

SWALLOW SCHOOL DISTRICT CURRICULUM GUIDE

Curriculum Area: **Math**

Course Length: Full Year

Grade: **KG**

Date Last Approved: June 2015

Stage 1: Desired Results

Course Description and Purpose:

Number sense is an important foundational understanding when learning mathematics and studying mathematical relationships. Students learn to and practice counting by 1s, 5s, and 10s past 100. Students learn and practice counting by 2s to 30. Students repeat and develop patterns and use this knowledge to find patterns in simple math problems. Students develop and understanding of the difference and similarities between 2D and 3D shapes. Finally students develop skills to solve simple addition and subtraction equations and relate and use these equations to solve simple math story problems.

Enduring Understanding(s):

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Essential Question(s):

1. What patterns do you notice when counting?
2. How do you show and compare numbers using place value?
3. How can you show addition and subtraction “thinking?”
4. What is measurement and what are different characteristics we can measure and use to compare?
5. How can you sort and count objects based on different attributes?
6. What are the names and different characteristics of shapes?
7. How are shapes used to make other shapes?

Learning Targets:

1. Students can demonstrate number sense and create patterns (skill).
2. Students can evaluate numbers and perform operations (skill).
3. Students can organize information and produce strategies to solve real world mathematical problems (skill).
4. Students can evaluate and manipulate geometric shapes (skill).
5. Students can produce accurate measurement by applying the appropriate tool (skill/product).

Stage 2: Learning Plan

I. Unit 1

- A. Explore measurement comparisons.
- B. Identify and describe shapes.
- C. Multisensory Counts – Introduce counting and one-to-one Correspondence.
Count objects, sounds, and taps.
- D. Countdown to Zero
- E. Getting to Know Numbers (1-9)
- F. Introduction to Sorting – Identify attributes and sort objects
using a variety of attributes.
- G. Construct a bar graph, make comparisons, and answer simple

Standards: CCSS: CCSS: K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.CC.C.6, K.CC.C.7, K.MD.A.1, K.MD.A.2, K.MD.B.3, K.G.A.1, K.G.A.2, K.G.A.3, K.G.B.4, K.G.B.5, K.G.B.6

Learning Targets Addressed: 1, 4, 5

questions based on data from graphs.

H. Sound and Motion Patterns

I. Patterns with Color

J. Count numbers in sequence and represent numbers with claps or taps.

K. Body Height Comparisons

L. Count and read numbers 1-10.

M. Use 1-to-1 correspondence, represent numbers with concrete materials, recognize a visual pattern of numbers.

N. Write and represent numbers in number book

Assessment Map:

Type	Level	Assessment Detail
Practice	Knowledge/Skill	Whole Group Modeling Small Group Centers Independent Practice Partner Games Number Writing Books Technology Resources
Formative	Skill	Oral assessments Teacher Observations Exit Slip
Summative	Skill/Product	End of Unit Assessment

II. Unit 2

A. Sort shapes, identify and name shapes, and describe attributes of shapes.

B. Recognize, describe, and extend patterns

C. Develop oral counting skills (by 1s) through movement

D. Count orally from 10 – 19, recognize teen numbers, and sequence numbers 10 – 19.

E. Recognize that teen numbers represent “10 and some more.”

F. Estimate the number of objects in a collection.

G. Use concrete materials and pictures to represent and solve addition and subtraction stories.

H. Begin to define the concept of symmetry.

I. Look for symmetry in nature and describe symmetrical objects.

J. Count orally by 1s and 10s, and begin to recognize patterns of 10 when counting.

K. Count up to 20 objects, and represent teen numbers as “10 and some more.” Compare numbers 11-20.

L. Skip count by 5s, and find patterns in counts by 5.

M. Introduction of Tally Marks

Standards: CCSS: K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.CC.C.6, K.CC.C.7, K.NBT.A.1, K.OA.A.1, K.OA.A.2, K.MD.B.3, K.G.A.1, K.G.A.2, K.G.A.3, K.G.B.4, K.G.B.5, K.G.B.6

Learning Targets Addressed: 1, 3, 4

Assessment Map:

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Formative	Skill	Oral assessments Teacher Observations Exit Slip
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III. Unit 3

- A. Count and recognize numbers, and construct a graph.
- B. Use a pan balance to compare and describe the weights of various objects.
- C. Using dominoes match number representations to written numerals.
- D. Introduce number sense terms bigger than or less than
- E. Measure items using nonstandard measurement. Compare lengths and arrange items by length.
- F. Develop an understanding of addition and subtraction using concrete objects.
- G. Using number cards Recognize numerals and represent numbers with objects. Count, compare, and order numbers.
- H. Use basic language of probability and describe predictions
- I. Introduce the concept of balancing or leveling objects using the pan balance.
- J. Count, add, and subtract using concrete experiences.
Distinguish between addition and subtraction.
- K. Make and analyze bar graphs

Standards: CCSS: K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.CC.C.6, K.CC.C.7, K.OA.A.1, K.OA.A.2, K.MD.A.1, K.MD.A.2, K.MD.B.3

Learning Targets Addressed: 2, 3, 5

Assessment Map:

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Formative	Skill	Oral assessments Teacher Observations Exit Slip
Summative	Skill/Product	End of Unit Assessment

IV. Unit 4

- A. Develop addition and subtraction strategies using a number line.
- B. Compare numbers and discuss which is more or less.
- C. Draw, recognize, and name shapes using pattern block template.
- D. Model and solve addition number stories using manipulatives, recognize "joining" situations as addition, and learn the + symbol.
- E. Create, extend, and describe patterns.
- F. Count on from a given number.
- G. Use strategies to find the sum of two dice, graph, and analyze graphs.
- H. Make shapes using bodies and rope. Identify and describe

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Learning Targets Addressed: 1, 2, 3, 4

Assessment Map:

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Formative	Skill	Oral assessments Teacher Observations Exit Slip

attributes of shapes

I. Compare and analyze shapes.
Recognize that shapes remain the same even when their position is changed.

J. Model and solve subtraction number stories using manipulatives, recognize “take away” situations as subtraction, and learn the – symbol.

K. Recognize, write, compare, and order numbers.

L. Sort blocks according to attributes.

M. Sort objects by different attributes, describe these attributes

N. Use materials and pictures to represent and solve addition and subtraction stories, identify addition and subtraction stories, and use the +, -, and = symbols.

O. Read and represent 2 digit numbers as groups of tens and ones

Summative	Skill/Product	End of Unit Assessment
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V. Unit 5

A. Use ordinal numbers to describe and sequence events.

B. Copy, extend, create, and describe a visual pattern that is not color based.

C. Use multiple attributes to find and describe objects. Apply sorting rules.

D. Recognize and find equivalent names for numbers, understand the combinations of digits used to write numbers, and use addition and subtraction clues.

E. Measure with nonstandard “feet,” and use measuring techniques.

F. Measure with standard and nonstandard units, and understand the need for standard measurement units.

G. Use objects to represent numbers and make exchanges.

H. Use linear measuring techniques, read numbers on measuring tools, and choose tools to fit measuring tasks.

I. Construct and analyze a bar graph.

J. Choose blocks based on multiple attributes.

K. Identify and locate numbers on the

Standards: K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.CC.C.6, K.CC.C.7, K.NBT.A.1, K.MD.A.1, K.MD.A.2, K.MD.B.3,

Learning Targets Addressed: 1, 2, 3, 4, 5

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number grid.

Recognize patterns on the number grid.

VI. Unit 6

- A. Explore geometric properties of common objects. Compare 2-dimensional and 3-dimensional shapes.
- B. Use counting to measure time and compare time required for various tasks.
- C. Make and analyze graphs using survey information.
- D. Identify and describe 2-dimensional and 3-dimensional shapes.
- E. Use manipulatives to represent numbers. Model and solve comparison number stories with counters.
- F. Skip count by 2s, and use objects to represent groups of 2s.
- G. Count and compare numbers in groups and divide a group of objects in half.
- H. Use multiple attributes to describe objects and use rules based on attributes to select an object from a collection.
- I. Compare time measurements, and use tools to measure and compare time.
- J. Create and extend patterns, and use symbols to represent and follow a pattern.
- K. Represent half of a whole using concrete objects

Standards: K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.CC.C.6, K.CC.C.7, K.OA.A.1, K.OA.A.2, K.OA.A.3, K.OA.A.4, K.OA.A.5, K.MD.A.1, K.MD.A.2, K.MD.B.3, K.G.A.1, K.G.A.2, K.G.A.3, K.G.B.4, K.G.B.5, K.G.B.6

Learning Targets Addressed: 1, 2, 3, 4, 5

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VII. Unit 7

- A. Use pictures to represent and solve addition and subtraction stories. Identify addition and subtraction number stories. Use the +, -, and = symbols.
- B. Construct and identify names of 2 and 3 dimensional shapes using pipe cleaners and straws.
- C. Compare sums of dice throws and add numbers from dice throws using various strategies.

Standards: K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.CC.C.6, K.CC.C.7, K.NBT.A.1, K.OA.A.1, K.OA.A.2, K.OA.A.3, K.OA.A.4, K.OA.A.5, K.MD.B.3, K.G.A.1, K.G.A.2, K.G.A.3, K.G.B.4, K.G.B.5, K.G.B.6

Learning Targets Addressed: 1, 2, 3, 4, 5

Assessment Map:

Type	Level	Assessment Detail
Practice	Knowledge/Skill	Whole Group Modeling Small Group Centers Independent Practice

- D. Count by 10s and 1s, and represent numbers with manipulatives as 10s and 1s.
- E. Write 1, 2, and 3 digit numbers, and notice patterns in counting and writing numbers.
- F. Count forward, and write numbers as 10s and 1s.
- G. Add and subtract items, explore the difference between addition and subtraction, and recognize and use the +, -, and = symbols.
- H. Read 2 digit numbers and represent them with manipulatives, recognize 2 digit numbers as combinations of 10s and 1s, and compare numbers.
- I. Put nonconsecutive numbers in ascending or descending order.
- J. Compare patterns, identify patterning rules, and apply patterning rules to create and extend patterns.
- K. Decompose numbers using objects and drawings to represent numbers.

		Partner Games Technology Resources
Formative	Skill	Oral assessments Teacher Observations Exit Slip
Summative	Skill/Product	End of Unit Assessment

VIII. Unit 8

- A. Count by 10s and 1s, exchange 1s for 10s and 10s for 100s, and recognize numbers as combinations of 100s, 10s, and 1s.
- B. Develop a sense of the length of an hour and notice the “o’clock” times on an analog clock.
- C. Make and use an hour hand clock.
- D. Compare numbers to decide which is greatest, and use counting on as a strategy to add numbers from dice throws.
- E. Introduction to Function Machine – Apply addition- and subtraction-based function rules, and use function rules to generate related pairs of numbers.
- F. Manipulate digits in numbers and use mental math to add and subtract numbers.
- G. Represent numbers in various ways, generate equivalent names for numbers, and represent numbers with addition and subtraction number sentences.

Standards: K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.CC.C.6, K.CC.C.7, K.NBT.A.1, K.OA.A.1, K.OA.A.2, K.OA.A.3, K.OA.A.4, K.OA.A.5, K.MD.A.1, K.MD.A.2, K.MD.B.3

Learning Targets Addressed: 1, 2, 3, 4, 5

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H. Apply addition- and subtraction- based rules, identify function rules, and use rules to determine missing numbers in a number pair.

I. Recognize the difference between the hour hand and the minute hand.

J. Read clocks to the hour, and match times shown on digital and analog clocks.

K. Missing Number Problems – Solve missing number problems using concrete objects, identify addition and subtraction situations, and write number sentences.

L. Pan Balance with Uniform Weights – Count the number of nonstandard units used to weigh an object, and compare the weight of two or more objects using nonstandard units