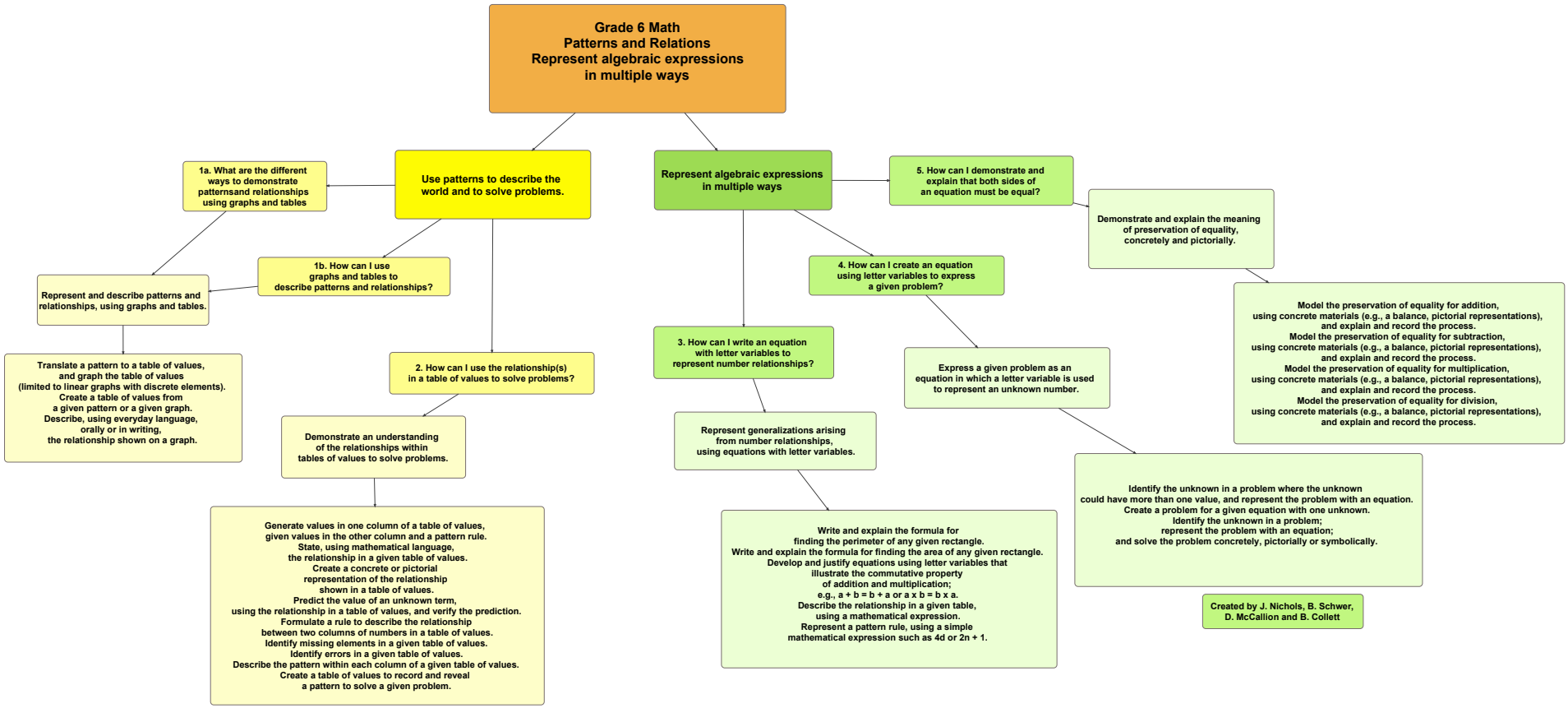
Grade 6 Math
Patterns and Relations
Represent algebraic expressions
in multiple ways
Use patterns to describe the
world and to solve problems.
1a. What are the different
ways to demonstrate
patternsand relationships
using graphs and tables
1b. How can I use
graphs and tables to
describe patterns and relationships?
Represent and describe patterns and
relationships, using graphs and tables.
Translate a pattern to a table of values,
and graph the table of values
(limited to linear graphs with discrete elements).
Create a table of values from
a given pattern or a given graph.
Describe, using everyday language,
orally or in writing,
the relationship shown on a graph.
2. How can I use the relationship(s)
in a table of values to solve problems?
Demonstrate an understanding
of the relationships within
tables of values to solve problems.
Generate values in one column of a table of values,
given values in the other column and a pattern rule.
State, using mathematical language,
the relationship in a given table of values.
Create a concrete or pictorial
representation of the relationship
shown in a table of values.
Predict the value of an unknown term,
using the relationship in a table of values, and verify the prediction.
Formulate a rule to describe the relationship
between two columns of numbers in a table of values.
Identify missing elements in a given table of values.
Identify errors in a given table of values.
Describe the pattern within each column of a given table of values.
Create a table of values to record and reveal
a pattern to solve a given problem.
Represent algebraic expressions
in multiple ways
5. How can I demonstrate and
explain that both sides of
an equation must be equal?
Demonstrate and explain the meaning
of preservation of equality,
concretely and pictorially.
Model the preservation of equality for addition,
using concrete materials (e.g., a balance, pictorial representations),
and explain and record the process.
Model the preservation of equality for subtraction,
using concrete materials (e.g., a balance, pictorial representations),
and explain and record the process.
Model the preservation of equality for multiplication,
using concrete materials (e.g., a balance, pictorial representations),
and explain and record the process.
Model the preservation of equality for division,
using concrete materials (e.g., a balance, pictorial representations),
and explain and record the process.
4. How can I create an equation
using letter variables to express
a given problem?
3. How can I write an equation
with letter variables to
represent number relationships?
Express a given problem as an
equation in which a letter variable is used
to represent an unknown number.
Represent generalizations arising
from number relationships,
using equations with letter variables.
Identify the unknown in a problem where the unknown
could have more than one value, and represent the problem with an equation.
Create a problem for a given equation with one unknown.
Identify the unknown in a problem;
represent the problem with an equation;
and solve the problem concretely, pictorially or symbolically.
Write and explain the formula for
finding the perimeter of any given rectangle.
Write and explain the formula for finding the area of any given rectangle.
Develop and justify equations using letter variables that
illustrate the commutative property
of addition and multiplication;
e.g., a + b = b + a or a x b = b x a.
Describe the relationship in a given table,
using a mathematical expression.
Represent a pattern rule, using a simple
mathematical expression such as 4d or 2n + 1.
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