



KAP Predictive Interim Cluster Map

- The predictive interim assessments provide an estimate of a student’s future performance on Kansas summative assessments. The assessments also allow educators to evaluate students’ knowledge and skills in a subject and are designed to inform decisions both at the classroom level and beyond (e.g., at the school or district level). To keep the assessment length short, the total number of items that students respond to are limited. The predictive interim assessments do not support any inferences about performance at standard level because measurement best practice would require substantially more items per standard in order to provide an accurate measure of whether the student knows the content of each standard. However, the predictive interim assessments support the inferences made about clusters at the classroom level and beyond because student responses are aggregated and thus more reliable.
- The cluster map resource documents include the clusters embedded in the 2017 Kansas standards and a table mapping each item on the predictive interim assessments to the cluster and item description. In a cluster map resource document, there are two parts: a cluster key table and a cluster mapping table. The cluster key table includes the cluster code and cluster description as well as its domain, and the cluster mapping table links each item with the cluster it is measuring.
- Teachers could use this resource to identify items measuring the same cluster or domain. Combining this resource with information from the school or district report, teacher also could make inferences about school or district performances on clusters or domains. If the whole school performed better than the state average on the majority of items measuring the same cluster or domain, then the teacher could infer that the students in the school likely understood the knowledge and skills of this cluster or domain. If the whole school performed worse than the state average on the majority of items measuring the same cluster or domain, then the teacher might want to spend more instruction time on this cluster or domain.
- Although there are more items measuring one cluster or domain than one standard, the predictive interim assessment still do not support any inferences made about clusters or domains at student level because the number of items per cluster or domain is still not large enough to provide an accurate measure of whether the student understands the content of each cluster or domain.

KAP Predictive Interim Cluster Map

Mathematics Key

Domain	Cluster	Description
Operations & Algebraic Thinking	3.OA.A	Represents and solves problems involving multiplication and division
	3.OA.B	Understand properties of multiplication and the relationship between multiplication and division
	3.OA.C	Multiply and divide within 100.
	3.OA.D	Solve problems involving the four operations, and identify and explain patterns in arithmetic.
Number and Operations in Base Ten	3.NBT.A	Use place value understanding and properties of operations to perform multi-digit arithmetic.
Number and Operations – Fractions	3.NF.A	Develop understanding of fractions as numbers.
Measurement & Data	3.MD.A	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
	3.MD.B	Represent and interpret data.
	3.MD.C	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
	3.MD.D	Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
Geometry	3.G.A	Reason with shapes and their attributes
Strategic Thinking and Reasoning	3.STAR.PSM	Problem solving and modeling.
	3.STAR.CR	Communicating Reasoning.

Grade 3 Mathematics: Fall

Item Position	Cluster	Item Description
1	3.OA.A	Find the unknown factor in a multiplication problem
2	3.OA.A	Express multiplication as repeated addition
3	3.OA.A	Solve a word problem involving multiplication
4	3.OA.A	Solve a word problem involving division
5	3.OA.A	Solve a word problem involving division
6	3.OA.A	Solve a word problem involving division
7	3.OA.A	Represent a situation as an equation with an unknown value
8	3.OA.B	Find the unknown divisor in a division problem
9	3.OA.B	Determine equivalent expressions using properties of operations
10	3.OA.B	Solve a word problem involving division
11	3.OA.C	Find the quotient
12	3.OA.C	Relate equations from the same fact family
13	3.OA.C	Find the product
14	3.OA.C	Represent an array as an equation that uses division
15	3.OA.D	Identify the missing number in a numerical pattern
16	3.OA.D	Solve a two-step word problem
17	3.OA.D	Solve a two-step word problem
18	3.NBT.A	Multiply a one-digit number by 10
19	3.NBT.A	Round a number to a given place value
20	3.NF.A	Represent a situation using a fraction
21	3.MD.A	Solve a word problem involving time
22	3.MD.B	Create a scaled picture graph to represent data given in a table
23	3.MD.C	Find the area of a rectangle
24	3.G.A	Compare the attributes of two shapes
25	3.STAR.PSM	Solve a two-step word problem

Keep in mind that clusters measured by only a few items are less informative than clusters measured by more items. For the clusters measured by few items, inferences are better suited at the domain level.

Grade 3 Mathematics: Winter

Item Position	Cluster	Item Description
1	3.OA.B	Express the quotient as one of the factors in a related multiplication equation
2	3.OA.B	Match equivalent expressions using properties of operations
3	3.OA.C	Choose numbers divisible by a given number
4	3.OA.C	Relate equations from the same fact family
5	3.OA.C	Relate equations from the same fact family
6	3.OA.D	Create an expression based on missing values in an addition table
7	3.OA.D	Solve a two-step word problem
8	3.NBT.A	Find the missing addend in an addition problem
9	3.NF.A	Relate a fraction to the number of parts in the whole
10	3.NF.A	Represent a part of a whole with a fraction in a visual fraction model
11	3.MD.A	Determine the time shown on an analog clock
12	3.MD.A	Solve a word problem involving addition
13	3.MD.B	Determine the length of an object using a ruler
14	3.MD.C	Find the area of a rectangle given the side lengths
15	3.MD.C	Find the area of a rectangle given the side lengths
16	3.MD.C	Find the area of a rectangle given the side lengths
17	3.MD.D	Find the perimeter of a rectangle given the side lengths
18	3.MD.D	Find the missing length of a side of a polygon given the perimeter
19	3.STAR.CR	Compare the perimeters and areas of two shapes
20	3.STAR.PSM	Compare the lengths of two objects displayed next to a ruler
21	3.STAR.PSM	Solve a word problem involving rounding and subtraction
22	3.STAR.PSM	Solve a word problem involving equal groups
23	3.STAR.CR	Represent a situation using an equation with an unknown value

Be cautious about any inferences made about a cluster measured by less than 4 items. In this case, inferences are better suited at the domain level.

Grade 3 Mathematics: Spring

Item Position	Cluster	Item Description
1	3.OA.B	Determine equivalent expressions using properties of operations
2	3.OA.B	Write an equivalent expression using the distributive property
3	3.OA.D	Identify the rule for a given number pattern
4	3.OA.D	Solve a two-step word problem
5	3.NF.A	Determine whether two fractions in a situation are equivalent
6	3.NF.A	Represent a whole number as a fraction
7	3.MD.A	Solve a word problem involving time
8	3.MD.A	Solve a word problem involving time
9	3.MD.A	Solve a word problem involving time
10	3.MD.A	Measure the mass of objects shown on a scale
11	3.MD.B	Solve a problem using information shown in a bar graph
12	3.MD.C	Find the area of a composite figure made up of rectangles
13	3.MD.C	Find the area of a composite figure made up of rectangles
14	3.MD.C	Find the area of a composite figure made up of rectangles
15	3.MD.D	Find a side length of a rectangle given a side length and the perimeter
16	3.G.A	Compare attributes of two shapes
17	3.G.A	Compare attributes of two shapes
18	3.G.A	Compare attributes of two shapes
19	3.STAR.PSM	Measure a figure using a ruler and determine the area
20	3.STAR.CR	Solve a word problem involving rounding and addition
21	3.STAR.CR	Solve a word problem using equivalent fractions
22	3.STAR.PSM	Solve a word problem involving subtraction and an equivalent fraction
23	3.STAR.CR	Match the perimeters and corresponding areas of rectangles given a side length

Be cautious about any inferences made about a cluster measured by less than 4 items. In this case, inferences are better suited at the domain level.