

There is something for every age in here, regardless of what prior knowledge you may have.

Let children take the lead and the adult can join in the fun and embrace the learning opportunity.

The following activity cards will be colour coded as per below. Please feel free to use them as you wish.



K-2



3-6






6+

Solve a city's design needs








Fancy getting involved in urban planning? Here is how; identify your city's issues, relating to things like transportation, the environment, or overcrowding, then think of a solution, draw or design your solution using square paper, Lego blocks.

Here is how you can link Mathematical Problems to any of your solutions. Your parents have given you one of the followings to work with:

-  Square paper to draw your solution, it must be to scale 1:100 m (That is 1 m of a model is equal to 100 m in real life) add unit of measurements, work out the area and perimeters).
-  Lego blocks to build a model of your solutions then work out the area and perimeters.
-  Use playdough to build two small models, the length of two pencils. Estimate first how much play dough might they need? Encourage them to use the 2 pencils to measure their model against. (you can use Lego blocks or any other appropriate and safe objects you may have)








Notice Patterns when you look around?

Here is a list of challenges related to the outdoor environment that could be of your interest.

-  Collect different leaves, sticks, twigs, pebbles and use these to create different patterns, then challenge a sibling to continue the pattern you have created.
-  Can you group them according to their sorts? colours? shapes?
-  How many of each have you collected? Draw a table to show this. Do this by drawing some straight lines along your page, then in each column draw pictures of the items. Use a tally to count the items in each group and record this on your table.
-  Draw a table again, only this time, use a symbol like a star ..  to represent the collected items. For each 2 items collected, you draw 1  This means = 1 star shown on your table = 2 items.
-  Compare the items using these vocabularles: more than, fewer than, the most, the least. Can you create questions using your knowledge of the items collected and these vocabularies? Start your questions with 'How many (more/fewer)...

Food Shopping are most family's favourite time of the week!

Below are a list of activities recommended to help you get involved in this process.

-  Write a shopping list for mum and dad, estimate how much money you might need for your shopping? (only draw few of the items for younger ones)
-  In the supermarket; use a checklist and put a tick next to the items found.
-  Back at home with the receipt and shopping items: choose your favourite items from the receipt and add their prices together.
-  What percentage of what you bought is vegetables/salad/meat/dairy products/carbohydrate? How much did each of the food group cost you? Work this out and then draw a pie chart to share your conclusion.
-  Create context by helping your child to make reference to weights of different vegetables bought i.e. what does a 2 kg tomatoes look like or feel like? What does a bag of rice or potatoes of 5kg feel like?
-  Consider yourself lucky as you went food shopping this time!! The store manager was quite generous, so she decided to give you 15% discount on the 5 most expensive items on your list. Your dad says: "if you work out how much money this would have saved us, I will reward you with half the amount!"
-  It is that time of the month, plan a new recipe for your family's dinner tonight! Write the list of ingredients you need including suitable unit of measurements next to each item on your list, write step by step instructions. Ask an adult to help you prepare this dinner. Adult acts a the main chef and you act as the sous-chef taking on the role of measuring/peeling/cutting/chopping/mixing the items.

Do you enjoy messy play? Then making Goop is for you!

You need a big tub for mixing, spoons, little bowls, toys for playing, scooping, and filling.


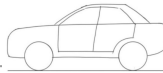

Steps;

1. Set up a large container such as a bathtub.
2. There are two ingredients in this recipe: cornstarch and water. The ratio is one part water and two parts cornstarch, play with the ratio if you need to.
3. Pour $\frac{3}{4}$ of water on the cornstarch. Mix the water and cornstarch together with your hands. Add the rest of the water to make the consistency more liquid.
4. Add food coloring or liquid watercolors to make it colorful.
5. Most importantly have fun!








Do you have a box full of Favourite Toys? Like cars or Fairy Tale characters?

- Imagine you are going for a playdate and you want to take with you a chart to show the numbers and sorts of toys you have.
- Draw and fill in a table, similar to the one shown; draw as many columns and rows as you need to.

My Favourite Toys			
			
			
Cars = 2	Robots = 1 = = ...

Mixture of activities involving Money and Time;

-  Count a variety of coins (maybe 10 coins of several different denominations)! Create 5 different groups of 3-5 coins and write the value of the money in each group.
-  Do any kind of role play that involves paying and receiving change.
-  Ask your parents for some monthly electronic invoices (mobile phone bills, internet/broadband bills, etc) look at them and work out the yearly and quarterly costs of these.
-  Make a list of your daily routines in the order you perform them, from when you wake up in the morning to when you go to bed in the evening. Write the time next to each of these, for example:
08:00 am Get up
08:10 am Have a shower
7pm or 19:00 get ready to bed
Can you work out how long it took you to have breakfast by looking at the start and end time?
Can you look analogue clock faces, practice reading different times.
-  Can you demonstrate how the hour hand moves nearer to the next hour as the minutes in an hour go on? Write some questions down to ask an adult or a sibling such as: If the time is 4:50, will the hour hand be nearer to 4 or 5?

In the Kitchen

Your mum has made a special syrup for your birthday. Only $\frac{3}{5}$ L of this syrup is left to share equally amongst the four of you.



- a) Find in litres, the amount of rose syrup each of you get.
- b) She made another 3 L of rose and poured the same amount of rose syrup as before into some additional cups. How many more cups could she fill?



Your mum is really keen for you to learn fractions before school starts, so she had a bag of rice that she has used and would like you to work out some answers. She cooked an equal amount of rice each day. After 2 days she was left with $\frac{4}{5}$ of the rice bag. After 5 days, she was left with 6 kg of rice.

- a) How much rice was there in her bag at first?

Nets of solids;

Your mum asks you to cut a tissue box along the edges so that you can get a single shape that can be laid flat? Which sides do you need to cut, can you use an empty tissue box to model this.



- What if you had a cylinder shaped tissue box, or a pyramid, or maybe even a prism. Could you draw the net of all these solids?
- Work out the numbers of vertices, edges, and sides to each of these shapes.



You Saving Box

You have just opened your saving box and this you found \$1, 50¢, 20¢ and 10¢ coins. Let's say you had a total of 450 coins. The ratio of the number of 20¢ coins to the number of 10¢ coins was 3 : 4.

- a. Can you draw a pie chart to represent the information.
- b. What fraction of the coins were 20¢ coins?
- c. How many 10¢ coins did you have?

Interesting Mathematical facts about Portugal and its population

Research and establish the population of Portugal.

Research the numbers of teachers in Portugal (only public schools).



- a. Work out what percentage of the population are teachers?
- b. Work out what fraction of the population of Portugal are teachers, then find the ratio of teacher : number of population.

Portugal, Brazil, Mozambique and Angola are popular Portuguese speaking countries.



- a. Research the number of population in each of these countries.
- b. Add them all together.

Research and find out the population of Europe



- a. If all these Portuguese speaking countries were located in Europe, what percentage of the European population would have been speaking Portuguese?
- b. Find the ratio of Portuguese speaking population : other European speaking population.

All these activities have been designed with due consideration to lock down and movement control and restriction order.

Measure every room in your house using a tape.



- a. Write the size of the width & length of each room in scale of 1:100cm, including bathrooms, kitchen and storage areas.
- b. Work out what is the entire floor area in square meters?

In discussion with your parents, discover if you could have an extension to your house, what would that be? A car garage? An extra room?



- a. Draw a floor plan of this extension to your property in scale of 1 : 100cm



Chloe and John cycled 6.5 km from their school to the community centre along the same route at the same time. Both of them did not change their speeds throughout their journey. When Chloe arrived at the community centre at 13:05, John was 2.5 km away from the centre. If John cycled at a speed of 16 km/h, at what time did the two of them leave the school?



Chloe also walked 526 m from her home to the bakery. She then walked in the same direction for another 5 min at a constant speed of 70 m/min to the market to help her mother with the grocery shopping. She took a total of 12 min to walk to the market.

- a) Find the distance between Chloe's home and the market.
- b) What was Chloe's average speed from her home to the market?