

Making our own “Sneakers”

Rational:

We all own multiple pairs of shoes. It is common that we start taking things for granted when we are provided with generous amount of the resources. Making your own sneakers will not only provide students an opportunity to understand and practice the foundations of design and recreation by using simple concept of Math and Engineer, but also it will provide us an opportunity to contribute to the society.

Goals for Children:

- Learning about numbers and measurement and relationship between numbers and measurement.
- Learning the names for different part of shoes.
- Learning about some elements of designing. It includes outlining, drawing, and measuring.
- Practicing the fine motor skills by cutting and taping.
- Expanding the understanding simple concept of engineering for the children

Students will need: (These items should be placed at each table for each group of students)

- A pair of their favorite sneakers
- Duct Tapes
- Multiple pieces of Scrap of cardboard 12”x12”

- Measuring tapes
- Scissors
- Pencils and markers
- Various materials can be recycled or repurpose. For example, bamboo pieces, grass straws, leaves, shredded paper, cotton balls, sponges, old cloth towels, bubble wraps and etc.

<p>Engaging</p>	<ul style="list-style-type: none"> - Asking children how many pairs of sneakers they own? - Asking children to bring one of their favorite sneakers to school the next day. - On the day for making the project, teacher will read a story “the elves and the shoe maker”. - Children will be introduced and learnt about the proper names for different parts of shoe and explore the different material on their shoes.
<p>Explore</p>	<ul style="list-style-type: none"> - After reading the story, students will start observing the shoes that they bring. We will give opportunities for each student to share the reason for this particular pair being their favorite. - During the sharing process, teachers will encourage students to use and practice the new vocabularies that they learn from the story. - We will divide students into four different groups. Students can compare their shoes with other students within their own group for

the size, texture, style and weight.

- Teacher will present and introduce the materials for making our own sneakers.
- Students start to make their own “sneakers” by following procedure below: (With guidance and help from the teacher)
 - a. Students outline the shape of their own foot on the pre-cut cupboards. Measuring and cut the pre-cut cupboard into the shape of foot.
 - b. Students will be provided with varieties of recycling materials for making soles of their sneakers.
 - c. After sticking the material that they choose for making their soles, students will be asked to feel the texture of the sole.
 - d. Once students finish making the soles, they can tape their shoes to their socks, or using different methods to make the shoes work properly on their feet.
 - e. Teachers will guide students to do a test walk in the “sneaker” that they made. Students will do a walking experiment with the new sneaker in the playground on different surfaces.
 - f. After students are done with the experiment on their new sneakers, both teachers and students will take off their shoes and walk on the same surface in the playground with their bare feet

Explain	<ul style="list-style-type: none">- Have students come back to have a class discussion on their experiment. We can group students by their choice of material for the soles.- Students will share their test walk experience with the sneakers that they made.- Teacher will discuss the material that children choose for making their shoes whether they are biodegradable or not.- Teacher will write down the answers from students and put in a chart (comfort level vs. biodegradability)- Children will also share their experience about walking with their bare feet.
Elaborate / Extend	<ul style="list-style-type: none">- Asking children what it would be like walking and coming to school and spend one day in the school with no shoes.- Teacher will share the story of TOMS shoes with children. A 5 minutes video clips about TOMS story will be played for children- After watching the video, asking children what we can do for us to “give”?- Collecting students’ answers and start talking about the idea of “Shoe Drive”.

Evaluate	<ul style="list-style-type: none"> - Making the collecting boxes for different size of shoes (Number reading and sorting) - Together with the students, we design and draw a Logo for this event (practice the concept of simple design) - Preparing labels for the collecting boxes (Number comprehension and writing) - Students will be in charge of sorting the shoes and put in the donation boxes according to their sizes. (Number reading and sorting) - Students will record numbers of shoes in each different size
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Day 2: Teacher will start talking about “Shoe Drive”. We anticipate one or two days preparation time before the fundraising event extended to the family.

Science: Exploring property of different materials on a pair of shoes (recyclable and non-recyclable)
Finding the objects in the classroom which have the same material

Mathematics: Measuring and number reading, recording and sorting.

Engineering: Making the sneaker to be able to walk in

Technology: Using simple graphic tool for the Logo creation; Using printer for label printing for sorting boxes

Reference:

Nick and Claire Page (2006) The Elves and the Shoemaker

Measuring Biodegradability

<https://www.sciencelearn.org.nz/resources/1543-measuring-biodegradability>

Story about TOMS shoes

<https://www.toms.ca/about-toms>

Waste Management for Shoes

<https://pdfs.semanticscholar.org/f370/d16cbee52e7a7c183f30dc346127120c0eeb.pdf>