

# Mathematics program of study: Indiana Standards for Mathematics 

Sumdog Scheme of Learning Kindergarten - Grade 8


## Kindergarten

| Subtract with Doubles Facts | Add with 3 |  | Skip Count |  | Count in 1s |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| K.CA.1_1 | K.CA.2_4 | $\square$ | K.CA.5_2 | $\square$ | K.NS.3_1 | $\square$ |
| Take Away with Objects | Add with 4 |  | 3D Shapes |  | One More/One Less |  |
| K.CA.1_2 | K.CA.2_5 | $\square$ | K.DA.1_1 | $\square$ | K.NS.3_2 | $\square$ |
| Add and Subtract Word Problems | Add with 5 or 6 |  | 2D Shapes |  | Count to 10 |  |
| K.CA.2_1 | K.CA.2_6 | $\square$ | K.G.2_1 | $\square$ | K.NS.5_1 | $\square$ |
| Subtract from 3, 4, 5, 6, or 7 | Add with 7, 8, or 9 |  | Compare Measures |  | Count to 25 |  |
| K.CA.2_10 ■ | K.CA.2_7 | $\square$ | K.M.1_1 | $\square$ | K.NS.5_2 | ■ |
| Subtract from 8 or 9 | Subtract from 10 |  | Count in 10s |  | Count to 5 |  |
| K.CA.2_11 | K.CA.2_8 | $\square$ | K.NS.1_1 | $\square$ | K.NS.5_3 | $\square$ |
| Add with 1 | Subtract from 11 or 12 |  | Count in 1s |  | Compare and Order Sets |  |
| K.CA.2_2 | K.CA.2_9 | $\square$ | K.NS.1_2 | $\square$ | K.NS.7_1 | $\square$ |
| Add with 2 | Shape Patterns |  | Numbers in Words |  | Compare and Order Numbers |  |
| K.CA.2_3 ■ | K.CA.5_1 | $\square$ | K.NS.2_1 | $\square$ | K.NS.8_1 | $\square$ |



## Grade 1



| Strands (Kindergarten - Grade 5): |  |
| :---: | :---: |
| $\square$ Data Analysis (DA) $\quad$ Measurement (M) | $\square$ Computation \& Algebraic Thinking (CA) ■ Number Sense (NS) |
| $\square$ Algebraic Thinking (AT) ■ Computation | - Geomety (G) |

Data Analysis (DA)
Measurement (M)
Computation


## HINT:

## Strands (Kindergarten - Grade 5):

Data Analysis (DA)

- Measurement (M)

Computation
Algebraic Thinking (AT)

- Computation \& Algebraic Thinking (CA)

Geomety (G)

Number Sense (NS)


## Strands (Kindergarten - Grade 5):

- Data Analysis (DA)
- Measurement (M)Computation \& Algebraic Thinking (CA)Number Sense (NS)
Algebraic Thinking (AT)Computation Computation $\quad$ Geomety (G)


## Grade 3



## Strands (Kindergarten - Grade 5):

Data Analysis (DA)
Algebraic Thinking (AT)

Computation \& Algebraic Thinking (CA)

Number Sense (NS)
Computation
Geomety (G)
(M),

| Divide 63 to 100 $\text { 3.C. } 6 \_6$ | $\square$ | Add and Subtract Units of Measure <br> 3.M.1_1 |  | Money <br> 3.M.4_1 | $\square$ | Compare and Order Fractions 3.NS.3_1 | $\square$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Division Tables: 2, 5, 10, 3 |  |  | $\square$ | Area |  | Identify Fractions |  |
| 3.C.6_7 | $\square$ | Add and Subtract Units of Measure <br> 3.M.1_2 |  | 3.M.5_2 | $\square$ | 3.NS.3_2 | $\square$ |
| Division Tables: 4, 8, 6, 9, 7 3.C.6_8 | $\square$ |  | $\square$ | Area <br> 3.M.6_3 | $\square$ | Multiples of Unit Fractions <br> 3.NS.3_3 | ■ |
| Doubling and Halving <br> 3.C.6_9 | $\square$ | Compare Measures 3.M.1_3 | $\square$ | Model Multiplication <br> 3.M.6_4 | $\square$ | Identify Fractions <br> 3.NS.4_1 | $\square$ |
| Tables <br> 3.DA.1_1 | $\square$ | Estimate Measures 3.M.1_4 | $\square$ | Perimeter <br> 3.M.7_1 | $\square$ | Identify Fractions <br> 3.NS.5_1 | $\square$ |
| Geometry <br> 3.G. 1 - 1 | $\square$ | Compare Measures 3.M.2_1 | $\square$ | Perimeter - All Sides Given <br> 3.M.7_2 | $\square$ | Equivalent Fractions <br> 3.NS. $7_{1} 1$ | $\square$ |
| Geometry 3.G.2_1 | $\square$ | Clocks <br> 3.M.3_1 | $\square$ | Perimeter of Composite Figures3.M.7_3 |  | Compare and Order Fractions <br> 3.NS.8_1 | $\square$ |
| Geometry 3.G.3_1 | $\square$ | Durations 3.M.3_2 | $\square$ | Forms of Numbers 3.NS.1_1 | $\square$ | Rounding to Estimate 3.NS.9_1 | $\square$ |
| Multiples of Unit Fractions 3.G.4_1 | $\square$ | Schedules 3.M.3_3 | $\square$ | Compare and Order Numbers 3.NS.2_1 | $\square$ |  |  |



Grade 4




## Grade 5



## Strands (Kindergarten - Grade 5):

Data Analysis (DA)

- Measurement (M)

Computation
Algebraic Thinking (AT)
$\square$ Computation \& Algebraic Thinking (CA)
Geomety (G) Number Sense (NS) ,
Divide by 10, 25, 100, or 2-Digit

## Numbers

Multiply Fractions 5.C.3_1

Add and Subtract Fractions 5.C.4_1

Find a Number
5.C.5_1
Multiply Fractions
5.C.5_2

Divide with Unit Fractions 5.C.7_1

Add and Subtract Tenths 5.C.8_1

Add and Subtract with Two or Three Decimal Places 5.C.8_2

Multiply Decimals
5.C.8_3

Expressions and Equations 5.C.9_1


Numerical expressions involving whole-numbers
6.EE.A. 1
Identify parts of an expression
6.EE.A.2.b

Write, read, and evaluate
expressions
6.EE.A.2.c

Apply the properties of operations 6.EE.A. 3

Identify when two expressions are equivalent

## 6.EE.A. 4

Understand solving an equation or inequality
6.EE.B. 5

Use variables to represent
numbers
6.EE.B.6 ■

Solve problems by writing equations

## 6.EE.B. 7

Write an inequality of the form to represent a constraint or condition

## 6.EE.B. 8

Use variables to represent two quantities in a real-world problem 6.EE.C. 9

Find the area of right triangles other triangles

## 6.G.A. 1

Find the volume of a right rectangular prism with fractional edge lengths
6.G.A. 2

Draw polygons in the coordinate plane given coordinates for the vertices
6.G.A. 3

Part 1 - Represent threedimensional figures using nets made up of rectangles and triangles
6.G.A. 4

Part 2 - Represent threedimensional figures using nets made up of rectangles and triangles
6.G.A. 4

Interpret and compute quotients of fractions

## 6.NS.A. 1

Fluently divide multi-digit numbers using the standard algorithm.

## 6.NS.B. 2

Fluently add, subtract, multiply, and divide multi-digit decimals 6.NS.B. 3

Find the greatest common factor of two whole numbers less than or equal to 100

## 6.NS.B. 4

Understand that positive and negative number are used
together to describe quantities
6.NS.C. 5

Recognize opposite signs of numbers as indicating locations on the number line

## 6.NS.C.6.a

Understand signs of numbers in quadrants of the coordinate plane 6.NS.C.6.b

Understand a rational number as a point on the number line.

## 6.NS.C.6.c

Interpret statements of inequality about the relative position of two numbers on

## 6.NS.C.7.a

Understand ordering and absolute value of rational numbers.
6.NS.C.7.c

Understand the concept of a ratio 6.RP.A. 1

Understand the concept of a unit rate
6.RP.A. 2

## Strands (Grade 6-8):

- Expressions \& Equations (EE)

Ratios \& Proportional Relationships (RP)
Statistics \& Probability (SP)
Geometry (G)
Functions (F)
You can focus You can focus on any skill to match your classroom lesson

## Make tables of equivalent ratios 6.RP.A.3.a

Solve unit rate problems including those involving unit pricing and constant speed.
6.RP.A.3.b

Part 2 - Use ratio and rate reasoning to solve real-world and mathematical problems

## 6.RP.A.3.C

Part 2 - Use ratio and rate reasoning to solve real-world and mathematical problems

## 6.RP.A.3.c

Use ratio and rate reasoning
to solve real-world and
mathematical problems 6.RP.A.3.d

Recognize a statistical question

## 6.SP.A. 1

Recognize that a measure of centre for a numerical data set 6.SP.A. 3

Display numerical data in plots on a number line
6.SP.B. 4

Part 1 - Reporting the number of observations.
6.SP.B.5.A

Part 2 - Reporting the number of observations.
6.SP.B.5.A

Describing the nature of the attribute under investigation 6.SP.B.5.B

Part 1 - Summarize numerical data sets in relation to their context

## 6.SP.B.5.c

Part 2 - Summarize numerical data sets in relation to their context
6.SP.B.5.c

Part 3 - Summarize numerical data sets in relation to their context
6.SP.B.5.c

Expressions \& Equations (EE)

- The Number System (NS)

Ratios \& Proportional Relationships (RP)
Statistics \& Probability (SP)

- Functions (F)


## Apply properties of operations

## 7.EE.A. 1

Solve mathematical problems posed with positive and negative rational numbers

## 7.EE.B. 3

Solve word problems leading to equations of the form $p x+q=r$ and $p(x+q)=r$

## 7.EE.B.4.a

Solve word problems leading to inequalities of the form $p x+q>r$ or $p x+q<r$
7.EE.B.4.b

Describe the two-dimensional figures that result from slicing three-dimensional figures
7.G.A. 3

Know the formulas for the area and circumference of a circle
7.G.B. 4

Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step

## 7.G.B. 5

Part 1 - Solve real-world and mathematical problems of twoand three-dimensional objects

## 7.G.B. 6

Part 2 - Solve real-world and mathematical problems of twoand three-dimensional objects 7.G.B. 6

Part 3 - Solve real-world and mathematical problems of twoand three-dimensional objects 7.G.B. 6

Part 4 - Solve real-world and mathematical problems of twoand three-dimensional objects 7.G.B. 6

Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers

## 7.NS.A. 1

Understand $\mathrm{p}+\mathrm{q}$ as the number located a distance |q| from $p$, in the positive or negative direction depending on whether $q$ is positive or negative.
7.NS.A.1.b

Understand subtraction of rational numbers as adding the additive inverse, $p-q=p+(-q)$.

## 7.NS.A.1.c

Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers
7.NS.A.1.d

Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
7.NS.A.2.c

Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

## 7.NS.A.2.d

Part 1 - Solve real-world and mathematical problems involving the four operations with rational numbers.

## 7.NS.A. 3

Part 2 - Solve real-world and mathematical problems involving the four operations with rational numbers.
7.NS.A. 3

## Strands (Grade 6-8):

- Expressions \& Equations (EE)

Ratios \& Proportional Relationships (RP)
Statistics \& Probability (SP)
Geometry (G)
Functions (F)

Part 3 - Solve real-world and mathematical problems involving the four operations with rational numbers.

## 7.NS.A. 3

Part 4 - Solve real-world and mathematical problems involving the four operations with rational numbers.

## 7.NS.A. 3

Recognize and represent proportional relationships between quantities.
7.RP.A.2.a

Recognize and represent proportional relationships between quantities.

## 7.RP.A.2.b

Recognize and represent proportional relationships between quantities.
7.RP.A.2.c

Part 1 - Use proportional relationships to solve multistep ratio and percent problems.

## 7.RP.A. 3

Part 2 - Use proportional relationships to solve multistep ratio and percent problems.
Understand that statistics can be
used to gain information about a
population by examining a sample
of the population
7.SP.A. 1

Use data from a random sample to draw inferences about a population with an unknown characteristic of interest.

## 7.SP.A. 2

Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.
7.SP.C. 5

Develop a probability model and use it to find probabilities of events.
7.SP.C.7.a

Understand that the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.

## 7.SP.C.8.A

Find probabilities of compound events using lists, tables, tree diagrams, and simulation. 7.SP.C.8.

## Grade 8

Part 1 - Know and apply the properties of integer exponents to generate equivalent numerical expressions.

## 8.EE.A. 1

Part 2 - Know and apply the properties of integer exponents to generate equivalent numerical expressions.

## 8.EE.A. 1

Use square root \& cube root symbols to represent solutions to equations of the form $x 2=p \& x 3$ $=p$, where $p$ is a positive rational number.

## 8.EE.A. 2

Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities 8.EE.A. 3

Part 1 - Perform operations with numbers expressed in scientific notation

## 8.EE.A.4.1

Part 2 - Perform operations with numbers expressed in scientific notation
8.EE.A.4.1

Graph proportional relationships, interpreting the unit rate as the slope of the graph.

## 8.EE.B. 5

Use similar triangles to explain why the slope $M$ is the same between any two distinct points on a non-vertical line in the coordinate plane

## 8.EE.B. 6

Analyze and solve pairs of simultaneous linear equations.
8.EE.C.8.b

Understand that a function is a rule that assigns to each input exactly one output.

## 8.F.A. 1

Compare properties of two functions each represented in a different way
8.F.A. 2

Interpret the equation $\mathrm{y}=\mathrm{mx}+\mathrm{b}$ as defining a linear function 8.F.A. 3

Construct a function to model a linear relationship between two quantities.

## 8.F.B. 4

Describe qualitatively the functional relationship between two quantities by analyzing a graph

## 8.F.B. 5

Verify experimentally the properties of rotations, reflections, and translations 8.G.A. 1

Verify experimentally the properties of rotations, reflections, and translations

## 8.G.A.1.a

Verify experimentally the properties of rotations, reflections, and translations

## 8.G.A.1.b

Understand that a twodimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations

## 8.G.A. 2

Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

## 8.G.A. 3

Strands (Grade 6-8):

- Expressions \& Equations (EE)

■ The Number System (NS)

Ratios \& Proportional Relationships (RP)
Geometry (G)

Statistics \& Probability (SP)
Functions (F)

Use informal arguments to establish facts about the angle sum and exterior angle of triangles
8.G.A. 5

Apply the Pythagorean Theorem to Determine unknown side lengths in right triangles in two and three dimensions.

## 8.G.B. 7

Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. 8.G.B. 8

Know the formulas for the volumes of cones, cylinders, and spheres
8.G.C. 9

Know that numbers that are not rational are called irrational.

## 8.NS.A. 1

Use rational approximations of irrational Numbers to compare the size of irrational numbers
8.NS.A. 2

Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities.
8.SP.A. 1

Know that straight lines are widely used to model relationships between two quantitative variables.
8.SP.A. 2

## Strands (Grade 6-8):

- Expressions \& Equations (EE)

Ratios \& Proportional Relationships (RP)
Geometry (G)

Statistics \& Probability (SP)

- Functions (F)
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## Sumdog Assessment Library

Using our assessment library, you can select a pre-made assessment that is matched to the Mathematics Standards from the Common Core State Standards.

We have an assessment for each unit and have mapped them to our progression framework. Our detailed report can easily be exported and printed to save for your tracking and monitoring evidence.

| Grades K-5 | Kindergarten | 5 Assessments |
| :---: | :---: | :---: |
|  | Grade 1 | 4 Assessments |
|  | Grade 2 | 4 Assessments |
|  | Grade 3 | 5 Assessments |
|  | Grade 4 | 6 Assessments |
| Grades 6-8 | Grade 5 | 6 Assessments |
|  | Grade 6 | 8 Assessments |
|  | Grade 8 | 6 Assessments |



## Teacher Planning Template

| Class/Student Name: |  |  |  | Grade: |
| :---: | :---: | :---: | :---: | :---: |
|  | SEMESTER 1 | SEMESTER 2 | SEMESTER 3 | SEMESTER 4 |
| Teacher Notes |  |  |  |  |
| Challenges |  |  |  |  |
| Focus Skills |  |  |  |  |
| Sumdog Assessments |  |  |  |  |
| Sumdog Homework |  |  |  |  |



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