2021

Recommended Remediation Strategies for Parents and Guardians to support Students' development of Core Content and Skills in Mathematics:

INFANT TWO – STANDARD FIVE

CURRICULUM PLANNING AND DEVELOPMENT DIVISION

NOVEMBER 2021

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INTRODUCTION

The **Recommended Remediation Strategies for Parents and Guardians to support Students' development of Core Content and Skills in Mathematics INFANT TWO – STANDARD FIVE** document has been produced to provide strategies for parents and guardians to support the development of their children's content and skills, to mitigate learning loss due to the COVID-19 Pandemic.

Diagnostic tests were developed and administered to all students in classes from Infant Two to Standard Five in Primary Government and Government Assisted Schools. These tests were based on the content strands: Number; Geometry; Measurement; and Statistics as identified in the Curriculum Guide for Mathematics at the Primary Level.

A response to the findings from these tests is a set of recommended strategies for remediation per strand or subtopic. These recommended strategies are grouped in the document according to class levels: Infant 2 and Standard 1; Standards 2 and 3; and Standards 4 and 5. They are being suggested as a guide to assist parents and guardians in developing students' understanding by engaging students in activities which complement and reinforce classroom instruction, while students are at home in their natural environment.

The recommendations are structured to sequentially develop the students' understanding of concept and skill in each strand. Parents and guardians are therefore invited to **use the strategies in sequence**.

Developed by
The Mathematics Unit
Curriculum Planning and Development Division
Ministry of Education, GORTT
(November 2021)

PRIMARY

RECOMMENDATIONS FOR PARENTS

INFANT TWO and STANDARD ONE

NUMBER

- Encourage counting of objects around the home, parts of the body as well as actions, daily e.g., toys, books, cutlery, fingers, tools, pieces of clothing, items in the grocery bag, jumps, claps (up to 20).

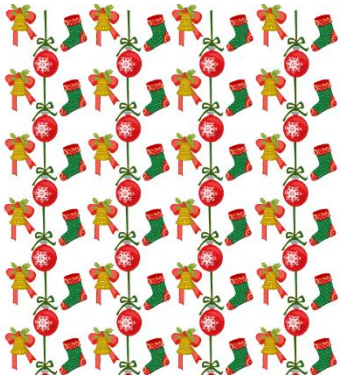
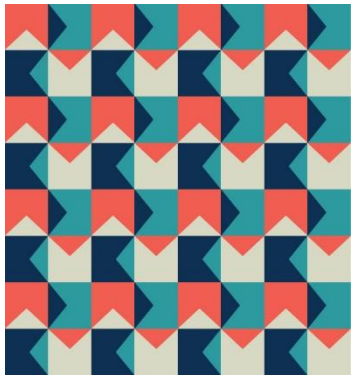
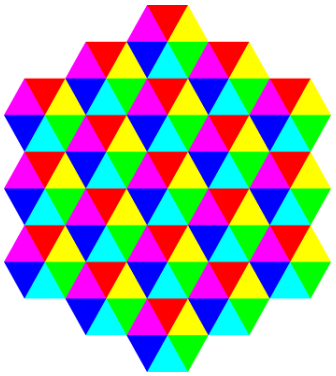
- Help your child to make a number chart with quantities, word names and numerals, e.g.,

three 3

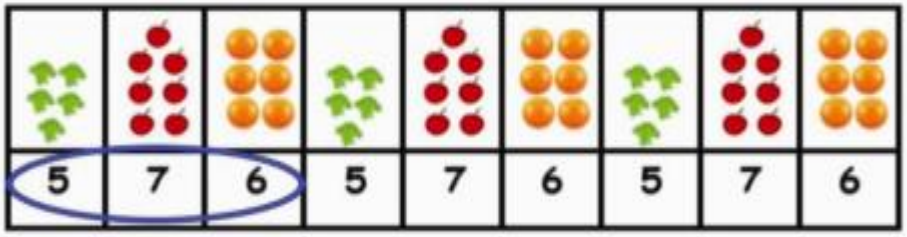
and display the work created (up to 20).

- Listen to your child count from zero to twenty and from twenty to zero, daily.
- Listen to your child read and spell word names, e.g., eleven, twelve.
- Listen to your child recite nursery rhymes such as one two buckle my shoe and encourage the use of fingers to show number.
- Encourage the reading of numbers in books, newspapers and on labels, for example, on medication and canned foods.
- Encourage your child to look for patterns around the home and in the environment, e.g., in tablecloths, curtains, gift wrapping paper, tiled walls or floors etc.

NUMBER

- Engage your child in the creation and completion of repeating patterns. E.g., What comes next?



Three numbers, 5, 7 and 6 repeat in that order in this pattern.

NUMBER

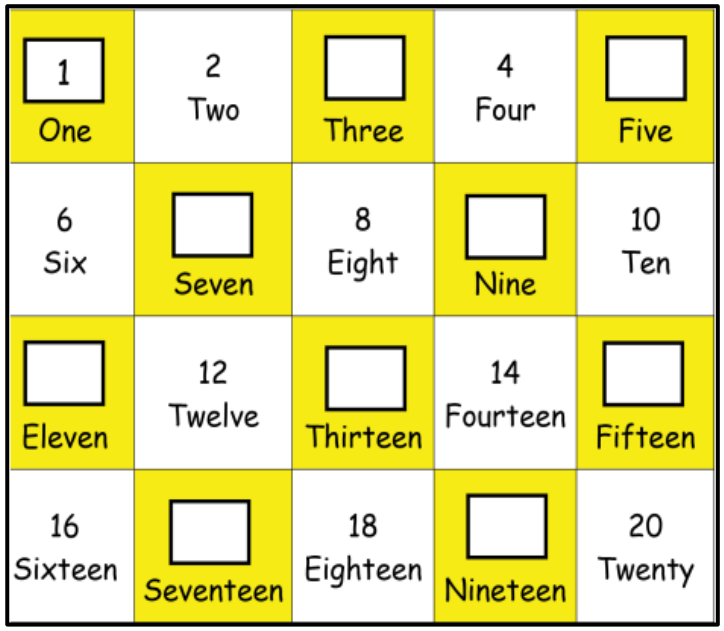
- Play games with your child such as:
  - citing/identifying numbers on the number plates of cars and road signs and buildings during a drive/walk
  - I spy – e.g. I spy a number that is more than 10
  - Let's create a pattern using sounds or movement, e.g., clap your hands and stomp your feet – clap, stomp, clap, stomp, clap, stomp
  - What comes next? e.g., four, three, four, three, four, three, four, three, ……
  - Am I correct? – the numbers 6, 4 and 12 in order from smallest to largest is 4, 6 and 12
  - How fast can you say a number! – e.g., What number comes between 15 and 17?
  - Red light, green light one two three (encourage your child to state the position of persons after each round – e.g., Who is first, second, third, last?)
  - I am a shopkeeper, where "play" items are bought and sold
  - Board games and card games involving counting, adding and subtracting
- Provide 'connect the dots activities' with numbers that are to be connected in the correct order to create a shape/drawing which can be coloured, e.g.,
-

NUMBER

- Ask questions on everyday activities, e.g.
  - How many eggs did Mummy boil?
  - How many cars are in the line?
  - How many persons ran the race?
  - Who ate the most plums?
  - Who completed their chores first?
  - Who was last in the line?
  - Who was behind Mary?
  - Which object is in front of the vase on the table?
  - How many sandwiches did we make altogether?
  - How many more plates than spoons are on the table?
  - How many fewer oranges are there than bananas?
- Read stories and ask questions related to number, e.g.
  - How many bears are in the picture?
  - Who picked the most flowers?
  - How many more cars are there than trucks?
  - Who placed second in the race?
- Use everyday contexts to create problems for your child to solve, e.g.,
  - Tom ate two guavas. Martin ate three. How many did they eat altogether?
  - Bob had 20 cents. He purchased a sweet for 10 cents. How much money does he have remaining?
  - Alice bought eight bananas. Nadia ate three. How many are left?

    (Encourage your child to use objects and drawings to solve problems and to explain what was done.)

NUMBER
• Use learning materials such as worksheets, instructional videos and online games to assist your child.



GEOMETRY

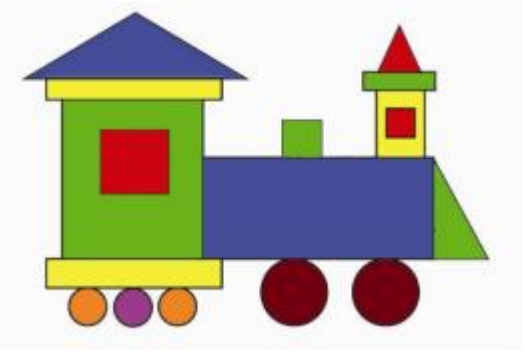
- Allow your child to play with objects in the home e.g., balls, cans, toilet paper roll, boxes, party hats.
- Label the objects at home for your child to read and spell.
- Encourage your child to describe objects, e.g., The box that is on top of the shelf is big and red. This small ball can roll.

The cube is green but the cuboid is multicoloured.

- Play 'I spy' games with your child to locate objects in the environment and at home, e.g., I spy an object that is round and blue.
- Allow your child to use objects to create models which can be displayed at home.

- Allow your child to cut out plane shapes such as squares, triangles, rectangles and circles and use them to make pictures or designs using patterns or cards.

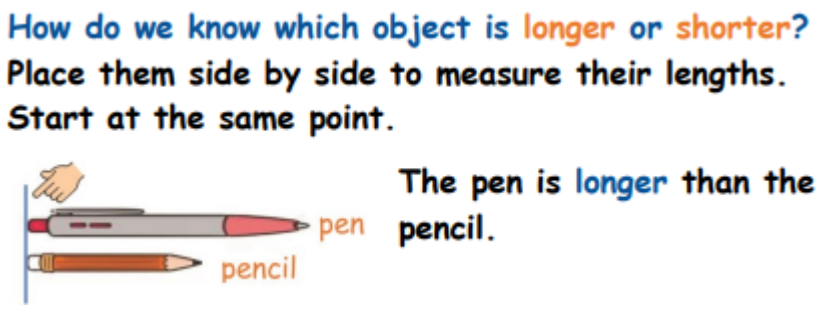
GEOMETRY



- Create charts with your child with shapes and their names.
- Ask questions to encourage your child to state the position of objects around the home, e.g.
  - Which object is at the back of the chair?
  - What items are on top of the refrigerator?
  - Where did Andy put the toy?
- Use learning materials such as instructional videos and online games to assist your child.

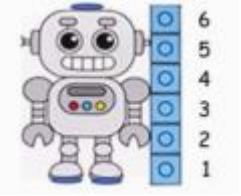
MEASUREMENT

- Engage your child in activities around the home that requires safely lifting/pushing/pulling objects and encourage your child to state if they are heavy or light.
- Assist your child in creating and using an equal arm balance to weigh objects at home. Ask questions such as, which object was lighter, the marble or the stone?
- Encourage your child to describe objects weighed, e.g., The orange is heavier than the plum.
- Ask questions about everyday activities done during the day, e.g.,
  - What did you do before breakfast?
  - When did you complete your homework?
- Assist your child in creating a scrap book with pictures showing activities done during the morning, lunch time, in the afternoon and at night.
- Encourage your child to display a calendar and to record activities done and to note the dates of special occasions such as birthdays.
- Ask questions about calendars, e.g.,
  - How many Fridays are there in the month of January?
  - What month comes before March?
  - What day is the 18th of April?
- Encourage your child to describe the length of everyday objects, e.g., The knife is longer than the fork.



MEASUREMENT

- Encourage the use of words such as long, short, tall, thin, fat, deep, shallow, wide, narrow, shorter, taller, longer when describing the length of objects and answering questions.
- Allow your child to create models using blocks and other objects and to describe the different lengths of the model, e.g., My house is 10 blocks high and 5 blocks wide. My caterpillar is 8 clothes clips long.

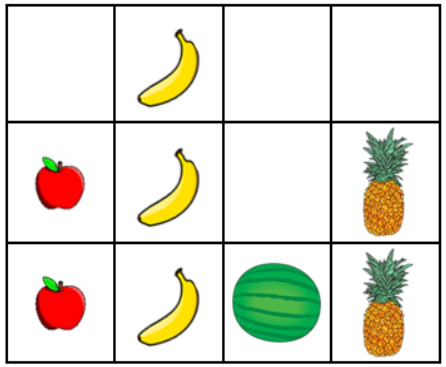


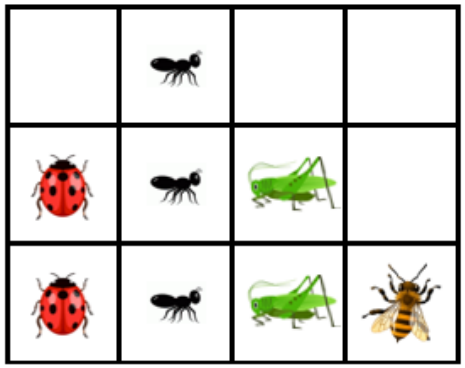
My robot is 6 blocks tall.

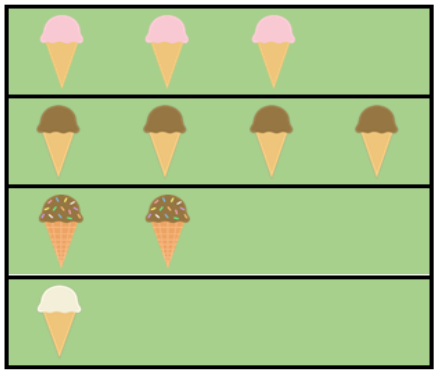
- Play games with your child such as:
  - Treasure hunt – find an object that is taller than the chair but shorter than the cupboard.
- Use learning materials such as instructional videos and online games to assist your child.

STATISTICS

- Encourage your child to sort objects or pictures into groups and arrange them in lines following the examples shown below:







- Ask questions on the created charts, e.g.
  - How many apples are there?
  - How many more ants are there than bees?
  - Which ice cream do most children like?
- Use instructional videos to assist your child.

RECOMMENDATIONS FOR PARENTS

STANDARD TWO and STANDARD THREE

NUMBER

Explore the variety of ways numbers are used at home and in the wider community:

- Point out how numbers are used on appliances, street signs and buildings.
- Spot numbers in books, magazines and newspapers.
- Encourage your child to tell you whenever he or she discovers a new way in which numbers are used.

Engage in frequent counting:

- Sing songs and read books that involve numbers and counting.
- Count pages in books and documents.
- Count forward and backwards from different starting places.
- Practise “skip counting” by 2s, 3s, 10s, 25s, 50s and 100s.
- Count money when making purchases and receiving change.
- Trade equal amounts of money.

has the same value as

has the same value as

NUMBER

Create games using dice and playing cards:

- Roll two dice then add or multiply the numbers that appear. Add the totals until you achieve a target number, like 100.
- Do the reverse to practise subtraction.

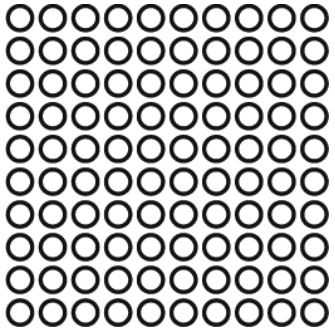
Have your child help you solve everyday problems:

- "Today five friends are visiting you. If each friend gets four snacks, how many snacks do we need?"
- Use household items to practise and reinforce addition, subtraction, multiplication and division.
- Ask your child to explain how he or she solved a problem so that you may share in the thought process. By talking about a mathematics problem, you and your child may discover other ways to solve it.

To expand children's thinking processes and help them "see" groups. Ask questions like:

- "7 and how much more make 10?" "70 and how much more make 100?" "700 and how much more make 1,000?"
- "10 and how much more make 15?" "10 and how much more make 18?" "10 and how much more make 25?"
- "17 and how much more make 20?" "87 and how much more make 100?" "667 and how much more make 1,000?"
- "How far is it from 6 to 10?" "How far is it from 89 to 100?" "How far is it from 678 to 1,000?"
- "How many 10s are there in 70? …100? …200? …340? …500? …1,000?
- "How many 4–person teams can you make out of 12 children? …20 children?... 100 children?…50 children?"
- "How much is 5, four times? …ten times? …a hundred times? …a thousand times?"

Use pictures to present and reinforce mathematics concepts. For example:



"How many circles are there in the picture?"
"If each circle is a penny, how much money is shown in the picture?"
"If each circle is a dime (…a nickel …a quarter…), how much money is shown in the picture?"
"Shade in half of the circles. How many circles are not shaded in?"
"Shade in half of the circles that are not shaded in. Now how many circles are not shaded in?"
"Again, shade in half of the circles that are not shaded in. Now how many circles are not shaded in?"

GEOMETRY

Identify items by their shape and size:

- "Please bring me three ice cubes."
- "Open the largest bottle of juice."
- "What shape is roof of that building?"

Use household items to create and extend patterns:

- Arrange a row of clothes pins pointing in different directions in a particular pattern (down, down, up, down, down, up) and ask your child to extend the pattern

- Arrange teacups and saucers (or forks and spoons) in such a manner that a pattern could be observed.

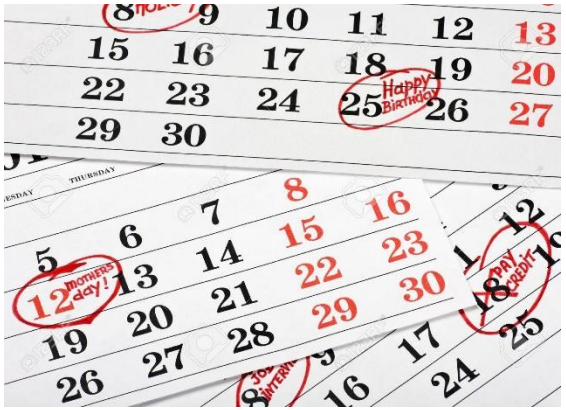
MEASUREMENT

Involve your child in activities that require measurements:

- Allow your child to measure the ingredients in a recipe or the length of a skirt you plan to sew.

Talk about time:

- Have your child check the time on the clock when he or she awakes on mornings, starts and finishes chores, goes to bed etc.
- Together, verify the time of a movie you plan on watching together.
- Record on a calendar the dates of important events in your child's life e.g., birthdays or Mother's Day.



Involve your child in making estimations:

- Estimate the number of litres of milk your family will need for the week. At the end of the week count the number of 1-litre cartons of milk that the family actually used.
- Estimate the time needed to prepare a meal. If the preparation is expected to take 45 minutes, when do you have to begin?

STATISTICS

Sort household items:

- As your child tidies up toys or clothing, discuss which items should go together and why.
- Involve your child in organizing food items in the refrigerator – fruits together, vegetables together, drinks on one shelf, condiments on another.
- Create opportunities for your child to sort other household items – crayons by colour, utensils by type or shape, money by denomination.

Create a vehicle chart:

- Together with your child, tally the number of specific vehicle types (car, SUV, bus, motor cycle, etc.) seen during a fifteen-minute period.

Vehicle Type	Tally	Number of Vehicles
Car 	𝍸 𝍸 𝍸 |	18
SUV 	𝍸 ||||	9
Bus 	||	2
Motor Cycle 	𝍸 |	6

- Discuss the following with your child:
  - Which type of vehicle did you see the most?
  - Which type of vehicle did you see the least?
  - Why do you think you saw more of one type than of another?
  - Do you think the chart will look different on a weekend than on a week day?

RECOMMENDATIONS FOR PARENTS

STANDARD FOUR and STANDARD FIVE

NUMBER
Number Concepts, Place Value and Rounding: • Let children identify large numbers (up to one million, including money) from various sources e.g. newspapers, magazines, books, signs, vehicle licence plates etc. Have them practise reading and writing the large numbers as figures and words. • Discuss with children the uses of large numbers in everyday life e.g. for providing information on population, preparation of national budget, buying a car, cost of appliances etc • Have children cut out large numbers from newspapers or magazines and stick them on a ~~large~~ sheet of paper in order: largest to smallest or vice versa. Extend the activity to writing number sentences using the signs “more than” (>) and “less than” (<) to compare the size of numbers. • Have children engaged in activities such as “Number Talk” or “Story of a Number”. They can select a number and tell everything they know about it e.g. o Is it a prime number, a multiple, a square number? o What are its factors? o What number comes before it/goes after it? o How many groups of thousands, hundreds, tens, ones make up the number? etc. Have them tell and/or write their number stories. • Encourage children to read stories with Mathematics content. Math Literature texts and videos can be sourced online. • Create a place value mat as shown using a large sheet of paper and markers. Make number cards from smaller pieces of thick paper such as bristol board or cardboard. Children can stick the numbers on the place value mat to reinforce the understanding of place value e.g.

NUMBER

Thousands	Hundreds	Tens	Ones
2	0	9	5

More columns can be drawn for larger numbers (tens of thousands, hundreds of thousands, one million). Let children represent numbers that they come upon from various sources e.g. newspapers, books, television advertisements etc.

- Have children count to large numbers in various activities e.g. Walk and Count:
  - count their steps as they walk
  - include skip counting in 5s, 10s, 25s, 50s, 100s, 500s, 1000s,
- Children can sort and count dollars and coins e.g. $1, $10, $20, $50, $100; 10-cent coins, 25-cent coins, 50-cent coins (if available).
- Take children on visits to the market stall or supermarkets. Children can explore numbers through a variety of activities e.g.
  - count bills and coins when paying in cash and receiving change
  - estimate and round cost of a few items - have children keep a running total of how much you are spending by using prices rounded to the nearest dollar
  - check over bills/receipts with calculators
  - use rows to estimate, then count (to verify or check) the numbers of items on shelves
  - estimate then count (to verify or check) the number of vegetables and fruits in a particular area.

Number Patterns and Relationships:

- Have children look for patterns around the home and in the environment e.g. in leaves, flowers, prints in cloth such as t-shirts, bedsheets, curtains, gift wrapping paper, tiles etc. Let students count the number of leaves, petals, objects, shapes to identify the number patterns.
- Have children create patterns through sound and movement e.g. Clap your hands and stomp one foot (clap, clap, stomp; clap, clap, stomp; clap, clap, stomp). Then together create variations of the pattern.

NUMBER

- Have children create pattens using different objects e.g. 2 spoons placed up, 3 spoons down, 2 spoons up, 3 spoons down etc
- Let children identify number patterns in a 100- chart i.e. numbers 1 to 100. You can also use a Snakes and Ladders board. Have students create a 1000-chart using a large sheet of paper and markers/crayons. Search for number patterns on the 1000-chart.
- Children can create addition or multiplication charts and search for patterns. They can use different colour markers/crayons to show patterns. Sample charts are shown with number patterns:

+	1	2	3	4	5
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8
4	5	6	7	8	9
5	6	7	8	9	10

X	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

- Have children give the missing value in simple number sentence in the four operations: addition, subtraction, multiplication and division. If access is available look for online games and activities in which children can solve these types of problems e.g.
  - 34 + ____ = 50
  - ___ + 23 = 75
  - 100 – 45 = ____

- 21 X 5 = ___
- 96 ÷ ___ = 8

- Have children memorise and recall multiplication and division facts (tables). Select a particular table/or tables every day, and have child memorise and recall the facts. Let them use counters or drawings to build the tables for any set of for which they need extra support.

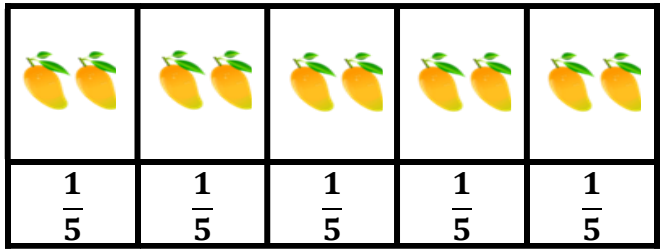
The Four Operations: Addition, Subtraction, Multiplication, Division:

- Use everyday situations to have children use the four operations for problem solving e.g.
  - shopping - have children add cost of items, find the total cost of a few of the same items, calculate change etc
  - Games -
    - throw two dice and multiply the numbers or use the numbers to create a 2-digit number and divide by each of the numbers shown, giving the remainder. The game can be extended to three dice.
    - using playing cards e.g. Highest Number: Each player takes 2 cards, the player with the highest sum gets the other players' cards. Players continue to take and add up two cards at a time until no cards are left. The player with most cards is the winner. The game can be adapted to subtraction and multiplication.
    - have children play online interactive games or solve puzzles involving four operations.
    - ask children verbal math problems e.g.
      - "Take the number twenty-seven; add six; multiply by three; subtract four; divide by five. What's your answer?" Speak slowly at first until your child gets better at solving these mental problems.
      - ask questions like: how much more do I need? How many will I have if I had 6 times? How many will each get if I share equally? etc
- Place multiplication and division fact charts where children can use them as a quick reference when solving problems involving multiplication and division e.g. on the walls of the homework area.
- Review Math facts at home, in the car, waiting in line or while on a walk or stroll.
- Ask questions or play games with other number facts e.g.

- double facts e.g. 8+8; 20+20; 25+25,
- numbers that add to 100 e.g. 55 and 45; 30 and 70; 64 and 36
- numbers that add to 1000 e.g. 600 and 400; 250 and 750; 540 and 460 (use subtraction facts too).

Fractions:

- Use everyday items to help your children understand the idea of a whole and its parts for e.g.
  - use objects, such as a pizza, piece of paper, a towel, a placemat, a picture frame, a mirror, a magazine and a book (rectangular or square shaped objects).
  - ask children to show you one half of each object. They can use a string to mark the halfway point. Let them fold or cut paper and compare to see that each part/piece is the same size (important for ideas in fractions).
  - have children show quarters, then thirds of objects by folding, cutting (paper) or using pieces of strings.
  - Let them compare sizes e.g. Which is larger - one half or one quarter of the towel? one half of the towel or one quarter of a blanket? Ask questions for e.g. "Is one half always larger than one quarter?"
  - Use sets of objects and have students find one-half, one-quarter, one-fifth of the set. e.g.
    - Daddy bought 10 mangoes. Share the mangoes equally among the five persons in the house. What fraction of the total number of mangoes will each person get? How many mangoes will each person get? Let children understand that each part of the set must be equal. Have them share the mangoes in five equal parts. Each person will get one-fifth of the set of mangoes. Each person will get 2mangoes.



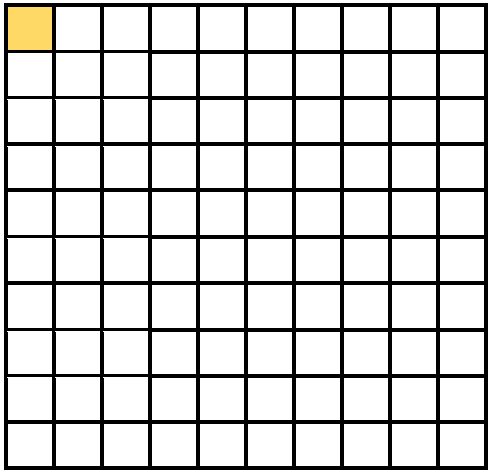
NUMBER

- Have children say and write fractions as figures and words e.g. $\frac{3}{4}$ – three quarters
- Have children create a Fraction Families chart e.g., thirds - one third ($\frac{1}{3}$), two-thirds ($\frac{2}{3}$), three-thirds($\frac{3}{3}$),same as one whole.
- Children can then add and subtract fractions in the same family e.g.
    - one third and one third is equal to two thirds ($\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$).
    - four fifths subtract one fifth - $\frac{4}{5} - \frac{1}{5} = \frac{3}{5}$.
    - They can demonstrate addition and subtraction of fractions using objects/materials around them.

Decimals:

- Have children cut or fold paper in ten equal parts. Let them label each part as one-tenth or $\frac{1}{10}$ or 0.1. They can use a 100-grid (each part is equal in size) and shade and label hundredths e.g. $\frac{1}{100}$ or 0.01.

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
0.1	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**



$\frac{1}{100}$ or 0.01

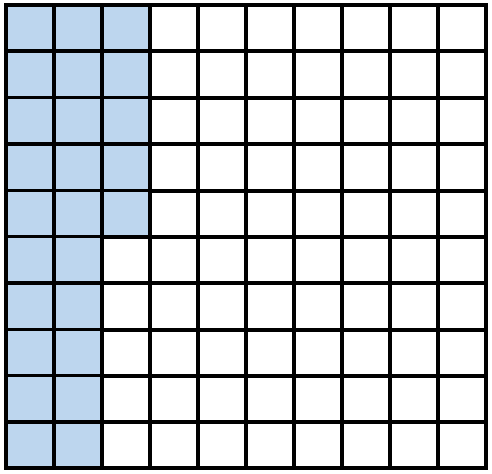
NUMBER

- Let children extend place value chart to include tenths, hundredths. They can search for decimal numbers from various sources e.g. bills/receipts, newspapers, item prices, sale tags etc and represent them on the chart e.g. 32.68, $250. 75

Thousands	Hundreds	Tens	Ones	Tenths	Hundredths
		3	2	6	8
	2	5	0	7	5

Percent/Percentages:

- Draw or cut out 100-grids (from exercise books, graph paper or print from online sources) and have children colour to show per cents e.g., 25% is 25 out of a hundred.



$\frac{25}{100}$ or 25% (also 0.25)

NUMBER
• Help children see that fractions, decimals and per cent are related e.g. one hundredth ($\frac{1}{100}$) is the same as 0.01 or one per cent (1%) • Assist children with identifying percentages in various sources e.g. newspapers, television advertisements, flyers, labels, signs and showcases in stores, online advertisements etc. Discuss with them how the percentages are used. • Have children read nutrition labels and calculate the percent of a specific nutrient in each item. Assist them with this task, if necessary. **Problem solving:** • Have children solve problems from various sources e.g., textbooks, online worksheets and activities. • Encourage children to use different strategies when solving problems e.g., drawing diagrams, using smaller numbers to solve problems, guess and check, using objects such as counters (bottle covers, straws, red beans), if necessary • Let children talk about the problem before solving i.e. say in their own words, explain how they can solve, look for all the information in the problem etc. • Have children check over their solutions. **Critical Thinking/Reasoning:** • Let children play board games such as Snakes and Ladders, Monopoly and Sudoku. Children can also design and create their own board games with your assistance. • Let children construct objects using blocks (packaged or sourced online). • Allow children to play video games that develop critical thinking (with supervision). • Have children engaged in math activities (from various sources including online) such as math number puzzles, magic squares, and math riddles. • Let children have fun with math activities while developing critical thinking skills!

GEOMETRY

Solids and Plane Shapes, Symmetry and Geometrical Patterns:

- Have children identify solids and plane shapes from their environment and talk about their properties e.g.
  - Solids – cube (box, dice,), cuboid (box, cupboard), cylinder (toilet paper roll, cans), cone (ice cream cones, ornaments)
  - Plane shapes – square (tile), rectangle (picture frame), circle (plate, cake), triangle (street sign)
- Play games with your children involving solids and plane shapes e.g.
  - I Spy – ask the children to guess an object you identify by its shape: "I spy something that is round," "I spy something that is shaped like a cylinder." Make this game more challenging by stating two shapes: "I spy a box with square sides".
- Use the vocabulary to describe objects e.g. "the rectangular table", "the cubic box (or the box that looks like a cube)", the "ornament that looks like a square based pyramid", "the round bulb".
- Fold sheets of paper in half and have children draw shapes along the fold; cut out the shape and unfold the paper to create symmetrical shapes. Children can also create symmetrical shapes using ink or poster paints splashed on folded paper.
- Have children construct shapes with common household items, such as toothpicks, straws, marshmallows, empty boxes, empty toilet paper rolls, twist ties. Children can also use construct shapes virtually using online interactive sites or apps.
- Have children talk about the objects they notice in their environment while they are travelling in a car or walking outdoors e.g. talk about buildings, signs, electricity poles, garbage bins, store windows, doors etc. in reference to their size, shape and symmetry.
- Assist your children to create a three-dimensional model of the street or village in which you live, using household items such as cardboard boxes, paper, paint etc. Then have the children draw an image of the model they created. This will help them to understand three -dimensional shapes represented on paper.
- Allow children to play online interactive games/solve puzzles involving shapes.
- Have children create geometrical patterns with objects or shapes in their environment e.g., toothpicks, straws, boxes, cans.

Angles/Parallel and Perpendicular lines:

- Adapt games like "I Spy" to identify shapes or objects which turn. e.g., "I spy, and you learn, something is making a quarter turn."
- Help children recognize and identify real-world examples of right angles (quarter turns) e.g., the corner of a room, the corner of a table.
- Help children recognise parallel and perpendicular lines in the environment e.g., parking space lines, corners.

MEASUREMENT

Length/Perimeter:

- Have children measure the lengths of objects using various instruments for lengths e.g. metre rule, ruler, measuring tape.
- Review the conversions of measure for length e.g. how many centimetres are there in a metre? How many metres make a kilometre?
- When building something, ask children to convert the measurements given in centimetres to metres, etc.
- When travelling, ask children to convert the measurements given in kilometres to metres, etc.
- Let children express lengths of the same objects, using different units, for practice. They can compare the lengths of objects by measuring using the same units.
- Have children measure the lengths of each side of the living room, backyard, porch, and add to determine perimeter.
- Ask children to guess (estimate) measurements before they actually measure length or perimeter.

Area:

- Let children count tiles on floor, countertops and walls to determine area of surfaces around the house.
- Have children cut out grids with squares and count squares to determine area. Source online activities/games/puzzles in which children can count squares to calculate area.
- Have children cut out squares – 1-metre square and use to measure and express the area of the floor and other large surfaces in square metres.
- Ask children to guess (estimate) measurements before they actually measure area of surfaces.

Mass/Weight:

- Have children look at packaged foods and record weights expressed in kilograms and grams.
- Let children assist you when cooking, to measure mass of ingredients expressed in grams.
- Have children convert mass/weight measures expressed in grams e.g. 1500 grams to kilograms and grams (1 kilogram 500 grams) and vice versa.

MEASUREMENT
• Have children convert mass/weight measures expressed in kilograms e.g. 1.7 kilograms to grams (1700 grams) and vice versa. • Have children measure and compare the weight of fruits, vegetables, flour rice etc using a kitchen scale, if accessible. **Capacity and Volume:** • Let children make paper cubes of the same size. Have them stack and create three-dimensional models. Let children express the volume of the models by counting the number of cubes. • Have children read labels of packs, cans etc to determine the quantity of liquid they hold, in litres or millilitres. Let children compare containers that hold the same quantities, more and less quantities. • Have children convert the measure from litres to millilitres e.g. 1.2 litres is the same as 1200 millilitres, and vice versa. • Let children compare the cost of items to the quantity expressed in litres and millilitres when shopping. **Time:** • Have children tell you the time at various times of the day using both analog and digital time. • Assist children to prepare a schedule for the day, inclusive of times allocated for certain activities e.g., online classes, homework and study, watching television, outdoor games, sleep. Ask questions on their schedule to help them understand the importance of time e.g. allocating enough time for study, sleep etc. Help them adjust their schedules, if necessary.

STATISTICS

- **Frequency Tables/ Graphs: Pictographs, Block graphs, Bar graphs:**
- Create scenarios for children to conduct simple surveys with family members and/or friends e.g., Favourite meals or dishes
- Have children conduct the surveys and present the information in different ways e.g., frequency table, pictograph, block graph or bar graph.
- Help children understand the importance of collecting information: for making decisions e.g. What should we have for dinner?
- Assist children with describing the information from the survey. Ask questions on the information presented in the table and/or graphs.
- Let them search for tables and graphs with information from various sources e.g. newspapers, television, online sources etc and discuss the importance of the information presented.

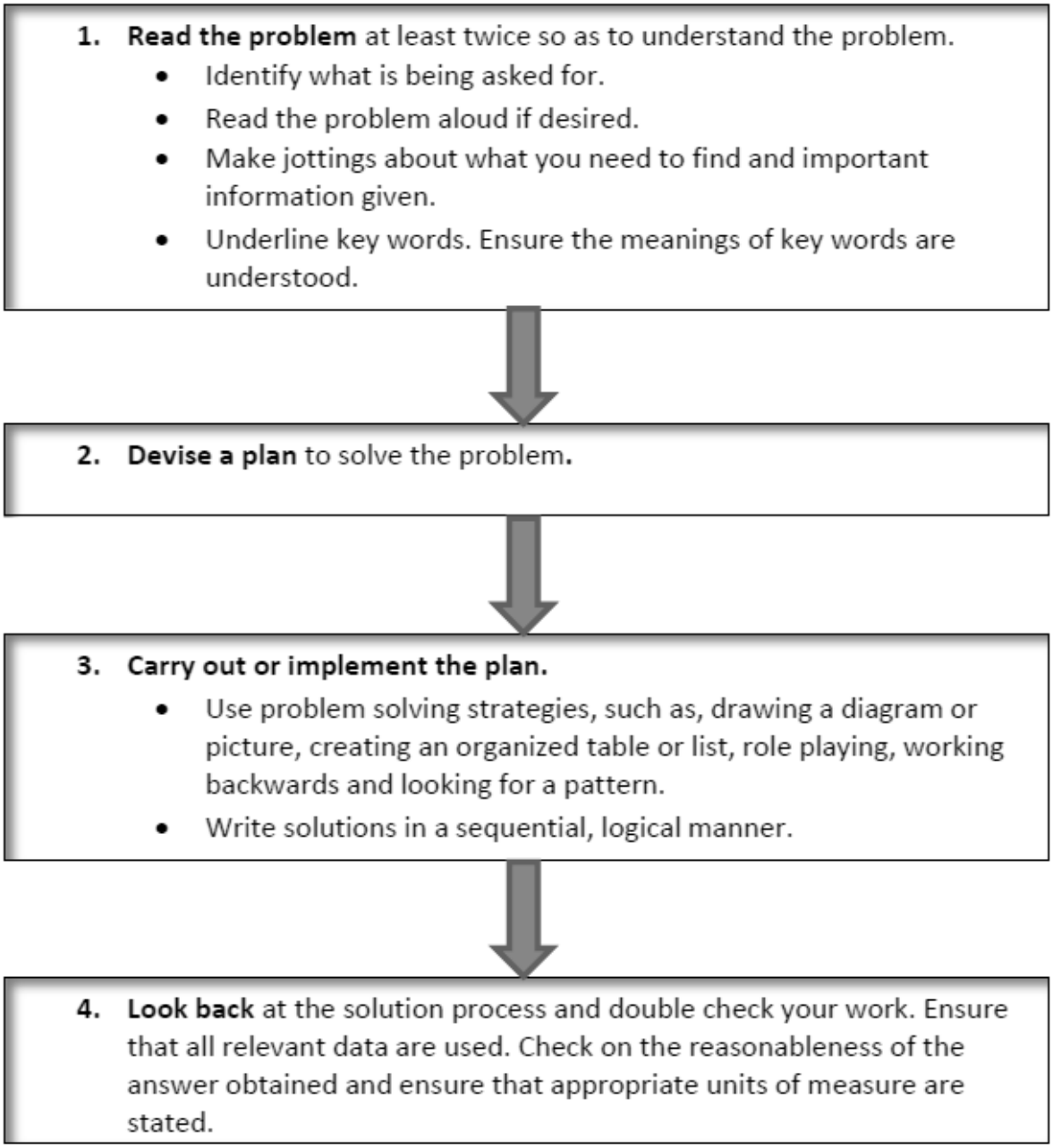
Mode/Mean/Average:

- Have children identify the most popular choice in surveys conducted with family members and/or friends e.g., what is the most popular meal?
- Let children calculate mean/averages e.g.
  - the mean/average of their last five tests in Mathematics.
  - the mean/average of the amount of money spent of food shopping for the last four weeks. Allow the use of calculators.
  - the mean/average of time spent watching television for a week.
  - let children use the mean to make decisions e.g. how many more marks should I try to get in my next Mathematics test if I want to improve my average? Do I need to watch less television? Why?
- Have children play games and solve problems involving mean/average and mode sourced from textbooks or worksheets (online sources included).

APPENDICES

Appendix 1.

George Polya's Four-Step Problem Solving Strategy



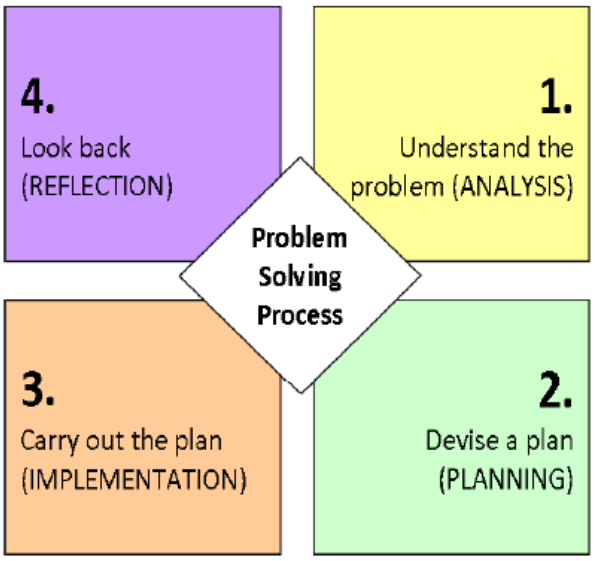
Appendix 2.

Polya's 4-Step Approach to Problem Solving:

Using Polya's 4-Step Approach to Problem Solving:

Step 1. – ANALYSIS – Understand the problem
I must answer these questions:-

- What am I being asked?
- What important information was I given?
- What key words are there?



Step 2. – PLANNING – Devise a plan
What problem solving strategy can I use?

- Draw a Picture
- Act it out
- Use a model
- Look for a Pattern
- Guess and Check
- Work backward
- Make a table or chart
- Simpler form of the problem
- Make an organised list
- Write an equation

Step 3. – IMPLEMENTATION – Carry out the plan
To solve the problem I must:-

- Apply the strategy chosen
- Obtain a solution
- Write the solution in a sequential, logical manner
- If no solution is obtained, repeat steps 1 to 3

Step 4. – REFLECTION – Looking back / Review the solution:
In reflecting, I will:-

- Look back at the solution process and double check my work
- Ensure that all relevant data are used
- Check on the reasonableness of the answer obtained
- Try an alternative approach

Appendix 3.

Problem Solving Strategies

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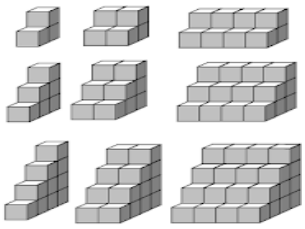
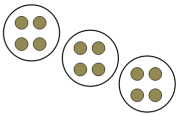
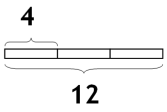
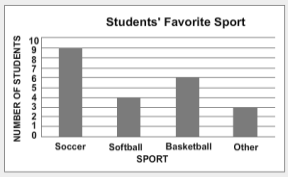
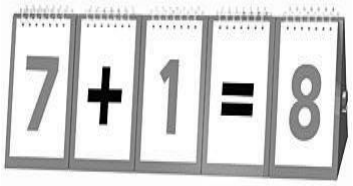
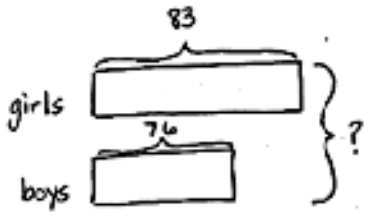
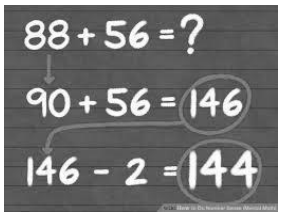
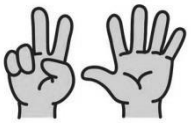
<tr>
<td>Look for a Pattern
  </td>
<td>Try a Simpler Problem
<s>600 + 300 = ?</s>
6 + 3 = 9
600 + 300 = 900</td>
<td>Make a Model
3 × 4 = 12
 
 
 
4
12</td>
</tr>
<tr>
<td>Guess and Check
  </td>
<td>Make a List, Graph or Chart
Students' Favorite Sport
<table>
<tr><th>SPORT</th><th>NUMBER OF STUDENTS</th></tr>
<tr><td>Soccer</td><td>9</td></tr>
<tr><td>Softball</td><td>4</td></tr>
<tr><td>Basketball</td><td>6</td></tr>
<tr><td>Other</td><td>3</td></tr>
</table>

</td>
<td>Create a Number Sentence
 
7 + 1 = 8</td>
</tr>
<tr>
<td>Work Backwards
  </td>
<td>Use Reasoning
 
3
1
2</td>
<td>Act it Out
  </td>
</tr>
<tr>
<td>Draw a Picture
 
83
girls
76
?
boys</td>
<td>Use Mental Math
 
88 + 56 = ?
90 + 56 = 146
146 - 2 = 144</td>
<td>Use your Fingers
 
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