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<td><strong>PATTERN AND ALGEBRA – 3-4 WEEKS</strong></td>
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| Introduce the concept of variables as a way of representing numbers using letters (ACMNA175)  
  - Understanding that arithmetic laws are powerful ways of describing and simplifying calculations and that using these laws leads to the generality of algebra | Pearson Places  
  - Interactives  
  - Tutorials an quizzes  
  - Teaching strategies  
  - Class activities | Investigation  
  (50% of topic grade) |
| Create algebraic expressions and evaluate them by substituting a given value for each variable (ACMNA176)  
  - Using authentic formulas to perform substitutions | Chapter 5 – Algebra  
  - 5.1 Pronumerals and variables  
  - 5.2 Terms, expressions and equations  
  - 5.3 Using rules  
  - 5.4 Formulas and substitution  
  - 5.5 Patterns and rules  
  - 5.6 Simplifying expressions with addition and subtraction | Test  
  (50% of topic grade) |
| Extend and apply the laws and properties of arithmetic to algebraic terms and expressions (ACMNA177)  
  - Identifying order of operations in contextualised problems, preserving the order by inserting brackets in numerical expressions, then recognising how order is preserved by convention | | |
| **LINEAR AND NON LINEAR RELATIONSHIPS – 3 WEEKS** | | |
| Given coordinates, plot points on the Cartesian plane, and find coordinates for a given point (ACMNA178)  
  - Plotting points from a table of integer values and recognising simple patterns, such as points that lie on a straight line | Pearson Places  
  - Interactives  
  - Tutorials an quizzes  
  - Teaching strategies  
  - Class activities | Individual Work Booklet & Quiz & Homework  
  (100% of topic grade) |
| Solve simple linear equations (ACMNA179)  
  - Solving equations using concrete materials, such as the balance model, and explain the need to do the same thing to each side of the equation using substitution to check solutions | Chapter 5 – Algebra  
  - 5.7 The Cartesian Plane  
  - 5.8 Patterns and plotting points  
  - 5.9 Interpreting graphs | |
GEOMETRIC REASONING – 6 WEEKS

Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal (ACMMG163)
- defining and classifying pairs of angles as complementary, supplementary, adjacent and vertically opposite

Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning (ACMMG164)
- constructing parallel and perpendicular lines using their properties, a pair of compasses and a ruler
- defining and identifying the relationships between alternate, corresponding and co-interior angles for a pair of parallel lines cut by a transversal

Classify triangles according to their side and angle properties and describe quadrilaterals (ACMMG165)
- Identifying side and angle properties of scalene, isosceles, right-angled and obtuse-angled triangles
- Describing squares, rectangles, rhombuses, parallelograms, kites and trapeziums

CHANCE AND DATA – 4-5 WEEKS

CHANCE
Construct sample spaces for single-step experiments with equally likely outcomes (ACMSP167)
- Discussing the meaning of probability terminology (for example probability, sample space, favourable outcomes, trial, events and experiments)

DATA REPRESENTATION AND INTERPRETATION
Construct and compare a range of data displays including stem-and-leaf plots and dot plots (ACMSP170)
- understanding that some data representations are more appropriate than others for particular data sets, and answering questions about those data sets
- using ordered stem-and-leaf plots to record and display numerical data collected in a class investigation

Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data (ACMSP171)
- understanding that summarising data by calculating measures of centre and spread can help make sense of the data

Describe and interpret data displays using median, mean and range (ACMSP172)
- using mean and median to compare data sets and explaining how outliers may affect the comparison
- locating mean, median and range on graphs and connecting them to real life