| Mathematics - Week Three |  |  |  |  |
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| Monday | Tuesday | Wednesday | Thursday | Friday |
| Online Learning |  |  |  |  |
| Activity 1 - Number Challenge Start with number 121, this is read as one hundred and twenty-one. The next number is 12321 , can you read this number? What about 1234321? Follow this number pattern to see what the largest number you can make is. | Activity 1-Number Challenge You sell finger puppets for $\$ 2$ each, (these don't fit on thumbs!) You have friends who want all their fingers covered with puppets. How many friends do you need to sell to, to earn: <br> 1) your first $\$ 30$ <br> 2) $\$ 80$ <br> 3) $\$ 100$ <br> You run out of material and need to buy more! Each puppet's material cost an average of 50 cents. What profit will you make if you: <br> 4) sell 8 puppets to 1 friend? <br> 5) sell 8 puppets to 5 friends? | Activity 1 - What's the cost? <br> Find five things in your kitchen cupboard or fridge that are bought every week. <br> Using your money knowledge, estimate what this would cost, or ask someone in your house. Add up the price of these 5 items. <br> What would it cost to buy these items every week in a whole year? (52 weeks) | Activity 1-Visual Patterns <br> The diagram shows the first three patterns in a sequence in which each pattern has a square hole in the middle. <br> Can you record the shaded boxes for the three shapes? <br> Can you determine how many shaded boxes will be in the tenth shape? | Activity 1-Number Challenge Plattsburg Public has a staircase with 12 steps. You can go down the steps one at a time or two at time. In how many different ways can you go down the 12 steps? <br> For example, 3 ways are: $\begin{aligned} & \# 1-(1,2,1,2,1,2,1,2)=12 \\ & \# 2-(2,2,1,1,2,2,1,1)=12 \\ & \# 3-(1,1,1,2,2,2,1,2)=12 \end{aligned}$ <br> Continue with \#4 and so on, how many different steps combinations can you find? |
| Activity 2 <br> Complete 15 minutes on Prodigy. https://sso.prodigygame.com/ login | Activity 2 <br> Complete 15 minutes on Sumdog maths. <br> https://www.sumdog.com/sch/ pps1 | Activity 2 <br> Complete 15 minutes on Prodigy. https://sso.prodigygame.com/ login | Activity 2 <br> Complete 15 minutes on Sumdog maths. <br> https://www.sumdog.com/sch/ pps1 | Activity 2 <br> Complete 15 minutes on Prodigy. https://sso.prodigygame.com/ login |

## Activity 1-Number Challenge

 Start with number 121, this is read as one hundred and twenty-one. The next number is 12321 , can you read this number? What about 1234321? Follow this number pattern to see what the largest number you can make is.
## Activity 2 - Number Patterns

 At the beginning of the season an apple picker picks:- one ripe apple on the first day
- two on the second
- four on the third and
- eight on the fourth

How many is he likely to pick on the tenth day?

How many on the fifteenth?
How many on the seventeenth?

Can you identify the pattern being used?

## Non-Digital Learning

Activity 1 - What's the cost? Find five things in your kitchen cupboard or fridge that are purchased every week. Using your money knowledge, estimate what this would cost, or ask someone in your house. Add up the price of these 5 items.

What would it cost to buy these items every week in a whole year? (52 weeks)

## Activity 2 - Number Patterns

 Create a house using 6 sticks, otherwise rule 6 straight lines like the picture above, onto paper.
Popstick houses

| Number of houses | 1 | 2 | 3 |
| :--- | :--- | :--- | :--- | :--- |
| Number of popsticks | 6 | 12 |  |

Create a table like above, how many sticks will 3 houses have? Extend the table to show how many sticks will be used to build houses 4-10.
What is the pattern being used?

Activity 1 - Visual Patterns


The diagram shows the first three patterns in a sequence in which each pattern has a square hole in the middle.

Can you record the shaded boxes for the three shapes?

Can you determine how many shaded boxes will be in the tenth shape?

## Activity 2-Square Numbers

 Square numbers are formed when we multiply a smaller number by itself. We can draw the dots, which will show forms a square that is $\frac{\text { even in its }}{1 \times 1} \frac{2 \times 2}{2 \times 3} \frac{1}{3 \times 3}$ width.

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On a piece of paper can you copy this pattern of dots to show each square number up to 12 ? The square numbers above are: 1,4, 16, 25.

Create a table to record the results, can you notice a pattern?

Activity 1-Number Challenge Plattsburg Public has a staircase with 12 steps. You can go down the steps one at a time or two at time. In how many different ways can you go down the 12 steps? For example, 3 ways are: \#1-(1, 2, 1, 2, 1, 2, 1, 2) =12 \#2 - $(2,2,1,1,2,2,1,1)=12$ \#3 $-(1,1,1,2,2,2,1,2)=12$

Continue with \#4 and so on, how many different steps can

## Activity 2 - Forming Patterns

 Here are some examples of a pattern, with a story!"I attempt to spell 6 tricky words each week, I ALWAYS get 1 wrong. How many weeks until I successfully spell 50 tricky words?"
"I grab a bunch of 8 grapes, 2 are always rotten. How many bunches of grapes will I go through before I get 72 fresh grapes?
"I start out with $\$ 8$, every week my mum gives me $\$ 5$ pocket money. How long will it be for me to save \$100?"

Can you create a table/record your thinking to answer these questions?

| Can you use your knowledge of the <br> pattern to determine how many <br> apples are picked on the $20^{\text {th }}$ day? |  | Challenge: Can you keep the <br> patterns going, to find square <br> numbers larger than 144 (12x12)? | Can you create your own questions <br> that involve a pattern, to challenge <br> a family member? |
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