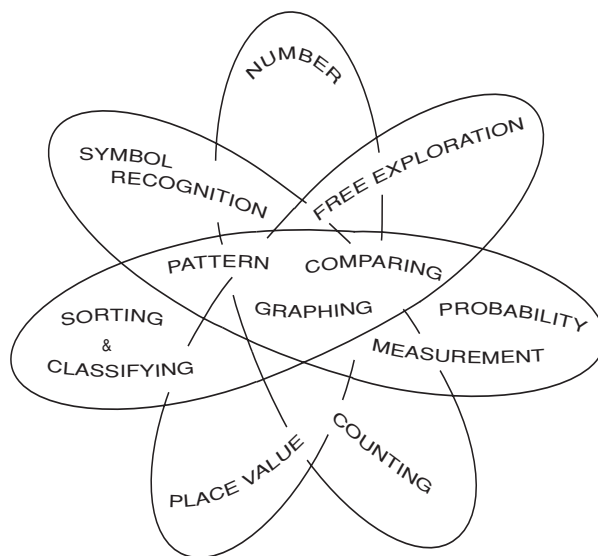


MATHEMATICS FOCUS

KINDERGARTEN • FIRST GRADE • SECOND GRADE



The grade level charts that follow indicate the mathematics focus for kindergarten, first and second grades in an optimum situation. The months are indicated at the top of the chart. The concepts are listed alphabetically. The concepts should not be taught or experienced in isolation.

All classrooms are different and each group of children have individual needs. Use the charts as a point of reference. Blank charts are provided for you to keep track of how your class progresses. If you find that your class is working at a different pace — either slower or faster — adjust accordingly. It may be helpful to consult the other grade-level charts.

The conceptual focus in the stations overlaps on the chart. The old station activities are replaced gradually over time with new stations activities. It may take several weeks to completely change the station focus.

When you plan (and later evaluate) your math curriculum, keep in mind that:

- **Learning is not a linear process. Good mathematical experiences involve several (and sometimes many) interrelated concepts.** Schedule classroom experiences where mathematical ideas are introduced and experienced within the context of rich, meaningful experiences (e.g., measurement, graphing, sorting...). De-emphasize classroom mathematical experiences that use one concept in isolation.

Even though the station activities emphasize specific focus (e.g., pattern, number or place value), the experiences require the knowledge and use of other interrelated concepts at the same time.

Example: Children sort, compare, estimate, count, perform various number operations, make predictions and draw conclusions when they gather and organize information for a real graph. This type of activity provide children opportunities to use interrelated concepts.

- **Mathematics is all around us.** Children can extend their understanding of mathematics and make new connections when their mathematical experiences include personal interests (e.g., pets, sports, animals, friends...); events that naturally occur during the daily life of the classroom or home; and interesting world events. Authentic experiences allow children to construct a personal understanding of how mathematics is used in their world.
- **True mathematical understanding can be achieved when teachers and children engage in the exploration of mathematics together through various multimodal experiences.** Encourage children to share their insights and ideas about mathematics in a variety of ways. A multimodal experience would include any or all of the following components:
 - constructing models with manipulative materials
 - drawing picture, diagram, graphs...
 - writing about ideas or conjectures, creating mathematical problems...
 - reading related children's literature, newspaper, other classmate's writing...
 - discussions and debates mathematical problems

CODES TO GRADE LEVEL CHART

- Major focus areas for a specific grade level are shaded.

The symbols below indicate the amount of emphasis placed on specific concepts during the school year.

- ▲ Heavy emphasis
- Light emphasis
- No emphasis

KINDERGARTEN

CONTENT AREAS	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Counting (rote, 1:1 correspondence, invariance, inclusion, counting-on)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Group Counting (calendar, number books, rhymes and songs)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Free Exploration (recording begins later – October or November)	▲	▲	▲	▲	○	○	○	○	○	○
Measurement	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Comparing Games (using comparative language)	▲	▲	▲	○	○	○	○	○	○	○
Quantity / Volume	○	○	▲	▲	▲	▲	▲	○	○	○
Linear / Weight	○	○	○	○	○	▲	▲	▲	▲	○
Time (time intervals: days, yesterday, tomorrow, week, month, season)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Money (free exploring, sorting the coin attributes)	○	○	○	○	○	○	▲	▲	▲	▲
Number Operations	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
<i>Concept Level</i> (manipulatives only)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Group Activities (word problems / Junk Jobs etc.)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Stations	-	-	-	-	-	▲	▲	▲	▲	▲
<i>Connecting Level</i> (manipulatives with prewritten symbols)	○	○	○	○	○	○	▲	▲	▲	▲
Group Activities (word problems / Junk Jobs etc.)	○	○	○	○	○	○	▲	▲	▲	▲
Stations	-	-	-	-	-	○	○	▲	▲	▲
<i>Symbolic Level</i> (Children record while working with manipulatives.)	○	○	○	○	○	○	○	○	○	○
Group Activities (word problems / Junk Jobs etc.)	○	○	○	○	○	○	○	○	○	○
Stations	-	-	-	-	-	○	○	○	○	○
Numeral Recognition	▲	▲	▲	▲	▲	▲	○	○	○	○
Numeral Writing	○	○	○	○	▲	▲	▲	▲	▲	▲
Organizing Information	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Graphing (focus on real graphs & picture graphs that represent real experiences)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Sorting & Classifying (real-life experiences; people; junk box sorting, level 1)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Pattern	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Group Lessons	▲	▲	▲	▲	▲	○	○	○	○	○
Stations	-	-	-	▲	▲	▲	○	○	○	○
Independent Pattern Activities	○	○	○	○	○	▲	▲	▲	▲	▲
Place Value (calendar and measurement activities only)	○	○	○	○	○	○	○	○	○	○

FIRST GRADE

CONTENT AREAS	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Counting (counting-on, Pattern Book Experiments)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Free Exploration	▲	▲	○	○	○	○	○	○	○	○
Measurement	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Comparing Games (language)	▲	▲	○	○	○	○	○	○	○	○
Quantity / Volume	○	○	▲	▲	▲	▲	○	○	○	○
Linear / Weight	○	○	○	○	▲	▲	▲	▲	○	○
Time (time intervals and clock time e.g., hour, 1/2 hour)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Money (name and identify coin attributes and value; make change with real coins)	○	○	○	○	▲	▲	▲	▲	▲	▲
Number Operations	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Concept Level (working with manipulatives only)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Group Activities (creating stories & problems / Junk Jobs etc.)	▲	▲	▲	▲	▲	▲	○	○	○	○
Stations	-	-	-	-	▲	▲	▲	▲	○	○
Connecting Level (working with manipulatives and prewritten symbols)	○	○	▲	▲	▲	▲	▲	▲	▲	▲
Group Activities (word problems / Junk Jobs etc.)	○	○	▲	▲	▲	▲	▲	▲	▲	▲
Stations	○	○	○	○	○	○	▲	▲	○	○
Symbolic Level (Children record while working with manipulatives)	○	○	○	○	○	○	▲	▲	▲	▲
Group Activities (word problems / Junk Jobs etc.)	○	○	○	○	○	○	▲	▲	▲	▲
Stations	○	○	○	○	○	○	○	▲	▲	○
Numeral Recognition	▲	▲	▲	▲	○	○	○	○	○	○
Numeral Writing	○	○	▲	▲	▲	▲	▲	▲	▲	▲
Organizing Information	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Graphing (focus is on real graphs & various types of graphs that represent real experiences)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Sorting & Classifying (real-life experiences; people; junk box sorting, levels 1-3)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Pattern	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Group Lessons	▲	▲	▲	○	○	○	○	○	○	○
Stations	-	-	▲	▲	▲	○	○	○	○	○
Independent Pattern Activities	○	○	○	○	▲	▲	▲	▲	▲	▲
Place Value (concept level with measurement and calendar activities)	▲	▲	▲	▲	▲	▲	○	○	○	○
Group Lessons (other bases: main focus on concept, some connecting)	○	○	○	○	○	○	▲	▲	▲	▲
Stations (concept level is the main focus, some recording)	-	-	-	-	-	-	-	-	▲	▲

SECOND GRADE

CONTENT AREAS	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Free Exploration	▲	▲	○	○	○	○	○	○	○	○
Measurement	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Comparing Games (language)	○	○	○	○	○	○	○	○	○	○
Quantity / Volume / Linear / Weight	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Time (time intervals and clock time e.g., hour, 1/2 hour, 1/4 hour, minutes)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Money (making change with real coins, add and subtract amounts of real money)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Number Operations	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
<i>Concept Level and Connecting Level</i>	▲	▲	▲	▲	▲	○	○	○	○	○
Group Activities (word problems / Junk Jobs, etc.)	▲	▲	▲	▲	▲	○	○	○	○	○
Stations	○	○	▲	▲	▲	○	○	○	○	○
<i>Symbolic Level</i> (Children record while working with manipulatives.)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Group Activities (word problems / Junk Jobs etc.)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Stations	○	▲	▲	▲	▲	○	○	○	○	○
Independent Writing (solving and creating problems)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Numeral Recognition / Numeral Writing (large numbers)	▲	○	○	○	○	○	○	○	○	○
Organizing Information	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Graphing (real, picture and representational graphs)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Sorting & Classifying (real-life experiences; people; junk box sorting, levels 1-5)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Pattern	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Counting (calendar / Pattern Book Experiments)	○	○	○	○	○	○	○	○	○	○
Group Lessons	▲	▲	○	○	○	○	○	○	○	○
Stations	-	▲	▲	○	○	○	○	○	○	○
Independent Pattern Activities	○	○	○	▲	▲	▲	▲	▲	▲	▲
Place Value (begin with calendar and measurement)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Group Activities — other bases (concept / connecting / symbolic)	○	○	▲	▲	▲	▲	▲	▲	▲	▲
Searching for Patterns	○	○	▲	▲	▲	▲	▲	○	○	○
Random Practice	○	○	▲	▲	▲	▲	▲	○	○	○
Group Activities — base 10 (concept / connecting / symbolic)	○	○	○	○	▲	▲	▲	▲	○	○
Stations Base 10 (concept / connecting / symbolic)	○	○	○	○	○	▲	▲	▲	▲	▲
Independent Activities (concept / connecting / symbolic)	-	-	-	-	-	▲	▲	▲	▲	▲

KINDERGARTEN

CONTENT AREAS	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Counting (rote, 1:1 correspondence, invariance, inclusion, counting-on)										
Group Counting (calendar, number books, rhymes and songs)										
Free Exploration (recording begins later – October or November)										
Measurement										
Comparing Games (using comparative language)										
Quantity / Volume										
Linear / Weight										
Time (time intervals: days, yesterday, tomorrow, week, month, season)										
Money (free exploring, sorting the coin attributes)										
Number Operations										
<i>Concept Level</i> (manipulatives only)										
Group Activities (word problems / Junk Jobs etc.)										
Stations										
<i>Connecting Level</i> (manipulatives with prewritten symbols)										
Group Activities (word problems / Junk Jobs etc.)										
Stations										
<i>Symbolic Level</i> (Children record while working with manipulatives.)										
Group Activities (word problems / Junk Jobs etc.)										
Stations										
Numeral Recognition										
Numeral Writing										
Organizing Information										
Graphing (focus on real graphs & picture graphs that represent real experiences)										
Sorting & Classifying (real-life experiences; people; junk box sorting, level 1)										
Pattern										
Group Lessons										
Stations										
Independent Pattern Activities										
Place Value (calendar and measurement activities only)										

FIRST GRADE

CONTENT AREAS	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Counting (counting-on, Pattern Book Experiments)										
Free Exploration										
Measurement										
Comparing Games (language)										
Quantity / Volume										
Linear / Weight										
Time (time intervals and clock time e.g., hour, 1/2 hour)										
Money (name and identify coin attributes and value; make change with real coins)										
Number Operations										
Concept Level (working with manipulatives only)										
Group Activities (creating stories & problems / Junk Jobs etc.)										
Stations										
Connecting Level (working with manipulatives and prewritten symbols)										
Group Activities (word problems / Junk Jobs etc.)										
Stations										
Symbolic Level (Children record while working with manipulatives.)										
Group Activities (word problems / Junk Jobs etc.)										
Stations										
Numeral Recognition										
Numeral Writing										
Organizing Information										
Graphing (focus is on real graphs & various types of graphs that represent real experiences)										
Sorting & Classifying (real-life experiences; people; junk box sorting, levels 1-3)										
Pattern										
Group Lessons										
Stations										
Independent Pattern Activities										
Place Value (concept level with measurement and calendar activities)										
Group Lessons (other bases: main focus on concept, some connecting)										
Stations (concept level is the main focus, some recording)										

SECOND GRADE

CONTENT AREAS	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Free Exploration										
Measurement										
Comparing Games (language)										
Quantity / Volume / Linear / Weight										
Time (time intervals and clock time e.g., hour, 1/2 hour, 1/4 hour, minutes)										
Money (making change with real coins, add and subtract amounts of real money)										
Number Operations										
<i>Concept Level and Connecting Level</i>										
Group Activities (word problems / Junk Jobs etc.)										
Stations										
<i>Symbolic Level</i> (Children record while working with manipulatives.)										
Group Activities (word problems / Junk Jobs etc.)										
Stations										
Independent Writing (solving and creating problems)										
Numeral Recognition / Numeral Writing (large numbers)										
Organizing Information										
Graphing (real, picture and representational graphs)										
Sorting & Classifying (real-life experiences; people; junk box sorting, levels 1-5)										
Pattern										
Counting (calendar / Pattern Book Experiments)										
Group Lessons										
Stations										
Independent Pattern Activities										
Place Value (begin with calendar and measurement activities)										
Group Activities — other bases (concept / connecting / symbolic)										
Searching for Patterns										
Random Practice										
Group Activities — Base 10 (concept / connecting / symbolic)										
Stations Base 10 (concept / connecting / symbolic)										
Independent Activities										