapes to make new shapes?

