

## **APPENDIX D: THE 2011 MSA-MATH BLUEPRINTS**

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**Table D.1 The 2011 MSA-Math Blueprint: Grade 3**

		Form A		Form B		Form C		Form D		Form E		Form F		Form G		Form H		Form J		Form K	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
1. Knowledge of Algebra, Patterns, or Functions - Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships	<b>Operational Items</b>	12	1	12	1	12	1	12	1	12	1	12	1	12	1	12	1	12	1	12	1
	<b>(Field Test Items)</b>	(4)	(1)	(1)	(0)	(2)	(0)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(3)	(1)	(1)	(0)	(3)	(1)
2. Knowledge of Geometry - Students will apply the properties of one, two, or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects	<b>Operational Items</b>	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1
	<b>(Field Test Items)</b>	(1)	(1)	(2)	(0)	(2)	(0)	(2)	(0)	(2)	(0)	(1)	(0)	(1)	(1)	(1)	(0)	(2)	(0)	(0)	(1)
3. Knowledge of Measurement - Students will identify attributes, units, or systems of measurement or apply a variety of techniques, formulas, tools or technology for determining measurements.	<b>Operational Items</b>	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1
	<b>(Field Test Items)</b>	(2)	(0)	(2)	(1)	(2)	(1)	(2)	(0)	(2)	(0)	(2)	(1)	(2)	(0)	(2)	(0)	(2)	(0)	(2)	(0)
4. Knowledge of Statistics - Students will collect, organize, display, analyze, or interpret data to make decisions or predictions	<b>Operational Items</b>	11	1	11	1	11	1	11	1	11	1	11	1	11	1	11	1	11	1	11	1
	<b>(Field Test Items)</b>	(1)	(0)	(5)	(0)	(3)	(0)	(2)	(1)	(3)	(0)	(3)	(0)	(3)	(0)	(2)	(1)	(2)	(1)	(2)	(0)
5. Knowledge of Probability - Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve random variation.	<b>Operational Items</b>	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0
	<b>(Field Test Items)</b>	(1)	(0)	(1)	(0)	(1)	(0)	(2)	(0)	(1)	(0)	(1)	(0)	(1)	(0)	(1)	(0)	(1)	(0)	(2)	(0)
6. Knowledge of Number Relationships or Computation - Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil or technology.	<b>Operational Items</b>	13	3	13	3	13	3	13	3	13	3	13	3	13	3	13	3	13	3	13	3
	<b>(Field Test Items)</b>	(4)	(0)	(2)	(1)	(3)	(1)	(3)	(0)	(3)	(1)	(4)	(0)	(4)	(0)	(4)	(0)	(4)	(0)	(3)	(0)

**Table D.1 The 2011 MSA-Math Blueprint: Grade 4**

		Form A		Form B		Form C		Form D		Form E		Form F		Form G		Form H		Form J		Form K	
		SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR	SR	BCR
1. Knowledge of Algebra, Patterns, or Functions - Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships	<b>Operational Items</b>	13	1	13	1	13	1	13	1	13	1	13	1	13	1	13	1	13	1	13	1
	<b>(Field Test Items)</b>	(4)	(0)	(4)	(0)	(5)	(0)	(4)	(0)	(5)	(0)	(5)	(0)	(3)	(0)	(5)	(0)	(5)	(0)	(4)	(0)
2. Knowledge of Geometry - Students will apply the properties of one, two, or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects	<b>Operational Items</b>	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1
	<b>(Field Test Items)</b>	(2)	(1)	(1)	(0)	(2)	(0)	(2)	(0)	(2)	(0)	(2)	(0)	(2)	(0)	(2)	(0)	(2)	(0)	(2)	(0)
3. Knowledge of Measurement - Students will identify attributes, units, or systems of measurement or apply a variety of techniques, formulas, tools or technology for determining measurements.	<b>Operational Items</b>	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1
	<b>(Field Test Items)</b>	(2)	(0)	(3)	(0)	(2)	(0)	(3)	(0)	(2)	(0)	(3)	(0)	(2)	(0)	(1)	(0)	(2)	(0)	(2)	(0)
4. Knowledge of Statistics - Students will collect, organize, display, analyze, or interpret data to make decisions or predictions	<b>Operational Items</b>	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1
	<b>(Field Test Items)</b>	(2)	(0)	(2)	(0)	(1)	(0)	(1)	(0)	(1)	(0)	(2)	(0)	(6)	(0)	(4)	(0)	(2)	(0)	(4)	(0)
5. Knowledge of Probability - Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve random variation.	<b>Operational Items</b>	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1
	<b>(Field Test Items)</b>	(1)	(0)	(1)	(0)	(1)	(0)	(0)	(1)	(1)	(1)	(0)	(1)	(1)	(1)	(1)	(1)	(0)	(1)	(1)	(1)
6. Knowledge of Number Relationships or Computation - Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil or technology.	<b>Operational Items</b>	12	2	12	2	12	2	12	2	12	2	12	2	12	2	12	2	12	2	12	2
	<b>(Field Test Items)</b>	(2)	(1)	(2)	(2)	(1)	(3)	(3)	(1)	(1)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(3)	(1)	(2)	(1)

**Table D.1 The 2011 MSA-Math Blueprint: Grade 5**

Standard		Form A	Form B	Form C	Form D	Form E	Form F	Form G	Form H	Form J	Form K																									
		S R	B C C R	E C C R	S R	B C C R	E C C R	S R	B C C R	E C C R	S R	B C C R	E C C R																							
1. Knowledge of Algebra, Patterns, or Functions - Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships	<u>Operational Items</u>	13	1	1	13	1	1	13	1	1	13	1	1	13	1	1	13	1	1	13	1	1	13	1	1											
	<u>(Field Test Items)</u>	(3)	(1)	(1)	(2)	(0)	(1)	(2)	(0)	(1)	(0)	(1)	(0)	(1)	(1)	(0)	(0)	(1)	(2)	(0)	(0)	(4)	(0)	(1)	(2)	(1)	(1)	(2)	(1)	(1)	(2)	(1)	(1)	(3)	(0)	(2)
2. Knowledge of Geometry - Students will apply the properties of one, two, or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects	<u>Operational Items</u>	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0		
	<u>(Field Test Items)</u>	(2)	(0)	(0)	(2)	(0)	(0)	(4)	(0)	(0)	(2)	(0)	(0)	(1)	(0)	(0)	(0)	(1)	(0)	(1)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(0)	(0)	(1)	(0)	(0)		
3. Knowledge of Measurement - Students will identify attributes, units, or systems of measurement or apply a variety of techniques, formulas, tools or technology for determining measurements.	<u>Operational Items</u>	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0		
	<u>(Field Test Items)</u>	(1)	(1)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(4)	(0)	(0)	(5)	(0)	(0)	(1)	(1)	(0)	(2)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(2)	(0)	(0)		
4. Knowledge of Statistics - Students will collect, organize, display, analyze, or interpret data to make decisions or predictions	<u>Operational Items</u>	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0		
	<u>(Field Test Items)</u>	(3)	(0)	(0)	(3)	(0)	(0)	(3)	(0)	(0)	(3)	(1)	(0)	(4)	(1)	(0)	(3)	(0)	(0)	(4)	(1)	(0)	(3)	(0)	(0)	(4)	(1)	(0)	(3)	(0)	(0)	(4)	(1)	(0)	(3)	(1)
5. Knowledge of Probability - Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve random variation.	<u>Operational Items</u>	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0	3	1	0		
	<u>(Field Test Items)</u>	(1)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
6. Knowledge of Number Relationships or Computation - Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil or technology.	<u>Operational Items</u>	13	2	0	13	2	0	13	2	0	13	2	0	13	2	0	13	2	0	13	2	0	13	2	0	13	2	0	13	2	0	13	2	0		
	<u>(Field Test Items)</u>	(3)	(0)	(0)	(3)	(1)	(0)	(3)	(2)	(0)	(3)	(0)	(0)	(2)	(1)	(0)	(3)	(0)	(0)	(2)	(0)	(0)	(3)	(1)	(0)	(3)	(1)	(0)	(2)	(0)	(0)	(3)	(1)	(0)		

Table D.1 The 2011 MSA-Math Blueprint: Grade 6

Standard		Form A	Form B	Form C	Form D	Form E	Form F	Form G	Form H	Form J	Form K																				
		S R	B C C R R	E C C R R	S R	B C C R R	E C C R R	B E	S C C R R	B E	S C C R R	B E	S C C R R	B E	S C C R R	B E	S C C R R	B E													
1. Knowledge of Algebra, Patterns, or Functions - Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships	<u>Operational Items</u>	12	1	1	12	1	1	12	1	1	12	1	1	12	1	1	12	1	1	12	1	1	12	1	1						
	<u>(Field Test Items)</u>	(2)	(0)	(1)	(2)	(0)	(1)	(3)	(0)	(1)	(1)	(0)	(1)	(4)	(0)	(1)	(3)	(0)	(1)	(2)	(1)	(1)	(5)	(0)	(1)	(5)	(1)	(1)	(6)	(0)	(1)
2. Knowledge of Geometry - Students will apply the properties of one, two, or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects	<u>Operational Items</u>	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0	7	1	0
	<u>(Field Test Items)</u>	(1)	(0)	(0)	(2)	(2)	(0)	(1)	(1)	(0)	(1)	(2)	(0)	(1)	(1)	(0)	(1)	(1)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(3)	(1)	(0)
3. Knowledge of Measurement - Students will identify attributes, units, or systems of measurement or apply a variety of techniques, formulas, tools or technology for determining measurements.	<u>Operational Items</u>	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0	5	1	0
	<u>(Field Test Items)</u>	(1)	(0)	(0)	(2)	(1)	(0)	(2)	(1)	(0)	(0)	(1)	(0)	(2)	(1)	(0)	(1)	(3)	(0)	(0)	(0)	(0)	(1)	(1)	(0)	(1)	(1)	(0)	(0)	(1)	(0)
4. Knowledge of Statistics - Students will collect, organize, display, analyze, or interpret data to make decisions or predictions	<u>Operational Items</u>	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0	8	1	0
	<u>(Field Test Items)</u>	(3)	(1)	(0)	(4)	(0)	(0)	(3)	(0)	(0)	(5)	(0)	(0)	(2)	(0)	(0)	(2)	(0)	(0)	(2)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)
5. Knowledge of Probability - Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve random variation.	<u>Operational Items</u>	4	0	0	4	0	0	4	0	0	4	0	0	4	0	0	4	0	0	4	0	0	4	0	0	4	0	0	4	0	0
	<u>(Field Test Items)</u>	(2)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(2)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(1)	(0)	(0)
6. Knowledge of Number Relationships or Computation - Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil or technology.	<u>Operational Items</u>	12	2	0	12	2	0	12	2	0	12	2	0	12	2	0	12	2	0	12	2	0	12	2	0	12	2	0	12	2	0
	<u>(Field Test Items)</u>	(3)	(1)	(0)	(1)	(0)	(0)	(2)	(0)	(0)	(2)	(0)	(0)	(1)	(0)	(0)	(4)	(0)	(0)	(4)	(1)	(0)	(3)	(1)	(0)	(3)	(0)	(0)	(3)	(0)	(0)

Table D.1 The 2011 MSA-Math Blueprint: Grade 7- Forms A-E

Standard		Form A				Form B				Form C				Form D				Form E			
		SR	BCRECR	SPR		SR	BCRECR	SPR		SR	BCR	ECR	SPR	SR	BCRECR	SPR		SR	BCRECR	SPR	
1. Knowledge of Algebra, Patterns, or Functions - Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships	<u>Operational Items</u>	9	1	1	3	9	1	1	3	9	1	1	3	9	1	1	3	9	1	1	3
	<u>(Field Test Items)</u>	(4)	(0)	(1)	(1)	(2)	(1)	(0)	(1)	(1)	(1)	(0)	(0)	(3)	(1)	(1)	(0)	(1)	(1)	(0)	(0)
2. Knowledge of Geometry - Students will apply the properties of one, two, or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects	<u>Operational Items</u>	4	1	2	0	4	1	2	0	4	1	2	0	4	1	2	0	4	1	2	0
	<u>(Field Test Items)</u>	(1)	(0)	(1)	(1)	(0)	(0)	(1)	(1)	(0)	(1)	(0)	(1)	(1)	(1)	(0)	(1)	(0)	(1)	(0)	(1)
3. Knowledge of Measurement - Students will identify attributes, units, or systems of measurement or apply a variety of techniques, formulas, tools or technology for determining measurements.	<u>Operational Items</u>	4	0	1	1	4	0	1	1	4	0	1	1	4	0	1	1	4	0	1	1
	<u>(Field Test Items)</u>	(0)	(1)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)
4. Knowledge of Statistics - Students will collect, organize, display, analyze, or interpret data to make decisions or predictions	<u>Operational Items</u>	5	1	1	2	5	1	1	2	5	1	1	2	5	1	1	2	5	1	1	2
	<u>(Field Test Items)</u>	(0)	(0)	(1)	(1)	(0)	(1)	(1)	(1)	(0)	(0)	(1)	(0)	(0)	(0)	(1)	(0)	(1)	(0)	(1)	(0)
5. Knowledge of Probability - Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve random variation.	<u>Operational Items</u>	3	1	0	1	3	1	0	1	3	1	0	1	3	1	0	1	3	1	0	1
	<u>(Field Test Items)</u>	(1)	(0)	(0)	(1)	(1)	(0)	(0)	(1)	(1)	(0)	(0)	(1)	(1)	(0)	(0)	(1)	(1)	(0)	(0)	(1)
6. Knowledge of Number Relationships or Computation - Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil or technology.	<u>Operational Items</u>	11	0	0	3	11	0	0	3	11	0	0	3	11	0	0	3	11	0	0	3
	<u>(Field Test Items)</u>	(1)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(5)	(0)	(0)	(2)	(2)	(0)	(0)	(2)	(4)	(0)	(0)	(2)

**Table D.1 The 2011 MSA-Math Blueprint: Grade 7 – Forms F-K**

Standard		Form F				Form G				Form H				Form J				Form K			
		SR	BCR	ECR	SP R	SR	BCR	ECR	SP R	SR	BCR	ECR	SPR	SR	BCR	ECR	SPR	SR	BCR	ECR	SP R
1. Knowledge of Algebra, Patterns, or Functions - Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships	<u>Operational Items</u>	9	1	1	3	9	1	1	3	9	1	1	3	9	1	1	3	9	1	1	3
	<u>(Field Test Items)</u>	(1)	(1)	(0)	(1)	(3)	(1)	(0)	(1)	(1)	(1)	(0)	(1)	(0)	(1)	(1)	(0)	(3)	(1)	(0)	(0)
2. Knowledge of Geometry - Students will apply the properties of one, two, or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects	<u>Operational Items</u>	4	0	1	2	4	0	1	2	4	0	1	2	4	0	1	2	4	0	1	2
	<u>(Field Test Items)</u>	(0)	(0)	(1)	(1)	(0)	(0)	(1)	(1)	(1)	(0)	(0)	(1)	(0)	(0)	(0)	(1)	(0)	(1)	(1)	(0)
3. Knowledge of Measurement - Students will identify attributes, units, or systems of measurement or apply a variety of techniques, formulas, tools or technology for determining measurements.	<u>Operational Items</u>	4	1	0	1	4	1	0	1	4	1	0	1	4	1	0	1	4	1	0	1
	<u>(Field Test Items)</u>	(0)	(1)	(0)	(1)	(0)	(0)	(0)	(1)	(0)	(0)	(1)	(1)	(1)	(0)	(0)	(1)	(0)	(0)	(0)	(1)
4. Knowledge of Statistics - Students will collect, organize, display, analyze, or interpret data to make decisions or predictions	<u>Operational Items</u>	5	1	1	2	5	1	1	2	5	1	1	2	5	1	1	2	5	1	1	2
	<u>(Field Test Items)</u>	(0)	(0)	(1)	(0)	(1)	(1)	(1)	(0)	(1)	(0)	(1)	(0)	(2)	(0)	(1)	(0)	(2)	(0)	(1)	(1)
5. Knowledge of Probability - Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve random variation.	<u>Operational Items</u>	3	1	0	1	3	1	0	1	3	1	0	1	3	1	0	1	3	1	0	1
	<u>(Field Test Items)</u>	(1)	(0)	(0)	(1)	(1)	(0)	(0)	(1)	(1)	(1)	(0)	(1)	(0)	(1)	(0)	(1)	(1)	(0)	(0)	(1)
6. Knowledge of Number Relationships or Computation - Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil or technology.	<u>Operational Items</u>	11	0	0	3	11	0	0	3	11	0	0	3	11	0	0	3	11	0	0	3
	<u>(Field Test Items)</u>	(4)	(0)	(0)	(0)	(2)	(0)	(0)	(0)	(3)	(0)	(0)	(0)	(3)	(0)	(0)	(1)	(1)	(0)	(0)	(1)

Table D.1 The 2011 MSA-Math Blueprint: Grade 8- Forms A-E

		Form A				Form B				Form C				Form D				Form E			
		SR	BCR	ECR	SPR	SR	BCR	ECR	SPR	SR	BCR	ECR	SPR	SR	BCR	ECR	SPR	SR	BCR	ECR	SPR
<b>Standard</b>	<b>Operational Items</b>	8	2	1	4	8	2	1	4	8	2	1	4	8	2	1	4	8	2	1	4
	<b>(Field Test Items)</b>	(2)	(2)	(0)	(2)	(2)	(1)	(0)	(1)	(1)	(1)	(0)	(1)	(0)	(1)	(0)	(1)	(1)	(1)	(0)	(2)
1. Knowledge of Algebra, Patterns, or Functions - Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships	<b>Operational Items</b>	5	1	0	2	5	1	0	2	5	1	0	2	5	1	0	2	5	1	0	2
	<b>(Field Test Items)</b>	(1)	(0)	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(0)	(1)	(1)	(0)	(1)	(0)	(0)	(1)	(0)
2. Knowledge of Geometry - Students will apply the properties of one, two, or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects	<b>Operational Items</b>	3	0	1	1	3	0	1	1	3	0	1	1	3	0	1	1	3	0	1	1
	<b>(Field Test Items)</b>	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(1)	(2)	(0)	(1)	(0)	(1)	(0)	(0)	(0)
3. Knowledge of Measurement - Students will identify attributes, units, or systems of measurement or apply a variety of techniques, formulas, tools or technology for determining measurements.	<b>Operational Items</b>	6	1	1	1	6	1	1	1	6	1	1	1	6	1	1	1	6	1	1	1
	<b>(Field Test Items)</b>	(2)	(0)	(1)	(0)	(1)	(0)	(1)	(0)	(0)	(0)	(1)	(0)	(1)	(0)	(1)	(1)	(2)	(1)	(0)	(1)
4. Knowledge of Statistics - Students will collect, organize, display, analyze, or interpret data to make decisions or predictions	<b>Operational Items</b>	2	1	0	2	2	1	0	2	2	1	0	2	2	1	0	2	2	1	0	2
	<b>(Field Test Items)</b>	(1)	(1)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(1)	(1)	(1)	(0)	(0)
5. Knowledge of Probability - Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve random variation.	<b>Operational Items</b>	10	0	0	2	10	0	0	2	10	0	0	2	10	0	0	2	10	0	0	2
	<b>(Field Test Items)</b>	(0)	(0)	(0)	(1)	(2)	(0)	(0)	(1)	(3)	(0)	(0)	(2)	(1)	(0)	(0)	(0)	(1)	(0)	(0)	(1)
6. Knowledge of Number Relationships or Computation - Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil or technology.	<b>Operational Items</b>																				
	<b>(Field Test Items)</b>																				



**Table D.1 The 2011 MSA-Math Blueprint: Grade 8 – Forms F-K**

Standard		Form F				Form G				Form H				Form J				Form K			
		SR	BC R	EC R	SP R	SR	BC R	EC R	SP R	SR	BC R	EC R	SP R	SR	BC R	EC R	SP R	SR	BC R	EC R	SP R
1. Knowledge of Algebra, Patterns, or Functions - Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships	<u>Operational Items</u>	8	2	1	4	8	2	1	4	8	2	1	4	8	2	1	4	8	2	1	4
	<u>(Field Test Items)</u>	(2)	(2)	(0)	(2)	(2)	(1)	(1)	(2)	(1)	(1)	(0)	(1)	(0)	(1)	(1)	(0)	(1)	(1)	(0)	(2)
2. Knowledge of Geometry - Students will apply the properties of one, two, or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects	<u>Operational Items</u>	5	0	1	2	5	0	1	2	5	0	1	2	5	0	1	2	5	0	1	2
	<u>(Field Test Items)</u>	(1)	(0)	(0)	(0)	(1)	(1)	(0)	(0)	(1)	(1)	(1)	(0)	(1)	(1)	(0)	(1)	(0)	(0)	(1)	(1)
3. Knowledge of Measurement - Students will identify attributes, units, or systems of measurement or apply a variety of techniques, formulas, tools or technology for determining measurements.	<u>Operational Items</u>	3	1	0	1	3	1	0	1	3	1	0	1	3	1	0	1	3	1	0	1
	<u>(Field Test Items)</u>	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
4. Knowledge of Statistics - Students will collect, organize, display, analyze, or interpret data to make decisions or predictions	<u>Operational Items</u>	6	1	1	1	6	1	1	1	6	1	1	1	6	1	1	1	6	1	1	1
	<u>(Field Test Items)</u>	(2)	(0)	(1)	(0)	(1)	(0)	(1)	(0)	(0)	(0)	(1)	(1)	(1)	(0)	(1)	(1)	(2)	(0)	(1)	(0)
5. Knowledge of Probability - Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve random variation.	<u>Operational Items</u>	2	1	0	2	2	1	0	2	2	1	0	2	2	1	0	2	2	1	0	2
	<u>(Field Test Items)</u>	(1)	(0)	(0)	(1)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(1)	(0)	(1)	(0)
6. Knowledge of Number Relationships or Computation - Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil or technology.	<u>Operational Items</u>	10	0	0	2	10	0	0	2	10	0	0	2	10	0	0	2	10	0	0	2
	<u>(Field Test Items)</u>	(0)	(0)	(0)	(1)	(2)	(0)	(0)	(1)	(3)	(0)	(0)	(2)	(2)	(0)	(0)	(2)	(2)	(0)	(0)	(0)

