LEARNING PLAY KIT

FOR HOME & SCHOOL

Primary: Ages 9-13

Rainbow Milk

Shadow Drawing

Touch and Feel

Tic-Tack-Toe

Roll the Dice

Treasure Hunt

Shape People

Water Bottle Bowling

Dice in Dice

Adding with Plates

Pair Them Up

Tricky Tower

Telephone

Beginning Sound

Let's Go to the Museum

Create a Family Word Jar

Simon Says

Put on a Puppet Show

Five Little Ducks

Charades

HARAMBEE

Tucheze Kujifunza

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LEARNING PLAYKIT: FOR HOME AND SCHOOL (PRIMARY)

Introduction

The global COVID-19 pandemic has interrupted daily life and education for individuals all around the world, impacting over an estimated 1.5 billion children internationally, including 18 million in Kenya. To reduce the spread of this virus, the Government of Kenya closed schools for the 2020 academic year in mid-March and currently plans to re-open schools in October 2020 with students beginning their school year where they last left off. We recognize that adapting to this new normal has been incredibly difficult, especially for teachers, parents, and children who are now working and studying from home, often with limited resources and many other pressing responsibilities. This activity pack has been created to support your children or students and inspire creativity, curiosity, and learning through play at home and at school.

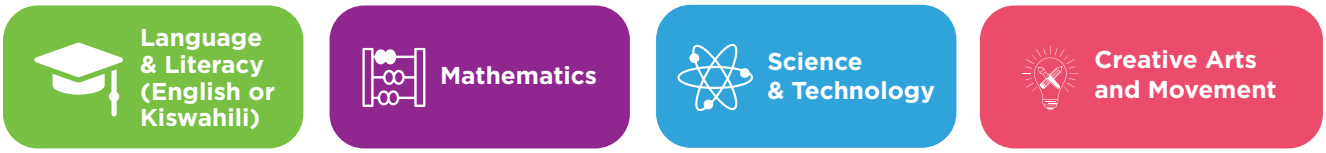
Playful Learning Activities

The Primary Learning Playkit: For Home and School has been developed to support teachers, parents, and children by providing several activities that can be used to further a child's learning through play in order to support their continued education in addition to their formal education. It is also designed to promote competency-based teaching and learning at home and in the classroom. Playful learning is important because it allows children to develop vital cognitive, emotional, and social skills that will be used throughout their lives. Learning through play allows your children to learn about themselves and their environment through a spectrum of activities that are meaningful, joyful, actively engaging, iterative, and socially interactive.

While a child sees these activities as fun games, you will know that they are learning different skills with each one. Every activity includes instructions on how to play it with your children to ensure that they are developing important learning skills towards the stated objectives, such as improving their vocabulary, critical thinking, patience, or concentration, among other skills. As such, it is crucial for you as parents or teachers to be actively involved in playing these activities with your children to reinforce the learning taking place and to adjust the activities to support them in achieving the objectives, if necessary.

Structure

This activity pack includes 40 activities designed for Primary students (aged 10 to 14 years old). These are divided into 4 learning areas:



While these activities are aligned with the Kenyan National Curriculum, they are not designed to replace teacher instruction or formal education, but rather to be integrated into classroom activities and to supplement home learning. Each activity in this pack includes a set of objectives, instructions, potential extensions and a list of low-cost materials that can be easily found. This list of activities is not meant to be exhaustive, but instead to provide you with ideas on how to encourage your children to learn in a playful manner.

You should feel free to adapt the included activities to suit a different learning area or to use different materials. You can also play the activities in English or in Kiswahili, especially for the Language and Literacy activities. Modify the activities so that they can be done with the number of people available or develop and share new activities or extensions in addition to the ideas below. Several activities in this pack work well with other activities, including ones that may be listed under a different learning area. Your children may also benefit from activities included in the Early Years Learning Playkit. You should peruse and combine different activities together to create more elaborate games or stimulate various types of learning. Feel free to create your own educational activities with your children that fall into any learning area of your choice.

Staying Safe

Some activities are developed for you and your children to play together, while others call for you to supervise a group of children. An adult should always be present during these activities and relevant sanitation, health, and safety guidelines should always be followed. Be a good role model for your children by making sure everyone washes their hands with soap before and after each activity and teaching them to practice established physical-distancing guidelines while playing. Check the updated recommendations from the Ministry of Health regularly to make sure that your family or class is playing safely. Play these activities in small groups and only with people who are following the health guidelines. If and when multiple children are playing together, make sure that each child has their own set of materials and is not sharing them to ensure everyone's health and safety.

Inclusivity

All children should be able to participate in these activities, regardless of gender, age, disability or socio-economic status. These activities are designed to be inclusive and to encourage active child participation in choosing and adapting the activities played. Ensure that all boys and girls have an equal opportunity to select, participate in, and lead activities. As a parent or teacher, avoid giving gender-stereotypical examples or reinforcing biases, for example, asking only boys to carry heavy materials or asking only girls to clean up after an activity. Make sure to use gender-inclusive language and female and male names when coming up with different examples. Encourage your children to understand different people's perspectives through the activities and to take on any role in the activities that they are interested in. If possible, get your spouse or another teacher or adult involved in the activities so the children can learn from their perspectives, too.

How To Use This Activity Pack

- Look over the whole Primary Learning Playkit
- Find the learning area that interests you or your children
- Choose an activity that interests your children
- Read the activity and make any changes necessary (e.g. adapt the language, group size, objectives, materials, etc.)
- Gather all necessary materials and participants
- Play!

List of Primary Activities:

Language and Literacy (English or Kiswahili)

Mathematics

Science and Technology

Creative Arts and Movement

Create a Family Word Jar

LEARNING AREA: Language & Literacy (English or Kiswahili)

ACTIVITY 01

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. A plastic container or a jar
2. A piece of paper
3. Pencils/pens, crayons, colour pencils, markers (optional)

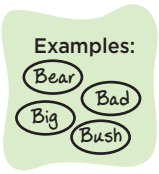
OBJECTIVES

- Learn and use synonyms and antonyms
- Use new vocabulary in day-to-day conversations
- Creativity and imagination and children find different ways to use the new words

INSTRUCTIONS ON HOW TO PLAY:

1 

Start by finding words to add to the jar. Look for words in storybooks, newspapers, prayer books, brochures, labelled items or calendars. One person can even read a book to the other to find words that should be put into the word jar.

2 

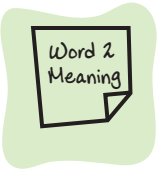
Everyone has to find three words. The words can be of varying difficulties, all start with the same sound, all be longer than a certain number of letters, or related to a theme. Not all words chosen have to be easily understandable by the child.

3 

Write each word on an individual piece of paper or cardboard.

4 

Put all the papers in a jar or container– this is the family word jar.

5 

Every day pick out a new word from the jar. Look up the word or discuss its meaning.

6 

Practice pronouncing the word correctly. Make phrases or short sentences using the word. Tell stories using the words. Translate the word into another language. Act out the word. Look for words that are synonyms or antonyms with the word.

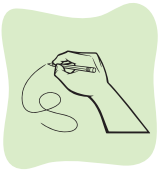
7 

Put the words back in the jar to revisit them a few days later and test your memory.

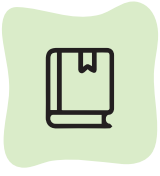
Activity Extensions:

List synonyms and antonyms for the word. For example; depart. Synonyms could include leave or exit and the antonym could be arrive.

Take out all the words in the jar and create a story using the words. Tell or act out the story. You can do this as a large group or split into teams and see who can come up with the silliest or most creative story using the words.



Find or write a sentence that uses the word.If the child discovered the word in a book, copy the sentence where the word was found or write a new, original sentence.



Create a simplified, age-appropriate dictionary with your own definitions for each word in the jar.

Make Stories Together

LEARNING AREA
Language & Literacy (English or Kiswahili)

ACTIVITY
02

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

None!!

OBJECTIVES

- Listen and respond appropriately to information
- Use vocabulary in sentences for effective oral communication
- Critical thinking and problem-solving skills

INSTRUCTIONS ON HOW TO PLAY:

1 

Make a story beginning with, 'Today we're going on a picnic to _____ (Name the place), and we're going to bring ___ (Name an object) so that we can do _____ (action).

2 

Each person makes their own version of the story, but the objects they name must all be different.

3 

Each person should add to the same story as the people before. For example, the location of the picnic should be the same and the different objects mentioned should all contribute to do the same action in the story.

Activity Extensions:

Make the story longer – add more phrases that have blanks to fill in or have each person explain why they are adding to the story.

Each child has to remember and repeat the items shared before theirs to keep adding to the story. (e.g., if child one said water, and child two said oranges, child three will say "Today we're going on a picnic to (Name of place) and we're going to bring water, oranges, and chicken to cook dinner over a campfire". The more people in the game, the harder the game.

Change the topic, 'Today we're going fishing...' Or "Today we're going on a trip..."

Welcome to My Restaurant

LEARNING AREA: Language & Literacy (English or Kiswahili)

ACTIVITY 03

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Paper
2. Pen
3. Food, plates, utensils, other objects to make a restaurant

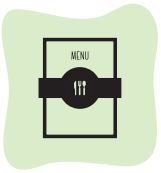
OBJECTIVES

- Practice showing respect, etiquette, good behaviour and positive values
- Learn and use new vocabulary related to food and restaurants
- Creativity and imagination

INSTRUCTIONS ON HOW TO PLAY:

1 

Each child and adult chooses roles to play within a restaurant (i.e., waiter and customer). Set up a table and chairs for the customers.

2 

Have the child come up with a simple menu that includes lists of food and beverages with prices.

3 

The person playing the waiter welcomes the people playing the customers and hands them the menu and makes suggestions about the "Special of the Day" or food and beverage pairings.

4 

The waiter takes orders from each customer and asks for each menu item separately (beverages, appetizers, main dish, dessert, etc.) and should note them down. The waiter reads back the orders to the customers to check.

5 

The waiter brings the food. The customers enjoy the meal. The waiter checks in on the customers periodically to see how they are enjoying the meal and to ask if they need anything.The waiter prepares the bill. Once the customers ask for the bill, the waiter gives the customers the bill and the customers pay the bill.

6 

The waiter gives the change (if any) and thanks the customer for coming.
The customers leave and the waiter clears the table.Practice words like welcome, after you, please, thank you, goodbye, etc. when speaking. Talk about the experience of being a waiter/customer and what one should or should not say or should do or should not in a restaurant.

Activity Extensions:

Discuss how to behave when you have food in your mouth or how to address the waiter when you need something. Complete the same activity in a different language or in a different location (different type of restaurant, etc.).

Have the waiter encourage the customers to come to the restaurant for the first time or order a dish that they have never tried before. Play the same activity but focus on the mathematical calculations of the menu - customers have a specific budget or the bill was not properly calculated, etc.

Let's Go to the Museum

LEARNING AREA: Language & Literacy (English or Kiswahili)

ACTIVITY 04

Primary: Ages 9-13

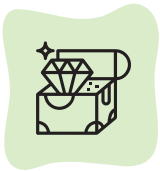
SPECIFIC MATERIALS NEEDED

1. Simple treasures: tables, labels, shells, sand soil, salty water, toy animals, pots and rocks, coconut shells
2. Writing/drawing tools: pens, pencils, charcoal, bamboo pens

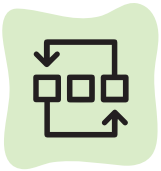
OBJECTIVES

- Acquire and use a variety of thematic vocabulary to use when talking about their environment
- Name, label and arrange objects into groups based on their different characteristics
- Self-efficacy as children confidently take the visitor(s) around the museum

INSTRUCTIONS ON HOW TO PLAY:

1 

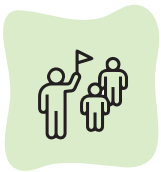
The child finds little treasures related to their physical and/natural environment

2 

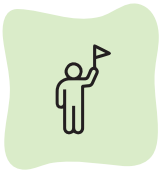
The child arranges the treasures by theme or group and displays them in jars or boxes (i.e. wild animals, domestic animals, artefacts (pottery), the ocean, etc.).

3 

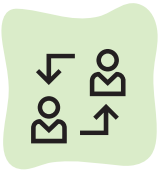
The child labels all of the treasures (draw and/or write the label). The child acts as a tour guide while the other players are the visitors.

4 

The tour guide welcomes the visitors to the museum.

5 

The tour guide shows the visitors around the museum. The tour guide tells the visitors about the treasures, e.g. "Pots are mostly made of clay and are used for storage of water, flowers and cereals."

6 

The tour guide then becomes a visitor and vice versa.

Activity Extensions:

Make a map and brochure for the museum. Include information on the most "famous" treasures and tour guides and show different paths that visitors can take for a tour.

Make and Send 'Thank You' Cards

LEARNING AREA: Language & Literacy (English or Kiswahili)

ACTIVITY 05

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Paper
2. Pen, pencil, crayon, marker, ruler, brushes, colour pencils,
3. Glue or tape to stick tiny objects like flowers or sticks, strings, ribbons

OBJECTIVES

- Express written appreciation and practice the value of appreciation
- Identify and describe the components of a 'thank you note'
- Creativity and imagination

INSTRUCTIONS ON HOW TO PLAY:

1

Discuss the contents of a thank-you card with your child and decide whom the card will be for (e.g., a friend, sibling, parent, teacher).

- Greeting: How you address the recipient (E.g., Dear...)?
- Message: Write a sentence or more expressing your appreciation for the person or something they did. Be specific. What exactly is it that you are thanking this person for? Include the phrase "thank you" in the message.
- Closing/Sign off: Use words such as sincerely, all the best, with love
- Your name: Write your name so the recipient knows who sent the card.

2

Write the card. Complete the inside with the greeting, message, closing, and name.

3

Decorate the card. Draw/write/glue images or small objects on the front, inside and/or back.

4

Give the card to the recipient.

Activity Extensions:

Make cards for different occasions: birthday, wedding, congratulations, get well soon

Make a "secret" thank you card – don't sign the name and find a way to get the card to the recipient without them knowing who wrote the card.

Charades

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. At least 25 word/phrase cards- can be made from paper, used milk boxes, cartons, etc.
2. Timing device
3. Blank slips of paper

OBJECTIVES

- Practice new words and phrases in different situations
- Describe the meaning of words or phrases using appropriate actions
- Listen attentively and respond appropriately
- Communication and collaboration

INSTRUCTIONS ON HOW TO PLAY:

1 Develop a list of objects, people, or places that can be acted out. Write each item on an individual card. Make sure they are words that the child can read and is already familiar with or consider drawing the objects instead of writing it (e.g., brushing teeth, waking up, reading a book, dancing, bananas, birds, snake, dog, 'Twinkle Twinkle Little Star', football, etc.). Put them in a box or bag.

2 One child picks a card and does not show it to anyone else.
This child tries to get the others to guess what the word on the card is by acting out the word on the card using their body movements. The child must try to do this without saying a word and within a set time limit.

3 Before acting out the word, the child can let the others know the category of the word or phrase and how many words it contains. In both cases, they must do this without speaking.

4 Category: Pretend to sing if it's a song. Make the action for a movie camera if it's a film. Make the action for a book if it's the name of a book, etc.

5 Number of words: Hold up the number of fingers (e.g., if the phrase is "playing football" hold up two fingers). Whoever guesses the word or phrase correctly is next to pick a card and repeat the game.

6 Work cooperatively until everyone takes a turn to pick a card.
If playing with several children, divide them into two teams of equal size. A player from team one draws a card and his/her teammates try to guess the answer before the timer goes off. Then a player from team two draws a card and his/her teammates try to guess the answer before the timer goes off.

7 The game continues until there are no more cards or until every player has had an equal number of turns. Count how many cards were correctly solved within the time limit. That is the score.

Activity Extensions:

Mix word cards from different themes together to make the activity harder or only put phrases on the word cards that have more than one word.

Make a scene: Pick two cards and act or draw a sentence that uses the two words.

Create a Daily Family Routine

LEARNING AREA: Language & Literacy (English or Kiswahili)

ACTIVITY 07

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Items to make activity cards: manilla paper, notebook paper, cardboard, writing utensils
2. Items to hang/display the routine: photographs, newspaper, manilla paper, sticks, string

OBJECTIVES

- Understand and use thematic vocabulary
- Learn how to prioritise different activities in a limited timeframe
- Citizenship as children understand and appreciate different daily routines

INSTRUCTIONS ON HOW TO PLAY:

1 

Talk to your child about what you usually do in a day. What do you do in the mornItems to hang/display the routine: photographs, newspaper, manilla paper, sticks, string ing/before lunch? When do you eat/rest/play/spend time with family? What time do you read books? What activities do you like doing the most?

2 

Draw and/or write each activity on a piece of paper, for example, meetings, cleaning, game practice, etc. Discuss which of these activities requires preparation on a previous day and how to fit this into your routine.

3 

Include activities such as making beds and tidying rooms, taking a shower, brushing teeth, eating breakfast together, clearing and washing the utensils, etc.

4 

Label each activity with how long it should take. Arrange the papers in sequence to illustrate the routine for the day. Discuss if you have enough time to complete everything in a day. If not, how do you choose which activities are the most important to complete?

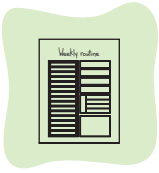
5 

If you wish to make this more permanent for the child to display it, stick the pieces of paper on to a large sheet of paper or attach the cards together with string or sticks.

6 

If multiple children are completing the activity, discuss the similarities and differences between their routines.
Discuss why routines are important for children and families.

Activity Extensions:



Use the activity to create a study schedule for children to focus on different subjects.

Have older children develop their own routine that is separate from the family routine.Repeat the same activity but this time make a weekly routine, e.g. doing laundry, cleaning, etc. Discuss how a weekly routine is different from a daily one (I.e. how is Monday or Friday different from Saturday?)

Include activities that only occur occasionally (on certain days or only a few days a month) on the weekly routine in a different colour. Discuss how these activities change the overall routine.

Discuss how the current routine is different from when children are going to school and parents are going to work.

Cook Meals Together

LEARNING AREA: Language & Literacy (English or Kiswahili)

ACTIVITY 08

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Ready-made recipe cards
2. Materials to write recipes
3. Materials and ingredients to make recipes (optional)

OBJECTIVES

- Use appropriate cooking vocabularies while giving instructions
- Write their own recipes of the dishes the learners like
- Demonstrate how to cook their favourite dishes, e.g. in a radio talk show

INSTRUCTIONS ON HOW TO PLAY:

1. Look up or write down different recipes for your child's favourite meals.

2. Talk about the different sections in a recipe, e.g., ingredients, instructions, photo (optional), nutritious information, etc.

3. Have the children create their own recipes, including for food that they eat at home or a new invention.

4. Children present their recipes by explaining the ingredients and instruction for preparing the meal.

5. If there are gaps in the instructions (e.g., missing or unclear steps), discuss and correct them.

Activity Extensions:

Do a cooking demonstration, e.g., cook ugali, tea, etc. while explaining each step with details.

Make the recipes together and share with the family. Have your child present the recipe and dish to other members of the family.

Repeat the same activity with a different adult or sibling teaching the recipe.

Ask a neighbour or friend for their family's recipe for their favourite dish. Follow their recipe to make that food. How is their recipe different from your family's recipe?

Sentence Jumble Race

LEARNING AREA: Language & Literacy (English or Kiswahili)

ACTIVITY 09

Primary: Ages 9-13

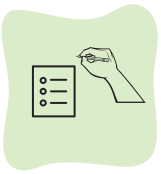
SPECIFIC MATERIALS NEEDED

1. Paper, milk cartons, cardboard, etc.
2. Container to mix the words, e.g., hats, tins, cups, bag, etc.
3. Writing utensil, e.g., pen, pencil, etc.

OBJECTIVES

- Make sentences about things learners wish they could do
- Identify similes in the sentences they have made example swim like a dolphin, fly like a bird
- Formulate sentences using the similes the learners have identified
- Encourage teamwork

INSTRUCTIONS ON HOW TO PLAY:

1 

Write up several sentences with your child about any topic, using different colours for each sentence. Each person should write at least 3-5 sentences. For example, "I wish I could swim like a dolphin" or "It is fun to watch the birds fly by", etc.

2 

Cut up each sentence into individual words.

3 

Each person places the individual words for all of their sentences in a container like a hat or cup. Mix up the words and exchange your container of words with another person.

4 

Each person uses the words to try to recreate the original sentences.

5 

The winning person is the first person to have all sentences correctly ordered.

Activity Extensions:

Make it a race: Introduce a time limit and note how much time it takes for each person to solve the sentences.

Have each team write both English and Kiswahili sentences. Children will need to sort the words into languages and then make the sentences.

Cut out words from newspapers and have each team see how many sentences they can make from the chosen words.

Make longer sentences or even paragraphs on academic topics. For example, "Scientists are working on several solutions to reverse the effects of global warming, etc."

Letter Writing Campaign

LEARNING AREA: Language & Literacy (English or Kiswahili)

ACTIVITY 10

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Paper
2. Pens, pencils

OBJECTIVES

- Identify different formats of writing letters and acquire letter writing skills
- Describe problems and identify solutions in written form
- To improve imagination and creativity

INSTRUCTIONS ON HOW TO PLAY:

1 

Ask your child to identify problems facing their school and/or environment.

2 

Teach and model how to craft a successful letter campaign for your child. Help them with form and grammar where possible. Together, write a letter campaign about their concern, e.g., about how pollution is affecting their performance at school.

3 

Ask different children to read their letters aloud.

4 

Discuss what children can do with the letters to take action, e.g., send them to school boards and local municipal governments.

Activity Extensions:

Write a formal letter.
PO BOX 300-0011
Kamingo
17th August 2017
The Secretary- Mountaineering Club,
PO BOX 210-000
Maua

Dear Sakwa,
Ref: Mountain climbing exercise
I am very
happy----------

Yours sincerely,
Zani

NB: The senders address can be written on the far right-hand side.

Write an informal letter.
29, Palm Beach Road,
Mumbai
10 December 2012

Dear Vicky,
I hope this letter finds you in the best of spirits.

See you soon.
Kind regards
Zena

Start Your Own Shop

LEARNING AREA: Language & Literacy (English or Kiswahili)

ACTIVITY 11

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Price list, empty food containers, oil and soap boxes pretend money and pen.
2. Shelves, basket/cart/bag

OBJECTIVES

- Improve social skills (asking for help, effective communication, problem solving and turn taking)
- Acquire new vocabulary and use it during the role play
- Improve imagination and creativity skills

INSTRUCTIONS ON HOW TO PLAY:

1 

Children can play different characters, i.e. shopper/buyer, cashier (others could be shop attendant and security/guards).

2 

Arrange empty boxes of food, soap and clothes on the table. Have the children guess the price of these products and put price tags on each item.

3 

Everyone takes their positions (e.g., cashier by the pretend cash register). The shoppers walk into the store and chooses the items they wish to purchase and take them to the cashier to pay. The children should have conversations with each other in their roles, e.g., shoppers can compare objects and prices and ask the cashier if there are any new deliveries or special deals going on.

4 

The cashier totals and packs all the items. The shopper pays for the items. Have a conversation about the method of payment and delivery.

5 

The cashier makes change and gives the receipt to the shopper and sees the shopper out of the store.

6 

Practice words like welcome, after you, please, thank you, goodbye, etc. when speaking.

7 

Talk about the experience of being a shopper/cashier and what one should or should not say or should do or should not in a shop.

Activity Extensions:

Categorize and sort the items.

Create sales or offers, e.g., 2 for the price of 1 or 25% off and encourage shoppers to buy these products.

Have one of the buyers pretend to steal something and the guard catches them. Act out the scene. Talk about honesty when shopping.

Give the shoppers a budget, i.e., they can only spend 100 KSH.

Word Scramble

LEARNING AREA: Language & Literacy (English or Kiswahili)

ACTIVITY 12

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Flashcards, plain papers, chalkboard, plain wall
2. Chalk or marker pens

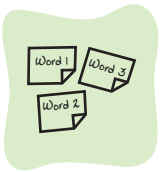
OBJECTIVES

- Improve spelling and mastery of new vocabulary
- Develop problem-solving skills

INSTRUCTIONS ON HOW TO PLAY:

1 

Choose 20 English and/or Kiswahili theme-based words, e.g., occupations.

2 

Write the words on individual pieces of paper but mix up the letters in each word, e.g., “craehet”, “dtrooc”, “liocpcfioefre”, “fnirema”, “resnu”, “uibvsredr”, etc.

3 

Put the words in a bag or container and shake them up.

4 

The child can take the word out one at a time and try to identify and then spell (verbally or in writing) the word, e.g., if the child pulls out ”craehet”, the child will need to rearrange the letters to say and write the word ”teacher”.

5 

Give hints to your child if necessary to help them rearrange the letters in the correct order.

6 

If playing with multiple children, you can divide them into two groups and play as follows: One child from each group is given a card from the container (both children are given the same card), tries to recognize the word then write the correct word on a piece paper. As soon as one child is finished, the next child from their team is given the next word from the container. This continues until time is up, e.g., 2 or 3 minutes. The group that unscrambles the most words correctly is the winning team.

Example:

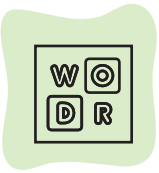
- craehet - teacher
- dtrooc - doctor
- liocpcfioefre - police officer
- fnirema - fireman

Activity Extensions:

Talk about the occupations and add a writing activity using the words. Sample writing prompts:

- Create a story with at least 2 of the occupations.
- Write about an occupation that you think is the hardest in the world.
- Write about what occupation you would like to have in the future.

Play the same game with a different theme of scrambled words or have children create their own scrambled words to use.



Unscramble sentences instead of words.

Multiplying with Plates

LEARNING AREA: Mathematics

ACTIVITY 13

Primary: Ages 9-13

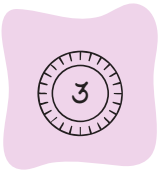
SPECIFIC MATERIALS NEEDED

1. Paper plates or paper/cardboard
2. Pens/markers

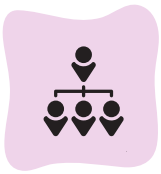
OBJECTIVES

- Solve mathematical problems using multiplication
- Critical thinking and problem-solving skills
- Teamwork, communication and collaboration

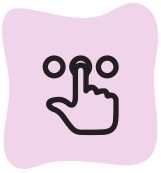
INSTRUCTIONS ON HOW TO PLAY:

1 

Children write the numbers 1-20 on 20 paper plates.

2 

Divide children into groups.

3 

Every child chooses a paper plate to hold.

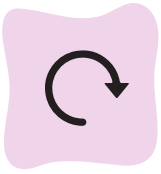
4 

An adult calls out a number and the children get into groups based on how they can arrange the numbers written on their plates into a multiplication equation that will equal the number that was called out.

5 

Example: If 22 is called out, children with the numbers 2 and 11 form a group because 2 x 11 = 22.

Activity Extensions:



Children can play the same activity with division.

Prime Numbers

LEARNING AREA: Mathematics

ACTIVITY 14

Primary: Ages 9-13

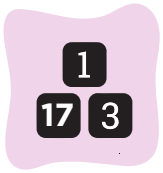
SPECIFIC MATERIALS NEEDED

1. Paper, cardboard, or bottle caps with numbers written on them
2. Pen, pencil, or marker

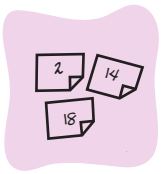
OBJECTIVES

- Learn and identify prime numbers
- Critical thinking and problem-solving

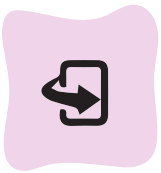
INSTRUCTIONS ON HOW TO PLAY:

1 

Prime number is a number which has 2 divisors 1 and itself (e.g., 13, 17).

2 

Number 18 cards, pieces of paper, or bottle caps with the numbers 1 - 18. Mix them up and arrange them face down in a grid – 6 cards per row, 3 cards per column.

3 

Have the child turn over one card. Another child turns over a second card - do they add to a prime number?

- If yes, move the two cards to the side in a pair
- If not, turn them back over and continue to play the game

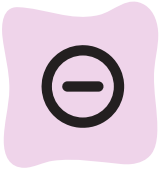
4 

An adult calls out a number and the children get into groups based on how they can arrange the numbers written on their plates into a multiplication equation that will equal the number that was called out.

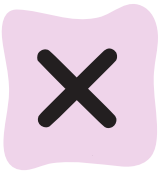
5 

The game ends when you cannot find any more pairs that make a prime number.

Activity Extensions:



Subtraction: When the two cards are turned over, do they subtract to make a prime number?



Multiplication: Multiply the two numbers to see whether they make a prime number. Why do most pairs or numbers not make a prime number when multiplied together?

Hopscotch Maths

LEARNING AREA: Mathematics

ACTIVITY 15

Primary: Ages 9-13

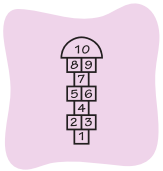
SPECIFIC MATERIALS NEEDED

1. Charcoal, chalk, masking tape, or stick (to draw the grid and numbers)

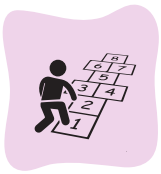
OBJECTIVES

- Differentiate between odd and even numbers
- Identify odd and even numbers given in a series of numbers
- Recognize that numbers can be classified into different categories

INSTRUCTIONS ON HOW TO PLAY:

1 

Have your child draw a grid of 30 squares, each 1 foot x 1 foot, on the floor/on the ground and number the squares 1 to 30.

2 

Have each child jump from even number to even number: 0,2,4,6,8,10,12,14,16,18,20,22,24,26 ,28,30.

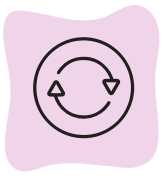
3 

Each child's turn ends when he or she accidentally steps out of a square or lands out of the correct sequence.

4 

If no one misses a step, make the game harder by hopping on one foot.

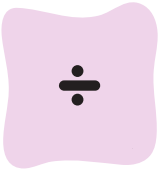
Activity Extensions:



Play the same game to practice odd numbers, e.g., 1,3,5,7,9,11,13,15,17,19,21, 23,25,27,29.

Throwing games: Each child throws a beanbags or small stone to land inside the square of a number without touching the border. This number should be skipped when jumping on all even or odd numbers.

Practice multiplication: Choose a times table, e.g., 4. Children should try to jump only on numbers that fall in the times table chosen.



Practice division: Choose a number between 1 and 30, e.g., 28. Children should try to jump only on numbers that are denominators of the chosen number.

Reflex Catch

LEARNING AREA: Mathematics

ACTIVITY 16

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Bean bag/small ball or pair of socks

OBJECTIVES

- Improve number recognition skills
- Coordinate between the right and left sides of the body when given different prompts
- Develop self-efficacy, imagination and creativity skills

INSTRUCTIONS ON HOW TO PLAY:

1 

Stand 3m apart from your child and warm up by throwing a bean bag (or something similar like a small ball or a pair of socks) to each other. Throwing under arm works as well!

2 

When the thrower shouts “Number 1”, the bean bag must be caught with your left hand, with the right foot stepped forward.

3 

If they call out “Number 2”, the bean bag must be caught with your right hand, with the left foot stepped forward.

4 

Start throwing the beanbag again with each thrower calling out “one” or “two” just before the beanbag is thrown.

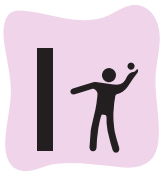
5 

To make the activity more complicated, add “Number 3” and “Number 4” to the game. “Number 3” means catching the beanbag with the right hand, with the right foot stepped forward and “Number 4” means catching the beanbag with the left hand, with the left foot stepped forward..

6 

See how many perfect throws and catches you can make in a row without dropping the bean bag.

Activity Extensions:



Wall Ball: find a wall and start throwing a bouncing ball against it, calling numbers 1 – 4 to alternate the catching hand and foot stance.

Multiplication Bingo

LEARNING AREA: Mathematics

ACTIVITY 17

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Bingo card: Paper, blackboard or on the ground
2. Pencil, chalk, or stick
3. Number cards, bottle caps, or wooden blocks (optional)

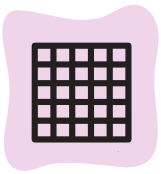
OBJECTIVES

- Increase speed, fluency and confidence when multiplying two numbers
- Practice multiplication of single-digit numbers
- Critical thinking and problem solving

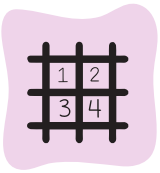
INSTRUCTIONS ON HOW TO PLAY:

1 

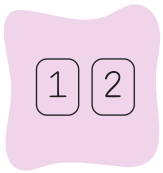
Prepare number cards with the numbers 1 to 10 on them.

2 

Draw a 5 by 5 grid on a piece of paper or on the ground.

3 

In the grid, place or write any numbers between 0 and 50. Put 1 number in each square for a total of 25 numbers. Place the remaining number cards in a deck.

4 

Draw two numbers cards from the deck, e.g., 2 and 6.

5 

The child multiplies the two numbers (2x6 = 12) and looks to see if the number is on their grid. If it is, they cross it off, e.g., if there is a 12 in the grid, cross out the 12. If it is not on the grid, the next player gets to take a turn.

6 

The child calls “bingo” when all of the numbers on the grid are crossed out.

Activity Extensions:

Make the game harder: Make the grid bigger (6X6 or 8X8) and increase the possible numbers, e.g., 0 to 100.

Multiplication Catch

LEARNING AREA: Mathematics

ACTIVITY 18

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Small ball – improvised with stuffed old socks

OBJECTIVES

- Improve mastery of multiplication tables
- Critical thinking and problem solving

INSTRUCTIONS ON HOW TO PLAY:

1 Stand 3m apart from your child and warm up by throwing a bean bag (or something similar like a small ball or a pair of socks) to each other. Throwing under arm works as well!

2 Choose a multiplication table for your child to work on. The thrower should ask a multiplication question from that table, e.g., "What is 3 x 5?"

3 When the ball is caught, the second person should give the answer "15" and ask another multiplication question to the first person.

4 For every incorrect answer, the child should take a step backwards to lengthen the distance between the thrower and the catcher.

Activity Extensions:

Keep it open-ended: Instead of choosing a specific times table have the child answer any multiplication question. This will require children to listen even more carefully.

Change the mathematic skill: Play the same game but change to adding double digits, subtracting double digits, or division.

Straw Polls

LEARNING AREA
Mathematics

ACTIVITY
19

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Paper/pencil
2. Straws (or any other object to serve as a "marker" - e.g., stones, beans, coins, bottle caps)

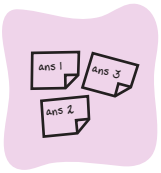
OBJECTIVES

- Use polls to generate data
- Write mathematical statements
- Citizenship as learners explore and understand different perspectives

INSTRUCTIONS ON HOW TO PLAY:

1 Choose a question to solicit an opinion, for example, "how important is it to go to school?" or "our community is doing a good job or taking care of the environment".

2 Discuss possible answers with your child and organize them in a logical order: "not all, a little, somewhat, important, very important" or "disagree, not sure, agree"

3 

Write the possible answers on a piece of paper (one answer per paper).

4 Have the children vote for their answer by each putting a straw on the piece of paper matching their response. Have a child count the number of straws for each response.

5 Discuss and write the results in different ways.
- 3 out of 5 children said ...
- Half the children said ...
- 20% of the children said ...
- The most popular answer was ...

Activity Extensions:

Children can create their own polls and survey family and friends. For example, "what to have for the meals?", "who should do certain house chores?" "what games should be played at home and in schools?", etc.

Round the Block

LEARNING AREA: Mathematics

ACTIVITY 20

Primary: Ages 9-13

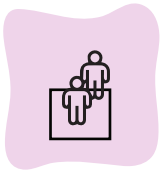
SPECIFIC MATERIALS NEEDED

1. Ball

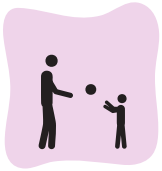
OBJECTIVES

- Apply mathematical knowledge in a game situation
- Improve mental maths
- Creativity and imagination as children create their own maths challenges

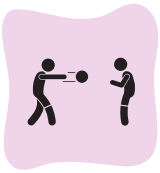
INSTRUCTIONS ON HOW TO PLAY:

1 

Have children stand in a square.

2 

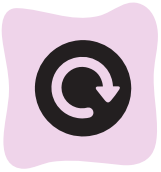
Give one child a ball and a maths challenge that will require a list of responses, e.g., count by 2s from 0 to 100 or count backwards from 100 in 7s, or name objects that that have right angles.

3 

Before the child starts to respond, they pass the ball to the person next to them. As the ball is being passed around, the child tries to give as many responses as possible to the maths challenge before the ball returns to them. Note the number of correct responses.

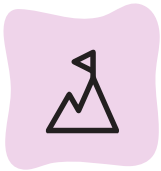
4 

Move to the next child. Set a new maths challenge and send the ball around the square in the opposite direction.

5 

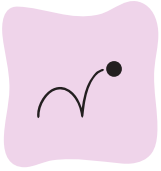
Repeat as many times as you like.

Activity Extensions:



Have children set the maths challenge for each participant.

Have children stand in different formations, e.g. rectangle, circle, triangle, etc



Have children bounce or dribble the ball while responding to the maths challenge

Shadow Drawing

LEARNING AREA: Mathematics

ACTIVITY 21

Primary: Ages 9-13

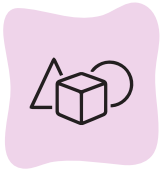
SPECIFIC MATERIALS NEEDED

1. Pen, pencil, sticks, charcoal, sand
2. Paper, old cartons/ boxes, old calendars
3. Torch/any other spotlight

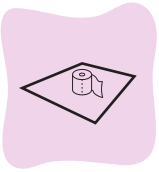
OBJECTIVES

- Understand the concept of time by how shadows are formed
- Practise drawing shadows of different objects
- Creativity and imagination

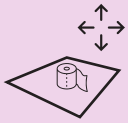
INSTRUCTIONS ON HOW TO PLAY:

1 

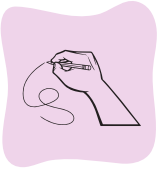
Have the child find any object that they would like to draw.

2 

Place the object on a blank sheet of paper under natural sunlight. Adjust the placement of the object so that the child sees a shadow.

3 

Do you get a shadow? If yes, draw it. If not, why not? Try moving the paper and object somewhere else so that a shadow is created.

4 

Using a pen or pencil, the child draws the outline of the shadow formed by the object.

5 

Explain to your child what the length and angle of the shadow means about the time of day and position of the sun relative to the object.

6 

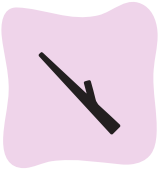
The child can decorate the shadow drawing using colours.

7 

Repeat the activity at different times of day to understand how time affects shadows.

Activity Extensions:

Repeat the same activity using a torch instead of sunlight. Experiment with moving the torch closer to or farther away from the object. How does changing the position of the torch and distance from the object change the shadow? Does it get smaller? Bigger? Longer? Shorter? Rest the torch on something so that the child can use both hands to draw the shadow.



You can draw the object's shadow on the ground using a stick. Make shadow puppets with sheets and light, using what you have learned about shadows.

Children can also draw their siblings' shadows on the ground.

Build a Bridge

LEARNING AREA: Mathematics

ACTIVITY 22

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Toy truck (or any other item to symbolize the toy truck)
2. Newspaper
3. Objects to test how much weight the bridge can hold (e.g., bottles, sticks, stones, coins, marbles, books, people) tissue rolls, straws

OBJECTIVES

- Explore concepts of balance, weight, and surface area
- Critical thinking and problem-solving skills
- Communication and collaboration

INSTRUCTIONS ON HOW TO PLAY:

1 

Help your child create a paper bridge using only newspaper. Try to create a paper bridge that is strong enough for a toy truck to cross over the bridge without it collapsing. Give your child hints on how to make the paper bridge stronger by rolling or folding and layering the newspaper to make it stronger.

2 

Have your child play the truck driver who wants to transport their farm produce to the market across the river.

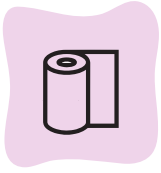
3 

When your child calls out “wasee wasee”, respond with “msee msee”. The truck driver will then say “nataka kuvuka ng’ambo ile lakini daraja kaporomoka”. You should then respond by telling the driver to say the magic word and a bridge will be built for them.

Activity Extensions:

Try putting different objects on the paper bridge (e.g., stones, coins, marbles, books). How much weight can the bridge hold before it collapses?

Talk about the decisions that were made when constructing the bridge. What helped make the bridge stronger? Why?



Use different materials like tissue rolls to create pillars to support the bridge.

Wave Machine

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Tape, string, paper clips
2. Sticks: straws/bamboo skewers/toothpicks/sweeping broom struts/sticks
3. Chairs/stools Heavy objects to hold the tape, books, stones, etc

OBJECTIVES

- Describe the nature of a wave in motion
- Relate the length of the medium to the wavelength
- Develop creativity and imaginative skills

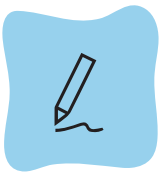
INSTRUCTIONS ON HOW TO PLAY:

1 

Help your child to prepare 20 straws, 40 paper clips, and 2 long pieces of tape.

2 

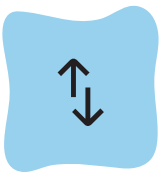
Put down a long piece of tape on the ground with the sticky side facing upwards.

3 

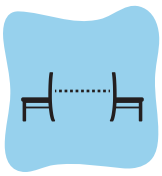
Draw a line down the centre of the tape using a permanent marker or pen. Mark the line at equal intervals, i.e. every 4 centimetres.

4 

Have your child stick the straws on top of the equal markings in a row, all facing in the same direction. This means that the straws should be perpendicular to the long piece of tape, with half of the straw on each side of the piece of tape.

5 

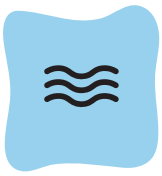
Do this from the top to the bottom of the long piece of tape until all of the straws are stuck.

6 

Stick each end of the tape to a chair on each side. The length of the space between the two chairs depends on how long the piece of tape is. Put something heavy on top of the tape ends so that it doesn't fall.

7 

Lightly hit one end of the straws and watch a tape wave being created.

8 

Experiment by hitting the wave machine at different places along its length or with different amounts of strength. Discuss how this changes the length or speed of the wave.

Activity Extensions:

Add weights: add weights of equal sizes to both sides of every stick. For example, cut old used slippers into small rounds of equal sizes or use small and equal sizes of clay. How does this change the wave machine? If you remove some of the weights, how does this change the wave?

Wave motion machine: make a wave cell by cutting a bottle vertically, fill it with water halfway. Using a rolling object, like a pipe, roll the cut bottle with water on top of the rolling object slowly. You will see wave in motion.

Magic Paper

LEARNING AREA
Science & Technology

ACTIVITY
24

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Basin/bucket/sink/container Glass/cup
2. Water
3. Paper/tissue paper/serviettes

OBJECTIVES

- Identify the effect of air pressure
- Develop observation skills

INSTRUCTIONS ON HOW TO PLAY:

1 

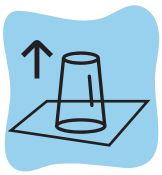
Have your child take a piece of paper towel or paper and push it to the bottom of a glass or cup. Pack the paper towel in very tightly so that it will remain in the bottom of the glass even when the glass is turned upside down.

2 

Fill a bowl/bucket with water that is slightly higher than the height of the glass.

3 

Have the child places the glass straight upside down into the water in the basin. Do not tilt the glass when putting it in the water!

4 

Have your child lift the glass from the water and remove the paper from the glass. What do you notice about the paper? Is the paper wet or dry? Why? The paper should be dry.

5 

Explain why the paper is dry after the experiment: the air pressure in the glass pushed the water out, so that the water could not go into the glass to get the paper wet.

6 

If the paper was wet after experiment, explain why: the child tilted the glass when dipping it in the water, allowing the air inside to escape and the water entered the glass.

7 

If your child's paper was wet, give them a chance to repeat the activity to see if they can produce a dry paper.

Activity Extensions:

Cardboard floating: fill a cup with water halfway and place a piece of cardboard on top of the glass. Use a hand to hold the cardboard in place firmly. Turn the glass upside down and remove the hand holding the cardboard in place. What happens? The cardboard will stay firmly attached to the glass without falling. This is because the air pressure inside and outside of the cup remains the same if the cardboard was held tightly against the cup when it was turned over. If the cardboard did not stay attached and the water came out, discuss what went wrong with covering the cup with the cardboard when it was turned over.

Blowing balloon inside a bottle: insert a balloon in a plastic bottle and fold the edges of the balloon around the neck of the bottle. Try to blow up the balloon. What happens? The balloon won't be able to blow up. This is because there is already air inside of the bottle and if the neck of the bottle is covered with the balloon, there is no place for that air to escape and get replaced with the child's breath. Repeat the activity, but this time hold the balloon inside the bottle without the balloon edges covering the neck of the bottle. Try to blow up the balloon and discuss why the balloon now blows up to the size of the bottle.

Lava Lamp

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. A glass or plastic bottle (water bottles)
2. Liquid vegetable oil, water, food colour
3. Baking soda or alka-seltzer

OBJECTIVES

- Describe what density, polarity, viscosity, and solubility
- Develop the child's critical thinking and problem-solving skills

INSTRUCTIONS ON HOW TO PLAY:

1 

Fill a glass or plastic bottle of the way with cooking vegetable oil. Fill the rest of the glass with water and observe what happens. What can you see?

2 

Add drops of food colour to the mixture and observe. What do you see?

3 

Put a little baking soda or Alka-Seltzer in the mixture and observe. Now what do you see?

4 

When the liquids settle, observe the liquid fizz carrying the coloured water bubbles through the oil. Talk about your observations. What is happening at each stage?

5 

Explain what happened to your child:

- Before the Alka-Seltzer was added to the bottle, the oil floated on the coloured water because it is less dense than water (density). Oil and water don't mix because water molecules are not attracted to oil molecules (polarity and viscosity).
- When the Alka-Selzer tablet was added to the oil and water, it sunk to the bottom because it is denser than oil and water. The tablet began to dissolve in the water and the chemicals in the tablet reacted with each other to create bubbles of carbon dioxide gas (solubility).
- When enough gas entered the volume of water, the water-and-gas mixture became less dense than the water around it and the oil above it, so it floated up through both the water and oil.
- Since the water was attracted to itself and not to the oil, the water-and-gas mixture moved through the oil in a ball shape, like a bubble. Once a ball of water-and-gas got to the surface, some bubbles of carbon dioxide gas popped, releasing the gas into the air. When enough bubbles popped, the water-and-remaining gas became denser than the oil. So the bubble sank down through the oil and joined the rest of the water.
- Changes in density as gas is added to or taken away from water cause it to float up and sink down through the oil. Thus the lava lamp is created!

Activity Extensions:

Change the order of the steps: does anything change when you put the food drops first and then add the oil and water?

Add objects to the lava lamp: small stones, glitter, leaves, etc. What happens to them?

Pour a small amount of water in a cup. Next dip the tip of the paper tower/tissue paper/serviette into the water and leave it to sit. What do you notice over time? Why does the water 'climb up' the paper towel? What property of water does this demonstrate?
Answer: the water climbs up the paper tower over time because of capillary action

Walking Water

LEARNING AREA
Science & Technology

ACTIVITY
26

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Glasses/cups/mugs (clear, if possible)
2. Water
3. Paper/paper tissue/piece of cloth Food colour/paint/pen

OBJECTIVES

- Apply prediction and observation skills
- Develop understanding of how water can be transported through capillary action
- Critical thinking and problem solving

INSTRUCTIONS ON HOW TO PLAY:

1 

Have your child line up 7 glasses/cups in a row. Fill every other glass/cup with water, e.g., glasses 1, 3, 5, and 7 will have water, but glasses 2, 4 and 6 will not.

2 

Put food colouring in each of the water-filled glasses. Use different colours in each glass if you can. If you don't have food colouring, then use a little bit of paint or make a mark on the glass to show the water line.

3 

Fold 6 half-sheet of paper or tissue paper into a narrow strip of one inch wide. Then fold them in half lengthwise to form a "V" shape that is slightly taller than the glasses.

4 

Ask your child to make a prediction about what will happen when the papers are inserted into the glasses.

5 

Turn the "V" papers upside down. Take one paper and put one end in glass 1 and the other in glass 2. Take the next paper and put one end in glass 2 and the other end in glass 3. Repeat until all you reach the end of the row.

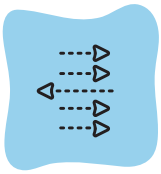
6 

Discuss what happens when the "V" papers are inserted into the water, e.g., the papers begin absorbing the liquid.

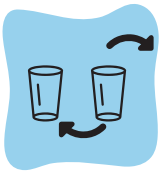
7 

Watch and wait what happens to the papers. The transformation might take a few minutes or it might take a few hours. What changes do you observe in the papers? What changes do you observe in the glasses? The empty glasses should now have liquid in them because the papers have sucked up the water and transferred it to the empty glass. The process is called capillary action, the tendency of a liquid in absorbent material to rise or fall as a result of surface tension.

Activity Extensions:



Try placing your glasses/cups in different arrangements instead of a straight line and make your observations about what happens to the papers and glasses.



Experiment with changing the number of glasses, the amount of liquid, the water level.

Ask children to write about what they did, what happened, and what they learned.

Why do Fruits Turn Brown?

LEARNING AREA
Science & Technology

ACTIVITY
27

Primary: Ages 9-13

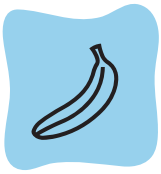
SPECIFIC MATERIALS NEEDED

1. Banana, apple
2. Knife/folk/spoon/Plates
3. Lemon juice Timer/watch

OBJECTIVES

- Apply prediction and observation skills
- Describe different fruit preservation methods
- Critical thinking and problem solving

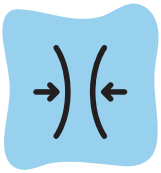
INSTRUCTIONS ON HOW TO PLAY:

1 

Have your child cut two slices from a fresh banana and place them on two different plates.

2 

Ask your child to predict what will happen if you leave them out for 15-30 minutes. Discuss and write the predictions.

3 

Ask your child to predict what will happen if you squeeze some lemon over one of the slices. Discuss and write the predictions.

4 

Squeeze a little lemon juice over one of the slices and label the plate.

5 

Wait for about 15-30 minutes and observe. You can use timer to get an accurate measurement of time it takes for the banana slice to turn brown..

6 

Discuss what your child sees. Compare the observations to the predictions, e.g., how close or not were your predictions? Note: the one with lemon should not have changed colour but the one without lemon should have turned brown.

7 

Explain what happened:

- The slice that turned brown was due to a process called oxidation. Oxidation is the process of oxygen combining with an element or substance thus changing the appearance of the element or substance (combination of a substance with oxygen).
- The slice with lemon did not turn brown because the lemon juice coating prevents the oxygen from combining with the slice, thus preventing oxidation from taking place.

Activity Extensions:

Apple oxidation: investigate which liquid stops the apple slices from turning brown by applying different apple slices with: salty water, lemon juice, milk, drinking water, ginger juice and vinegar.

Banana oxidation: carefully dip the bottom third of an unpeeled banana into boiling water for 30 seconds and then remove it. Observe the banana for three minutes. When the banana has cooled down, peel the banana, look at the fruit that was inside the peel and then make observations.

Sink or Float

LEARNING AREA
Science & Technology

ACTIVITY
28

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Papers, water, strings, cups, glass, pens and pencils
2. Different types of small objects that might sink or float
3. Large bowl or basin filled half-way with water

OBJECTIVES

- Apply prediction and observation skills
- Identify the properties of objects that sink and float
- Critical thinking and problem-solving skills

INSTRUCTIONS ON HOW TO PLAY:

1 

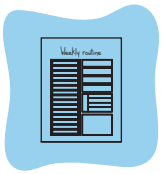
Talk about the meaning of the words “sink” and “float”.

2 

Have your child make some predictions/hypotheses about the various objects you have collected by grouping them into “sink” and “float” piles. What makes them think that certain objects will float while others will sink?

3 

Test the objects by dropping them in water in a large bowl or basin.

4 

Make a chart of the objects, the hypotheses and the actual results.

5 

Discuss the results and draw conclusions: were your hypotheses correct? What do the sinking objects have in common? What makes an object float?

6 

Discuss what your child sees. Compare the observations to the predictions, e.g., how close or not were your predictions? Note: the one with lemon should not have changed colour but the one without lemon should have turned brown.

Activity Extensions:

Apple oxidation: investigate which liquid stops the apple slices from turning brown by applying different apple slices with: salty water, lemon juice, milk, drinking water, ginger juice and vinegar.

- Explain how this works: a raw egg has more density than tap water. Adding salt increases the density of water until the point that the saltwater density is greater than the egg. Then the egg floats.

Talk about swimming in saltwater versus fresh water.

Try the experiment with other materials.

Build a Roller Coaster

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Pebbles or a small ball (ping pong ball) Scissors, Glue/Tape
2. Straws, A cup or bowl to catch the ball
3. Paper towel or toilet paper tubes

OBJECTIVES

- Demonstrate how to manipulate objects and apply force and energy to move an object from one end to another
- Critical thinking and problem-solving skills

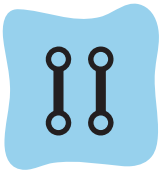
INSTRUCTIONS ON HOW TO PLAY:

1 

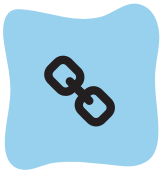
Explain the goal of the activity to your child: to design a roller coaster that can transport a pebble from one end to the other getting stuck or stopping.

2 

Have your child use cups, straws, sticks and masking tape to make a track for the roller coaster.

3 

Check that the straws or sticks are parallel to allow the pebble or small ball to balance on without falling off. Experiment with how wide the straws can be from each other before the pebble falls to the ground.

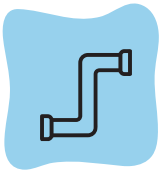
4 

Help your child join the straws together.

5 

Don't make the track completely straight! Use the straws to make twists and turns or changes in height for the pebble to follow like a real roller coaster.

Activity Extensions:



Encourage your child to use different materials such as pipes, tree bark, papers, etc.

Build a roller coaster that goes over or under chairs or tables and comes out on the other side. What height distance is possible before the pebble stops or gets stuck?

Atmospheric Pressurer

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Funnel, Bottle/glass
2. Clay/soil
3. Juice/coloured water

OBJECTIVES

- Make observations and record findings
- Understand how air pressure can affect liquids
- Critical thinking and problem solving

INSTRUCTIONS ON HOW TO PLAY:

1 

Have your child collect the required materials from their neighbourhood, e.g. bottles, straw, clay, liquid (juice or coloured water).

2 

Have your child put the juice in an empty bottle and insert a straw into a bottle.

3 

Help your child fix clay or soil around the top of the bottle to seal the top shut.

4 

Have your child try to suck the juice out of the bottle using the straw. Observe what happens to the bottle.

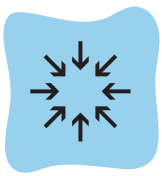
5 

Discuss why the bottle begins to collapse in on itself. The atmospheric pressure requires the bottle to be full of something if the liquid is being sucked out. However, if the top of the bottle is sealed, air cannot get in and so the bottle collapses on itself.

5 

Repeat the activity without the clay sealing the bottle top shut and discuss why the bottle does not collapse on itself. Air can replace the space of the liquid as it is drunk, and so maintains the same air pressure.

Activity Extensions:



Exert pressure: have your child fix a funnel in an empty bottle and put clay on the mouth of bottle (which is covered with a funnel). Help your child put water into the funnel. Observe and record your findings. The water should flow slowly due to lack of air pressure.

About My World

LEARNING AREA

Creative Arts and Movement

ACTIVITY

31

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Empty notebook/scrapbook
2. Office Glue/improvised glue
3. Newspapers/magazines/tiny objects

OBJECTIVES

- Collect material from the environment that can be used to represent their ideas
- Categorise objects into groups based on their different characteristics
- Decision-making skills while selecting objects and pictures
- Creativity and imagination as they decide how to create and decorate their scrapbook

INSTRUCTIONS ON HOW TO PLAY:

1 

The child picks a topic/theme that they are interested in and want to share with others. Help your child make a scrapbook from recycled paper or an empty notebook.

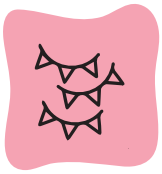
2 

Find objects or pictures that relate to the chosen topic/theme in newspapers or magazines.

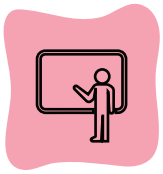
- Examples of objects: feathers, leaves, stones, items around the house or community that can be glued into the scrapbook
- Examples of pictures: from newspaper, magazines, old books, or brochures

3 

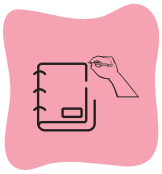
Cut out the pictures and glue the objects and pictures into the scrapbook.

4 

Decorate the pages, e.g., draw designs and pictures, add words or phrases. Talk about the items in the scrapbook and why your child selected these items.

5 

Encourage your child to show their scrapbook to friends, neighbours and family.

6 

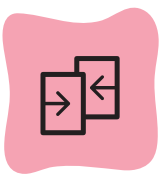
The child can write their name on the cover page of the scrapbook for ownership of the work.

Activity Extensions:

Show your child how to search for information on their preferred topic online and print images for the scrapbook on recycled paper. Help your child research about any project in other areas of their interest.

Have your child collect folktales from grandparents or other adults and rewrite the story with pictures of the characters in their notebook.

Keep a journal. Encourage your child to write about their experiences and memories associated with the objects in the scrapbook.



Children can show each other their scrapbooks and compare/contrast what they have done, e.g., what pictures and objects they selected, how they decided where they would go in the scrapbook, any other decorative elements they have included.

Freeze Tag

LEARNING AREA
Creative Arts and Movement

ACTIVITY
32

Primary: Ages 9-13

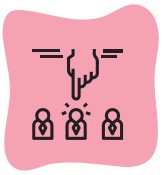
SPECIFIC MATERIALS NEEDED

1. None

OBJECTIVES

- Perform running, skipping, and hopping outdoors for strength, coordination, endurance, balance and space awareness
- Critical thinking and problem-solving skills

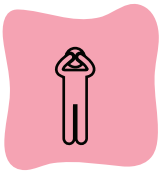
INSTRUCTIONS ON HOW TO PLAY:

1 

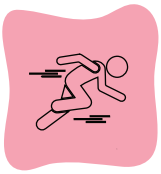
Determine which child will be “it” (the child run around tagging people).

2 

Decide which areas are out of bounds. This will provide a contained space for the kids to play in.

3 

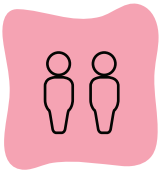
The “it” child closes his/her eyes and counts to 10. During this time, the other children run and hide.

4 

Once the “it” child finishes counting he/she opens his/her eyes and runs around trying to find and tag other kids.

5 

To tag someone, the “it” child must pat a player’s arm, shoulder or back. Children can move around as they are being chased to avoid being tagged. Once the “it” child tags a player, that player must stand still as if “frozen” in place.

6 

The game comes to an end when everyone is frozen. The last person to get tagged becomes the next “it” child.

Activity Extensions:

Shadow Tag: Play this game on a sunny day. The moon (child who is "It") has to stay in the shadow of a tree or building while the stars (other children) run in and out of the shadow. The moon can freeze a star who runs into the shadows or tag their shadow instead.

Underdog Tag: Frozen children spread their legs open to create a tunnel which another player must crawl through to unfreeze them. If a child is tagged while trying to unfreeze another, they must stand up right in front of the person they were saving, creating a double tunnel for someone else to crawl through.

Surprise Acts of Kindness

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. None

OBJECTIVES

- Identify different ways of showing kindness to one another
- Develop creativity and imagination skills

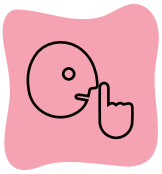
INSTRUCTIONS ON HOW TO PLAY:

1 

Encourage your child to plan secret, positive surprise acts of kindness for other people in the family for a day.

2 

Think about what surprise acts different family members would most appreciate.

3 

Ask them to do so without being discovered immediately and then enjoy the reaction to the kindness.

Activity Extensions:

Encourage your child to plan secret positive surprise acts of kindness for other people in the family throughout the week.

Work with siblings or friends to make bigger surprises for other people in the family or neighbourhood.

Explore Family Members' Personal Goals

LEARNING AREA
Creative Arts and Movement

ACTIVITY
34

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED
1. None

OBJECTIVES
- Identify goals they want to achieve and ways of achieving the goals
- Learn how to prioritise different goals
- Develop critical thinking and problem-solving skills

INSTRUCTIONS ON HOW TO PLAY:

1 

Ask your child to set a personal goal that they would like to achieve.

2 

Talk about the goal:
- Why this your goal?
- Why is it important to you?
- By when do you want to achieve this goal?
- What can you do to meet this goal you have set?
- What help do you need and from whom?
- How can you track if you are meeting your goal?

3 

Talk about what you need to do to make your goal realistic and begin to plan for it.

4 

Have the same conversation with other family members. Ask your child what they can do to support each family member to achieve their personal goal.

Activity Extensions:

Add more personal goals and prioritize them.

Discuss the personal goals of other family members and how they have changed over time. What do these goals have in common? How can the whole family work together to help achieve them now?

Map of the Neighbourhood

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Pencils, pens, markers
2. Paper
3. Ruler

OBJECTIVES

- Describe a neighbourhood by identifying its landmarks
- Create visual representations of a community
- Citizenship as children learn about important landmarks and places in their community

INSTRUCTIONS ON HOW TO PLAY:

1 Talk about what a map is. How is it used? What information does it contain? If you have one, show it to the child and discuss it.

2 Ask your child what characteristics a map has.

3 Have your child draw a map of their neighbourhood. Let the child include familiar and personal landmarks on the map, such as stores, playgrounds, a friend's or neighbour's house, the place of prayer, fire station, school, etc.

4 Check the map's accuracy. Let the child take a walk around the neighbourhood to check that the information on the map is accurate and make corrections as needed.

Activity Extensions:

Next time on a walk with your child, collect or notice different items and mark where they were found on the map, e.g., leaves, sticks, bags, newspapers, etc.

Use your map to give instructions to someone in your family. Help them get from one place to another using your map.

Draw a map of your yard, house or bedroom. How is this map different than the map of the neighbourhood?

Paper Planes

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Paper (different sizes, colours, and thickness)
2. Pair of scissors, pens, sticky tapes, coin, straws, etc

OBJECTIVES

- Manipulate paper to create different paper planes
- Develop and test ideas
- Creativity and imagination as children explore different strategies for designing their plane

INSTRUCTIONS ON HOW TO PLAY:

1 Each child takes a piece of paper. Discuss what would make a great paper plane together.

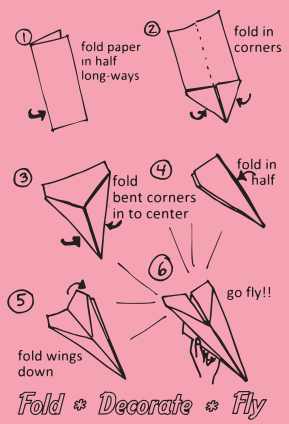
2 Help each child fold a paper plane. Guide them on how to follow the instructions below.

3 Try different designs and find out which design flies further.

4 Decorate the plane and see how different decorations impact how far the plane can fly.

5 Move out in an open place and try flying out the planes. Find out whose plane flies the farthest or can do tricks and discuss why

How to fold:



Activity Extensions:

Add weight: Add weight to the plane by taping a coin on it. Move the coin to different places on the plane and observe what happens.

Fold your paper planes using at least 5 different designs and fly them all at the same time. Which style flies the farthest? Highest? Carries the most weight? What about its design allows this?

Target practice: Set a target (e.g., an X on a tree) and try to fly the plane to the target.

Make a Toy Car

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Strings, Sticks/straws, Scissors or drill
2. Plastic bottles with caps
3. Milk carton

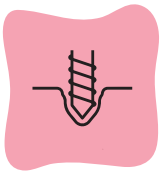
OBJECTIVES

- Create representations of real-life objects using available materials
- Creativity and imagination

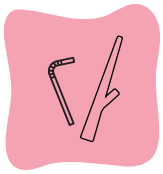
INSTRUCTIONS ON HOW TO PLAY:

1 

Have your child collect and clean plastic bottles. Let the bottles soak in hot water and dish soap for 10 minutes.

2 

Help your child drill two parallel holes into each side of the bottle for axles.

3 

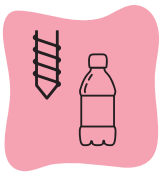
Have your child use either straws or sticks for the axles.

4 

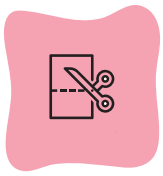
Gather four bottle tops and stick them onto the axles outside of each drilled hole to be used as wheels. Help your child glue or tape the bottle tops to the axles or drill a hole into each bottle top and put them on the straw or stick axle.

5 

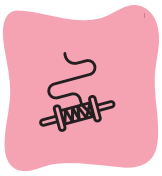
Have your child paint the wheels and outside of the car in their favourite colour.

6 

Help your child drill (or cut) a hole into the plastic bottle lid, knot a string and then thread it through the lid.

7 

Cut open the top of the bottle to make a windshield. Drill a hole into the lid of the plastic bottle. Knot a string and thread it through the hole in the lid to make a leash.

8 

Have your child use the string to pull the car to move on the ground.

Activity Extensions:

Make toy cars using balloons, cardboard or a milk carton. How does the design change as the materials change?

Create a garage or parking lot for the cars out of recycled materials.

Race different toy cars. Which model is the fastest or drives the farthest?

Make a Toy Dhow

LEARNING AREA
Creative Arts and Movement

ACTIVITY
38

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Old sandals, Polythene paper bag
2. Sticks or straws
3. Scissors

OBJECTIVES

- Create representations of real-life objects using available materials
- Creativity and imagination

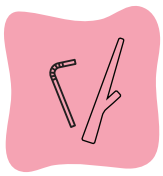
INSTRUCTIONS ON HOW TO PLAY:

1 

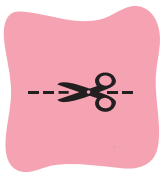
Have your child collect and clean old sandals. Let the sandals soak in hot water and dish soap for 10 minutes.

2 

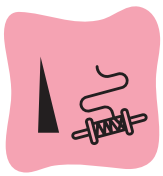
Help your child cut the old sandals into the shape of a dhow or boat.

3 

Have your child use either straws or sticks to make the mast and stick it in the middle of the sandal in a "+" shape.

4 

Help your child cut an empty bag into different triangular sizes.

5 

Have your child fix the mast on the longer side of the triangle-shaped polythene piece and tie it at the corner with a piece of string.

6 

Tie the triangle-shape sail on the mast at the centre of the sandal.

7 

Place the dhow into a bowl of water or into a puddle.

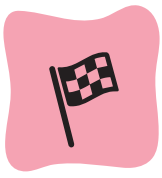
8 

Have your child create a breeze by blowing or waving a large piece of cardboard to move the along the water.

Activity Extensions:

Make toy dhow using other materials that float.

Create a port for the dhows out of recycled materials.



Race different toy dhows. Which model is the fastest or sails the farthest?

Puzzle Making

LEARNING AREA
Creative Arts and Movement

ACTIVITY
39

Primary: Ages 9-13

SPECIFIC MATERIALS NEEDED

1. Coloured paper/ one can use plain paper and colour them
2. Cardboard, Pen
3. Scissors

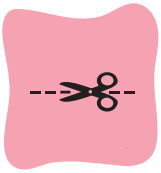
OBJECTIVES

- Practice solving puzzles made from drawn pictures
- Develop problem-solving skills and memory skill
- Strengthen critical thinking

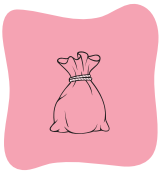
INSTRUCTIONS ON HOW TO PLAY:

1 

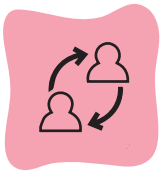
Have your child draw a colourful picture on a large sheet of paper. The picture should cover as much of the paper as possible.

2 

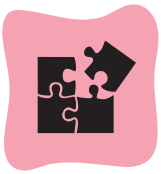
Cut each picture into at least 50 various puzzle pieces. These pieces should look like normal puzzle pieces.

3 

Put the cut puzzle pieces into their own bag and shake to mix up the pieces.

4 

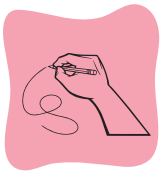
Exchange your puzzle with a friend.

5 

Each child should complete the puzzle given to them to remake the original picture drawn by their friend.

Activity Extensions:

Cut out smaller puzzle pieces or make the puzzle on larger paper to make the puzzle more complicated.



Have your child draw similar patterns in multiple places of the picture or draw the while picture with one colour to make the puzzle more complicated.

Raise the Bottles

Primary: Ages 9-13

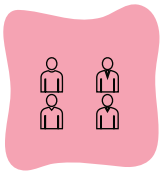
SPECIFIC MATERIALS NEEDED

1. Plastic bottles
2. Soft ball

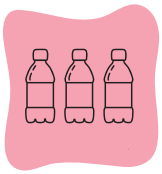
OBJECTIVES

- Develop speed and accuracy
- Throw a ball at a specific target
- Communication and collaboration as children work together to knock down or raise the bottles

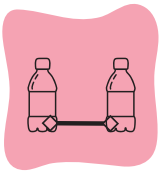
INSTRUCTIONS ON HOW TO PLAY:

1 

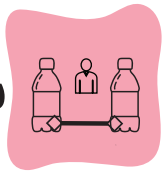
Divide children into two teams – Team A and Team B. Team A must be at least two children, but team B can be just one child.

2 

Have the children set plastic bottles up on a line leaving plenty of space between them. Start with three bottles.

3 

Mark two lines either side of the bottles to show where Team A will be. It is up to the children to decide how far from the bottles to put those lines.

4 

Have the children stand behind the lines they made. Team A should try to knock the bottles down using the ball, while Team B should keep trying to put the plastic bottles in their original upright position.

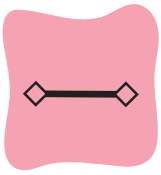
5 

Set a timer for at least 2 minutes.

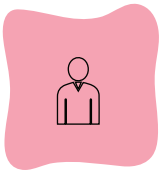
6 

If Team A manages to knock all bottles over at the same time in two minutes, then they become the winners. If they do not manage this in two minutes, Team B becomes the winners.

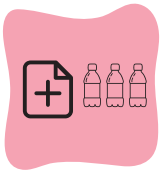
Activity Extensions:



Mark the starting lines farther away from the bottles.



Put the bottles closer together or add more people to Teams A and B.



Add more bottles so Team B has to work harder to keep putting the bottles back up

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