

Year 7 Algebra, Function and Pattern

Statement of Learning Opportunities

- Identify when numbers satisfy a given equation or not
- Use a variety of methods and approaches to solve simple equations and explain reasoning
- Identify and continue number patterns, describing the patterns in words
- Specify rules of linear functions using words and symbols from tables of values, and use these to make predictions

Key Ideas

- Continuing number patterns can be represented using tables, graphs, words and equations
- For any input into an equation there is a specific output
- A number pattern that is generated through constant addition or subtraction can be represented by a linear equation
- Representations of a number pattern (e.g., tables, graphs, equations) can be used to make predictions

Key Vocabulary

Number Pattern, Constant Addition, Number Pattern Pairs, Data Set, Table, Graph, Rule, Equation, Input, Output, Linear Equation, Solve

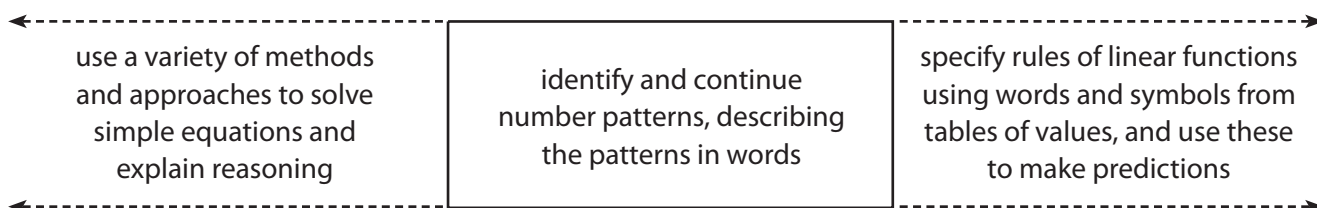
Lesson Overview

- i) Generation of linear data through a hands-on activity
- ii) Representing data in the form of tables and graphs
- iii) Searching and identifying number patterns within sets of number pattern pairs and from authentic data sets
- iv) Developing rules for number patterns using words and symbols
- v) Making and verifying predictions from representations of linear number patterns and data sets
- vi) Assessment

Equipment

TI-15 Explorer™ calculators for students, copies of worksheets 1 & 2, copies of assessment sheet, stopwatch, PowerPoint display (optional)

Sequencing



Indicators of Success

Students can:

- identify and continue number patterns based on constant addition or subtraction within sets of number pattern pairs
- identify and continue number patterns based on constant addition or subtraction within authentic data sets
- represent sets of number pattern pairs based on linear number patterns as a table or as a graph
- develop rules for describing linear number patterns in words and symbols
- make predictions based on representations of number patterns i.e., tables, graphs, rules in words, rules in symbols
- solve simple linear equations
- make use of the calculator's Stored Operation facility to make predictions and to verify pen and paper calculations