



Mathematics - Grade 2

2022 - 23

Students working at grade level expectations will achieve the following learning objectives:

Number
Review from Grade 1: Fluency with + and - up to 30 with and without crossing the tens boundary (ex. $14+3$, $14+8$, $14-3$, and $14-8$)
Read, write and model numbers, using the base 10 system, to 100 including working with place value and using number rays
Distinguish the difference between value and digit (in the number 54, the digit 5 has a value of 50)
Use doubling and halving to aid in fluency of operations
Estimate quantities to 100 including rounding to the 10s place
Reasonably estimate answers: rounding and approximation
Count, compare and order numbers up to 100 including using the symbols =, \neq , $<$, $>$
Use number patterns to learn multiplication tables: up to 10×10
Automatically recall multiplication tables up to 10×10 with fluency
Automatically recall division fact tables up 100
Automatically recall basic addition and subtraction facts with fluency (for example with xtramath)
Addition and subtraction equations to 100 (with and without crossing the tens boundary). This includes: 2-digit and 1-digit number ($54 + 3$, $54 + 8$, $54 - 3$, and $54 - 8$), 2-digit number with a multiple of 10 ($54 + 10$ and $54 - 10$), and a 2-digit number with a 2-digit number ($54 + 23$, $54 + 37$, $54 - 23$, and $54 - 37$)
Use simple math tricks to help with crossing the tens boundary (eg. $35+9 = 35+10-1=$ or $35+11= 35+10 +1$)
Delve into different operation relations: finding neighbours, breaking down numbers ($64 = 60 + 4$, $80 = 2 \times 40$), comparing numbers ($10 + 2 = 6 \times 2$)

Use mathematical vocabulary and symbols of addition, subtraction, multiplication and division: difference, sum, multiply, divide, product, quotient
Read, write and model multiplication and division problems
Select and explain an appropriate method for solving a problem
Solve real-life word problems using each of the four operations with numbers from 30 - 100
Pattern and Functions
Analyse patterns in number systems to 100
Recognize, describe and extend more complex patterns in numbers
Understand and use the relationship between addition and subtraction: $34 + 3 = 37$, $37 - 3 = 34$
Identify patterns and rules for multiplication and division; $4 \times 3 = 12$, $3 \times 4 = 12$, $12:3 = 4$, $12:4 = 3$
Model, with manipulatives, the relationship between addition and multiplication (repeated addition)
Model, with manipulatives, the relationship between division and subtraction
Model multiplication as an array
Solve real-life word problems using patterns with numbers from 30 – 100
Measurement
Estimate, measure, label and compare using formal methods and standard units of measurement: length, mass, time and temperature
Select appropriate tools and units of measurement
Measure length: m, cm, mm introduced, measured with ruler and basic conversions (never to be higher than 100)
Measure weight: kg, dag, g introduced with basic conversions (never to be higher than 100)
Model addition and subtraction using money
Measure money: Euro and cent and basic conversions
Read and write the time to the full hour, half hour, and quarter hour with analog and digital clocks with 12/24 hour time including am and pm
Measure time: min, hour, day, week, month, year and basic conversions including measuring elapsed time (never to be higher than 100) for example 24 hours = 1 day, 7 days = 1 week

Solve real-life word problems with measurement with 1 step working towards 2 steps with numbers from 30 - 100

Shape and Space

Identify, describe and model congruency in 2-D shapes (square, rectangle, hexagon, triangle, pentagon including number of sides and corners)

Identify and describe 3-D shapes (cube, cone, sphere, cylinder, pyramid, including number of faces, edges, and vertices)

Get to know the terms: round/angled, straight/bent, open/closed

Combine and transform 2-D shapes to make another shape

Exercise for orientation – easy maps, treasure hunts

Follow simple directions, describing paths, regions and boundaries: left, right, forward, backward, inside, outside, above, under, in front, behind, next to, between, in the middle

Locate features on a grid using coordinates

Discover symmetries (term “symmetry axis”)

Solve real-life word problems with shape and space

Data Handling

Discuss, compare and create sets from data that has subsets using tree, Carroll, Venn and other diagrams (tally, bar graph, pictogram)

Design a survey, process and interpret the data

Collect and display data in a bar graph and interpret results by comparing quantities: more, fewer, less than, greater than, difference

Real-life word problems with data handling with numbers from 30 – 100