

This unit was developed as part of a series of units which were discussed in the *Planning for Teaching Learning & Assessment: One School's Approach* webinar, a recording can be accessed at www.jct.ie/maths/planning_resources.

Second Year

Concept:

Relationships and Variables IV

Consolidation of understanding of the links between representations of patterns and generalised algebraic form (linear and quadratic) and investigation of exponential relationships

Student Context:

Second Year Students with prior knowledge of patterns, variables and representation

Learning Outcomes:

AF1 (a), (b), (c), AF2 (a), (b), (c), AF3 (a) (i), (ii), (iii), (b), (i), (ii), (d) (i), (ii), (iii), (iv), (v), AF4 (a), (b), (d), AF5, AF6, AF7 (a), (b), N1 (c)

Learning outcomes from the Unifying strand are decided by the class teacher

Key Learning:

- Students analyse patterns (manipulatives, list, table, graphical, worded etc.)
 - In the case of linear and quadratic relationships
 - Develop the general term
 - Begin to examine relationships between the constants and variables
 - Model situations and solve problems in context
 - In the case of exponential relationships be able to:
 - Identify the pattern type with justification
- Students represent and solve linear and quadratic equations both graphically and algebraically, and recognise situations where one mathematical strategy or procedure is more appropriate than another
- Students develop their understanding of variables in the context of linear, quadratic, exponential and real-life patterns and relationships, including:
 - using variables to represent an unknown quantity
 - using variables to mathematise a problem
- Students should develop their understanding of relationships as functions, including:
 - using graphical representations to mathematise a problem
 - being able to interpret representations
 - making connections between graphical representations and real-life phenomenon

Ongoing Assessment

- Can students develop the general term for linear and quadratic relationships?
- Can students convert between mathematical representations and determine the improvements or limitations of various representations?
- Can students represent and solve linear and quadratic equations graphically and algebraically?
- Can students identify exponential relationships using their defining characteristics?
- Can students identify the dependant and independent variable in a pattern of real-life situation and attempt to generalise observed pattern(s)?

Learning Experiences//Notes/Reflection

Units are in development and are subject to change based on ongoing departmental consultation, collaboration and feedback.