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| STRAND: Number + Measurement SUBSTRAND: Patterns and Algebra (A) + Length (A) STAGE: 3 |
| TERM: | 1 | 2 | 3 | 4 | WEEK: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| AHC-ICON-Aboriginal Torres Strait Islander histories-300dpiAboriginal and Torres Strait Islander histories and cultures | A-ICON-Asia Australias engagement with Asia-300dpiAsia and Australia’s engagement with Asia | S-ICON-Sustainability-300dpiSustainability | CCT-ICON-critical creative thinking-300dpiCritical and creative thinking | EU-ICON-ethical understanding-300dpiEthical understanding | ICT-ICON-300dpiInformation and communication technology capability | IU-ICON-intercultural understanding-300dpiIntercultural understanding | L-ICON-literacy 300dpiLiteracy | N-ICON-numeracy-300dpiNumeracy\* | PSC-ICON-personal social capability-300dpiPersonal and social capability | WE-work and enterprise-300dpiWork and enterprise |
| ***What are we learning to do (WALT):*** Recognise, continue create and describe increasing and decreasing number patterns with fractions, decimals and whole numbers.Use the kilometre to measure lengths and distances. Record distances using the abbreviation km. |
| ***Adjustment:*** | **Post Assessment Highlighted**  |
| **TEACHING AND LEARNING ACTIVITIES** | **REG** |
| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| ***What I’m Looking For (WILF):*** ***To recognise and describe number patterns.***  | ***What I’m Looking For (WILF):*** ***To recognise and describe number patterns.*** | ***What I’m Looking For (WILF):*** ***To recognise and describe number patterns.*** | ***What I’m Looking For (WILF):*** ***To use kilometres to measure distance.***  | ***What I’m Looking For (WILF):*** ***To use kilometres to measure distance.***  |
| **Lesson Breakers** | **Lesson Breakers** | **Lesson Breakers** | **Lesson Breakers** | **Lesson Breakers** |
| **Introduction**Skip counting various numbers to see that students create a pattern e.g. 3, 6, 7, 8, 9’s. | **Introduction** Making patterns with concrete material e.g. matchsticks.Creating number patterns using smaller sequences e.g. counting by 2’s | **Introduction**

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| **Pattern Block Puzzles** - Students investigate the patterns created when looking at sides of pattern blocks eg hexagon patterns 5,10,15 - Joined pattern blocks – as above but joining the shapes 5,9,13 - Predict how many sides when more shapes are used eg 10  |

 | **Introduction****Activity**: - Teacher introduces kilometre as unit of measurement, explicitly teaching the definition of “kilo” as meaning 1000 and a kilometre being equivalent to 1000 metres. Students brainstorm places that are about one kilometre away. - Students are asked to estimate in kilometres and metres how far it is from their home to school. They then suggest ways they might check this, e.g. What devices could they use to measure the distance? | **Introduction****Activity:** Students discussproblem with recording long distances e.g. between towns and cities. Teacher models use of scale to measure distances on a map.  |
| **Body****Number patterns** Provide students with popsticks or matchsticks. Ask them to make a series of rhombuses from the sticks. Students keep a record of how many sticks they have used altogether after each rhombus is added. Record the number of rhombuses they construct. As a class, create a table and record the data in the table. Ask students: • *Can you work out how many popsticks you would need if you wanted to make 15 rhombuses?* • *What are some different ways you can work this out?* • *Does the table help you work this out?* • *If I used 80 popsticks, how many rhombuses could I make*?  | **Body****Guess my rule!** This is a fun way for two or more students to learn to find patterns and practise finding rules. Play Guess my rule! One student thinks of a rule about numbers and the other students take turns to guess the rule. Ask for students to volunteer to play Sally, Sam or Paul in the following scenario. Have the students read the scenario in front of the class to model playing Guess my rule! ***Click the link below to download*** ***and print the game:*** <http://www.schools.nsw.edu.au/>learning/7-12assessments/naplan/ teachstrategies/yr2012/index.php?id=numeracy/nn\_paal/nn\_paal\_s3a\_12  | **Body****Table of values** <http://www.schools.nsw.edu.au/l>earning/7-12assessments/naplan/ teachstrategies/yr2012/index.php?id=numeracy/nn\_paal/nn\_paal\_s3a\_12 The following activities address essential learning for students which include: • reading the title of a table • reading headings for rows and columns • interpreting information presented in the rows and columns • completing a table of values for a geometric pattern or a number pattern. 1. Prepare a table of values which shows a number pattern similar to the example below. • Discuss the information in the table with the students. Ask students what number patterns they can see. Identify the rule to describe each row, e.g. Top row: 1, 2, 3, 4, 5, 6, ... (rule is +1) Bottom row: 6, 12, 18, 24, 30, 36, ... (rule is + 6) • Describe the number pattern in a variety of ways and record the descriptions in words, e.g. *It looks like the 6 times table*. • Look at the relationship between the top row and the bottom row in the table. • Determine a rule to describe the pattern from  | **Body****Investigation Activity:** Teacher explicitly teaches (or revises) use of trundle wheel as a measurement tool and provides opportunities for students to use device to measure distances e.g. across netball courts, playground. **Fun Run** In pairs, students plan the course of a fun run of 1 km within the school grounds. Students check the measurements in the school grounds using tapes, trundle wheels etc. Students are provided with a map of the school and discuss the scale they will use to draw a diagram of their course. They then draw and label their diagram. Possible questions include: ❚ how many metres long is your fun run course? How do you know? ❚ how did you measure the distance? ❚ how could the distance be halved for younger runners? ❚ how could you measure this distance? ❚ how could the distance be doubled without retracing steps? Students place markers at intervals along the course to mark the distances and direction. They calculate and record the distances between the markers in metres (eg 80 m) and convert them to kilometres. They add the distances using a calculator to determine the length of the course.  | **Body****Continue Fun Run activity.** |
| **Conclusion**Play interactive game –BBC <http://www.bbc.co.uk>bitesize/ks2/maths/number/number\_patterns/play/ | **Conclusion****Calculator challenge**- Ask students to have a calculator challenge. Students enter 10++then enter1+2= The constant operator on the calculator will display the results 11,12 ,13- Ask students to describe the pattern and write a rule | **Conclusion****Patterns involving Addition and Multiplication** <http://au.ixl.com/math/year-6/patterns-involving-addition-and-multiplication>  | **Conclusion*** Measuring tape
* Trundle wheel
* Calculator
* markers
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* Trundle wheel
* Calculator
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| **Resources*** website

Play interactive game –BBC <http://www.bbc.co.uk>bitesize/ks2/maths/number/number\_patterns/play/* paddlepop sticks
* matchsticks
 | **Resources*** matchsticks
* toothpicks
* Guess my rule

<http://www.schools.nsw.edu.au/>learning/7-12assessments/naplan/ teachstrategies/yr2012/index.php?id=numeracy/nn\_paal/nn\_paal\_s3a\_12 * calculators
 | **Resources**<http://www.schools.nsw.edu.au/l>earning/7-12assessments/naplan/ teachstrategies/yr2012/index.php?id=numeracy/nn\_paal/nn\_paal\_s3a\_12 * pattern blocks

<http://au.ixl.com/math/year-6/patterns-involving-addition-and-multiplication>* prepared table (like above)
 | **Resources** | **Resources** |
| **Reflection/Check In** | **Reflection/Check In** | **Reflection/Check In** | **Reflection/Check In** | **Reflection/Check In** |