CONNEAUT AREA SCHOOL DISTRICT MATHEMATICS –Module 7		
UNIT OF STUDY: **Recognizing Angles, Faces, and Vertices of shapes, Fractions of shapes**	COURSE/GRADE: **2**	# WEEKS: **4**
Focus (emphasis) Standards/EC **CC.2.3.2.A.1** - Analyze and draw two- and three-dimensional shapes having specified attributes. **CC.2.3.2.A.2** - Use the understanding of fractions to partition shapes into halves, quarters, and thirds.		***Technology/manipulatives*** Study Island; solid blocks; shapes, geo-sticks, geoboards.
Important (reinforced) Standards/EC MP# 2. Reason abstractly and quantitatively MP# 3. Construct viable arguments and critique the reasoning of others MP# 4. Model with mathematics MP# 6. Attend to precision		***Reading, writing, speaking strategies*** Graphic organizers (t-charts, Venn diagrams, Frayer model, etc.); students present a model and explain the geometric attributes; Write two-step word problems for other students to solve; riddles describing the attributes of two-dimensional shapes; create visual patterns
Vocabulary Compose/ decompose Pentagon Quadrilateral Thirds, fourths, halves, faces, Angles, hexagon		***Questioning and discussion techniques*** Make predictions; analogies; What am I? (acting it out); compare/contrast attributes of shape;

	sort examples and non-examples;
Real life application Identify geometry in nature; Find the area of objects in the environment (playground, classroom, etc.); create two-dimensional figures	***Performance assessment examples:*** Students will present a design using geometric figures identifying the names of the figures and their defining attributes. Summative assessment can be taken from *Study Island, first in Math*
Computation Counting square units; calculate area; calculate perimeter; express the area of each part as a unit fraction of the whole; finding unknown side length of two-dimensional figures; solve multiple-step word problems using the four operations	***Accommodations/adaptations*** *Strategies for struggling learners* Continued time to work with the strategies given in the instructional strategies section above.

	Strategies for advanced/gifted learners Students can look at multiple attributes for even more shapes.
SAS Module Resources *Links to resources that may support the content and/or instruction* • ***http://commoncoretools.files.wordpress.com/2012/06/ccss_progression_g_k6_2012_06_27.pdf*** • ***http://illuminations.nctm.org/LessonDetail.aspx?id=U52***	

CONNEAUT AREA SCHOOL DISTRICT
MATHEMATICS – Module 1

UNIT OF STUDY:	COURSE/GRADE: **2**	# WEEKS: **3**
Fluency of sums and differences to 20 and Word Problems to 100		

Focus (emphasis) Standards/EC

CC.2.1.2.B.3 -	Use place value understanding and properties of operations to add and subtract within 1000.
CC.2.2.2.A.1 -	Represent and solve problems involving addition and subtraction within 100.

Technology/manipulatives
Study Island; First in Math; Counting sticks; Base ten blocks and cubes.

Important (reinforced) Standards/EC

MP# 1. Make sense of problems and persevere in solving them

MP# 2. Reason abstractly and quantitatively

MP# 3. Construct viable arguments and critique the reasoning of others

MP# 5. Use appropriate tools strategically

MP# 6. Attend to precision

Mathematical Practices resource page on SAS

Reading, writing, speaking strategies
Graphic organizers (t-charts, Venn diagrams, Frayer model, etc.); students present a model and explain how many more they need or how many they have altogether; Write two-step word problems for other students to solve; riddles describing number values.

Vocabulary
Addend
Compose/decompose
Place value
Sum

Questioning and discussion techniques
Compare /contrast numbers. Organizing number order thinking. Change unknown/add a different unknown.

Real life application
Apply knowledge to real life situations that are appropriate to problem solving. ie: to figure out how many they have totally or how many more may be needed to complete a set.

Performance assessment examples:

Module assessment: Sheep and Ducks

http://insidemathematics.org/common-core-math-

	tasks/2nd-grade/2-2007%20Sheep%20and%20Ducks.pdf The following link represents sample questions relevant to the instruction of the module **Math Grd 2 Mod 1_Assessment Draft 2013.docx** Also: Assessments that appear in study island and/or First in Math.
Computation Adding and subtracting skills. Move to multi-step problem solving.	***Accommodations/adaptations*** *Strategies for struggling learners* • Give students concrete objects to use. • Have students explain how they are thinking about solving the problem. • Model strategies for students. • Have students draw pictures to show how they solved the problem. *Strategies for advanced/gifted learners* If students are proficient, they can pose problems for addition or subtraction situations

SAS Module Resources *Links to resources that may support the content and/or instruction* ***http://www.pdesas.org/module/content/resources/5471/view.ashx*** ***Additional PCS resources***	

CONNEAUT AREA SCHOOL DISTRICT
MATHEMATICS – Module 2

UNIT OF STUDY:	COURSE/GRADE: **2**	# WEEKS: **4**
Module 2: Addition and Subtraction with Length, Weight, Capacity, and Time Measurements		

Focus (emphasis) Standards/EC

CC.2.4.2.A.1 -	Measure and estimate lengths in standard units using appropriate tools.
CC.2.4.2.A.2 –	Tell and write time to the nearest five minutes using both analog and digital clocks.
CC.2.4.2.A.3 -	Solve problems and make change using coins and paper currency with appropriate symbols.
CC.2.4.2.A.6 -	Extend the concepts of addition and subtraction to problems involving length.

Technology/manipulatives
Study Island; First in Math; Rulers, clocks, coin/paper money

Important (reinforced) Standards/EC
MP# 1. Make sense of problems and persevere in solving them
MP# 3. Construct viable arguments and critique the reasoning of others
MP# 5. Use appropriate tools strategically
MP# 6. Attend to precision

Mathematical Practices resource page on SAS

Reading, writing, speaking strategies
Graphic organizers (t-charts, Venn diagrams, Frayer model, etc.); students present a model that represents a unit of measure. Write a story about gallon man and his parts.

Vocabulary
Analog/digital
Compose/decompose
A.m., p.m.

Questioning and discussion techniques
Compare /contrast units of measure. Estimating units of

Estimate, inch, feet, centimeter, meter, Money – dollar, quarter, dime, nickel, penny	measure. order thinking. pose time questions that refer to time after the hour as well as before.
Real life application Apply knowledge to real life situations that are appropriate to time, money and measurement. Identifying concepts of AM and PM as related to time. Estimate the values of measurement and money. **Competencies:** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. Measure the same length with different-sized units then discuss the measurement made with the smaller unit is more than the measurement made with the larger unit and vice versa. Estimate lengths using units of inches, feet, centimeters, and meters. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. Tell and write time from analog and digital clocks to the nearest five minutes. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units by using drawings and equations with a symbol for the unknown number to represent the problem. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, and represent whole-number sums and differences within 100 on a number line diagram.	***Performance assessment examples:*** The assessment focuses on adding units of length, measuring objects in inches and centimeters, and telling time. The following link represents sample questions relevant to the instruction of the module **Math Grd 2 Mod 2_Assessment Draft 2013.docx**
Computation Adding and subtracting units of measure Using estimation skills to estimate lengths. Telling time to the nearest five minutes.	***Accommodations/adaptations*** *Strategies for struggling learners* • Some students may need to use inch squares to scaffold their

	understanding and transfer it to a ruler. • Concrete objects will help them develop their understanding. • Opportunities to compare results of measuring the same object with manipulatives then with a ruler. • Opportunities to measure the same objects with concrete items of different sizes to help them learn the relationship between the size of the

	unit and the number of units required to cover a specific length. *Strategies for advanced/gifted learners* • Students who are proficient can measure objects to the nearest ¼ inch, tell time to the minute and begin to work on elapsed time.are thinking about solving the problem.
SAS Module Resources *Extensions that naturally extend to other subject areas*	

In reading, use books such as the ones in this link to discuss measurement concepts: **http://letsreadmath.com/math-and-childrens-literature/measurement/**	
Links to resources that may support the content and/or instruction ***http://www.pdesas.org/module/content/resources/20915/view.ashx*** ***http://commoncoretools.files.wordpress.com/2012/07/ccss_progression_gm_k5_2012_07_21.pdf*** ***Additional PCS resources***	

CONNEAUT AREA SCHOOL DISTRICT
MATHEMATICS – Module 3

UNIT OF STUDY:	COURSE/GRADE: **2**	# WEEKS: **5**
Place value, counting, and Comparison of Numbers to 1000.		

Focus (emphasis) Standards/EC

CC.2.1.2.B.1 -	Use place value concepts to represent amounts of tens and ones and to compare three digit numbers.
CC.2.1.2.B.2 -	Use place value concepts to read, write, and skip count to 1000.

Technology/manipulatives
Study Island; First in Math; Base ten blocks, number lines as needed for students.

Important (reinforced) Standards/EC
MP# 2. Reason abstractly and quantitatively
MP# 7. Look for and make use of structure
MP# 8. Look for and express regularity in repeated reasoning
Mathematical Practices resource page on SAS

At the end of this module, students will be able to independently use their learning to:

- Count numbers to 1000 by ones, 2s, 5s, 10s, and 100s
- Represent numbers to 1000 using concrete models, drawings, words, and numbers
- Compare numbers to 1000

Reading, writing, speaking strategies
Graphic organizers (t-charts, Venn diagrams, Frayer model, etc.); students present a model that represents a unit of measure. Keep a journal of numbers. Draw pictures that quantify amounts.

Vocabulary
Compose/decompose
Equivalent, place value, hundreds
Expanded form

Questioning and discussion techniques
Compare /contrast
Represent numbers with models and drawings.

Real life application
Apply knowledge to real life situations that are appropriate to the base ten number system.

Performance assessment examples:
The following link represents sample questions relevant to

Competencies Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons. Count within 1000; skip-count by 5s, 10s, and 100s. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	the instruction of the module **Math Grd 2 Mod 3_Assessment Draft 2013.docx**
Computation Representing ones, tens,hundreds, thousands. Add/Subtract numbers that are represented in expanded form. Compute/solve problems using <, =, > symbols.	***Accommodations/adaptations*** *Strategies for struggling learners* • Give students concrete objects to use • Have students explain how they are thinking about the number • Model strategies for students • Have students

	draw pictures to show how they decomposed or composed the number/amount *Strategies for advanced/gifted learners* If students are proficient, they can work with larger numbers and/or show the amount two or more ways
SAS Module Resources In reading, use a book such as the ones in the following link to discuss amounts/numbers: **http://letsreadmath.com/math-and-childrens-literature/number-sense/** **Additional Resources**	

Links to resources that may support the content and/or instruction ***http://commoncoretools.me/wp-content/uploads/2011/04/ccss_progression_nbt_2011_04_073_corrected2.pdf*** **Additional PCS resources**	

In reading, use a book such as the ones in the following link to discuss amounts/numbers: **http://letsreadmath.com/math-and-childrens-literature/number-sense/**

Additional Resources

Links to resources that may support the content and/or instruction
http://commoncoretools.me/wp-content/uploads/2011/04/ccss_progression_nbt_2011_04_073_corrected2.pdf

Additional PCS resources

CONNEAUT AREA SCHOOL DISTRICT
MATHEMATICS – Module 4

UNIT OF STUDY:	COURSE/GRADE: **2**	# WEEKS: **7**
Addition and Subtraction of Numbers to 1000		

Focus (emphasis) Standards/EC

CC.2.1.2.B.3 -	Use place value understanding and properties of operations to add
CC.2.2.2.A.1 -	Represent and solve problems involving addition and subtraction w
CC.2.2.2.A.2 -	Use mental strategies to add and subtract within 20.

Technology/manipulatives
Study Island; First in Math; calculators, counters; flash cards.

Important (reinforced) Standards/EC
MP# 1. Make sense of problems and persevere in solving them
MP# 2. Reason abstractly and quantitatively
MP# 3. Construct viable arguments and critique the reasoning of others
MP# 4. Model with mathematics
MP# 5. Use appropriate tools strategically
MP# 8. Look for and express regularity in repeated reasoning
Mathematical Practices resource page on SAS

At the end of this module, students will be able to independently use their learning to:

- Count numbers to 1000 by ones, 2s, 5s, 10s, and 100s
- Represent numbers to 1000 using concrete models, drawings, words, and numbers
- Compare numbers to 1000

Reading, writing, speaking strategies
Graphic organizers (t-charts, Venn diagrams, Frayer model, etc.); students present a model that represents a unit of measure. Keep a journal of numbers. Draw pictures that quantify amounts. Write the order of solving a problem. Identify what math operation will solve a problem. Visualize and Illustrate answers to word problems.

Vocabulary
Addend
Compose/decompose
Equation
Equivalent
Place value
Sum, hundreds, expanded form

Questioning and discussion techniques
Compare /contrast
Represent numbers with models and drawings.
Identify fact families.

	Formative Assessment Look-For should include: • Can students represent and solve addition and subtraction problems, including word problems, using concrete objects, equations, and drawings? • Can students find sums and differences using properties of operations? • Can students add and subtract mentally within 20?
Real life application Apply knowledge to real life situations that are appropriate to the base ten number system.	***Performance assessment examples:***

Competencies MP# 1. Make sense of problems and persevere in solving them MP# 2. Reason abstractly and quantitatively MP# 3. Construct viable arguments and critique the reasoning of others MP# 4. Model with mathematics MP# 5. Use appropriate tools strategically MP# 8. Look for and express regularity in repeated reasoning	The following link represents sample questions relevant to the instruction of the module **Math Grd 2 Mod 4_Assessment Draft 2013.docx**
Computation Using addition/subtraction/ place value skills. **Suggested Strategies to Support Design of Coherent Instruction** **Charlotte Danielson's Framework for Teaching: Domain 3 Instruction** **Formative Assessment Look-For should include:** • Can students measure accurately? • Can students add lengths and use the appropriate units as labels? • Can students add and subtract money? • Can students represent data on a graph? **Explanations and Examples** **Instructional Strategies** Second graders are transitioning from measuring lengths with informal or nonstandard units to measuring with these standard units: inches, feet, centimeters, and meters. The measure of length is a count of how many units are needed to match the	***Accommodations/adaptations*** Students who are struggling may need many opportunities to: • Use concrete objects and/or pictures to represent and solve word problems. • Makes sense of the problem – what is problem asking me to do, what do I know and what do I need to find out.

length of the object or distance being measured. Students have to understand what a length unit is and how it is used to find a measurement. They need many experiences measuring lengths with appropriate tools so they can become very familiar with the standard units and estimate lengths. Use language that reflects the approximate nature of measurement, such as the length of the room is about 26 feet. Have students measure the same length with different-sized units then discuss what they noticed. Ask questions to guide the discussion so students will see the relationship between the size of the units and measurement, i.e. the measurement made with the smaller unit is more than the measurement made with the larger unit and vice versa. Insist that students always estimate lengths before they measure. Estimation helps them focus on the attribute to be measured, the length units, and the process. After they find measurements, have students discuss the estimates, their procedures for finding the measurements and the differences between their estimates and the measurements. Connect the whole-number units on rulers, yardsticks, meter sticks and measuring tapes to number lines showing whole-number units starting at 0. Use these measuring tools to model different representations for whole-number sums and differences less than or equal to 100 using the numbers 0 to 100. Use the meter stick to view units of ten (10 cm) and hundred (100 cm), and to skip count by 5s and 10s. Provide one- and two-step word problems that include different lengths measurement made with the same unit (inches, feet, centimeters, and meters). Students add and subtract within 100 to solve problems for these situations: adding to, taking from, putting together, taking apart, and comparing, and with unknowns in all positions. Students use	• Think out loud while solving the problem. • Represent numbers with popsicle sticks and/or base ten blocks. *Strategies for advanced/gifted learners* Students who are proficient may need to work with larger numbers and/or solve the problem at least two ways.

drawings and write equations with a symbol for the unknown to solve the problems. Have students represent their addition and subtraction within 100 on a number line. They can use notebook or grid paper to make their own number lines. First have them mark and label a line on paper with whole-number units that are equally spaced and relevant to the addition or subtraction problem. Then have them show the addition or subtraction using curved lines segments above the number line and between the numbers marked on the number line. For 49 + 5, start at 49 on the line and draw a curve to 50, then continue drawing curves to 54. Drawing the curves or making the —hops between the numbers will help students focus on a space as the length of a unit and the sum or difference as a length. The topic of money begins at Grade 2 and builds on the work in other clusters in this and previous grades. Help students learn money concepts and solidify their understanding of other topics by providing activities where students make connections between them. For instance, link the value of a dollar bill as 100 cents to the concept of 100 and counting within 1000. Use play money - nickels, dimes, and dollar bills to skip count by 5s, 10s, and 100s. Reinforce place value concepts with the values of dollar bills, dimes, and pennies. Students use the context of money to find sums and differences less than or equal to 100 using the numbers 0 to 100. They add and subtract to solve one- and two-step word problems involving money situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. Students use drawings and equations with a symbol for the	

unknown number to represent the problem. The dollar sign, $, is used for labeling whole-dollar amounts without decimals, such as $29. Students need to learn the relationships between the values of a penny, nickel, dime, quarter and dollar bill. Line plots are useful tools for collecting data because they show the number of things along a numeric scale. The line plot is made by simply drawing a number line then placing an X above the corresponding value on the line that represents each piece of data. Line plots are essentially bar graphs with a potential bar for each value on the number line. Pose a question related to the lengths of several objects. Measure the objects to the nearest whole inch, foot, centimeter or meter. Create a line plot with whole-number units (0, 1, 2, ...) on the number line to represent the measurements. At first students should create real object or picture graphs (where the object is drawn rather than a number). On picture graphs record the number of countable parts. These graphs show items in a category and do not have a numerical scale. For example, a real object graph could show the students' shoes (one shoe per student) lined end to end in horizontal or vertical rows by their color. Students would simply count to find how many shoes are in each row or bar. The graphs should be limited to 2 to 4 rows or bars. Students would then move to making horizontal or vertical bar graphs with two to four categories and a single-unit scale. Use the information in the graphs to pose and solve simple put together, take-apart, and compare problems.	

SAS Module Resources

Extensions that naturally extend to other subject areas

In reading, the teacher and/or students can read books with an addition or subtraction them such as the ones in the following link and discuss the number concepts. **http://letsreadmath.com/math-and-childrens-literature/addition-and-subtraction/**

In science, they can collect data and add or subtract to find the answers to questions.

Additional Resources

Links to resources that may support the content and/or instruction

- ***http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf***
- ***http://www.pdesas.org/module/content/resources/5471/view.ashx***

CONNEAUT AREA SCHOOL DISTRICT MATHEMATICS –Module 5		
UNIT OF STUDY: preparation for mulitiplication and division facts.	COURSE/GRADE: **2**	# WEEKS: **7**

Focus (emphasis) Standards/EC		***Technology/manipulatives***
CC.2.2.2.A.3 -	Work with equal groups of objects to gain foundations for multiplication	Study Island; first in math; counters to put in groups, number patterns (multiple), link to

	repetitive addition/subtraction .
Important (reinforced) Standards/EC MP# 2. Reason abstractly and quantitatively MP# 3. Construct viable arguments and critique the reasoning of others MP# 7. Look for and make use of structure MP# 8. Look for and express regularity in repeated reasoning	***Reading, writing, speaking strategies*** Graphic organizers (t-charts, Venn diagrams, Frayer model, etc.); write /draw about everyday uses of multiplication – ie a dozen donuts – 2 groups of six, 3 groups of 4, 1 group of 12.
Vocabulary Addend, equation, equivalent, sum Odd Even	***Questioning and discussion techniques*** Visualize/illustrate even groups of objects. Compare/contrast to repetitive addition.
Real life application Relationships of multiple patterns – repetitive addition and correlation to multiplication. Reinforce Doubles and triples of a number. Division as related to dealing out cards or snacks.	***Performance assessment examples:*** Students will present a design using geometric figures identifying the names of the

	figures and their defining attributes. Summative assessment can be taken from *Study Island, first in Math* **Math Grd 2 Mod 5_Assessment Draft 2013.docx**
Computation Multiplication or Division problems. Repetitive addition/ subtraction problems.	***Accommodations/adaptations*** Some strategies to support struggling learners are: • Use concrete objects. • Use paper (cut a pieces of construction paper into fourths) to represent the groups. Sometimes students confuse

	where one groups ends and another one begins. • Have students draw pictures of what they represented with concrete objects.
SAS Module Resources ***http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf***	

CONNEAUT AREA SCHOOL DISTRICT MATHEMATICS –Module 6		
UNIT OF STUDY: **Comparison, Addition and Subtraction with Length and Money**	COURSE/GRADE: **2**	# WEEKS: **6**
Focus (emphasis) Standards/EC **CC.2.4.2.A.1** - Measure and estimate lengths in standard units using appropriate tools.		***Technology/manipulatives***

CC.2.4.2.A.3 - Solve problems and make change using coins and paper currency with appropriate symbols. **CC.2.4.2.A.4** - Represent and interpret data using line plots, picture graphs, and bar graphs. **CC.2.4.2.A.6** - Extend the concepts of addition and subtraction to problems involving length.	Study Island; first in math; paper/coin money, graph paper,
Important (reinforced) Standards/EC MP# 1: Make sense of problems and persevere in solving them MP# 2. Reason abstractly and quantitatively MP# 4. Model with mathematics MP# 5. Use appropriate tools strategically MP# 8. Look for and express regularity in repeated reasoning **Mathematical Practices** resource page on SAS	***Reading, writing, speaking strategies*** Graphic organizers (t-charts, Venn diagrams, Frayer model, etc.); compare contrast coins and bills. Visualize and illustrate graphs, coins and money
Vocabulary Addend, equation, equivalent, line plot, Sum, picture graph, bar graph, inch, feet Centimeter, meter, dollar, quarter, dime, nickel, penny	**Questioning and discussion techniques** Comparing bills and coins. Identification of bills, coins, and keys that relate to graphs and plots.
Real life application Identify ways to use money in everyday life. Identify advertising and maps that illustrate ways to use graphs and charts.	***Performance assessment examples:*** **Assessments** The following link represents sample questions relevant

	to the instruction of the module **Math Grd 2 Mod 6_Assessment Draft 2013.docx**
Computation Adding quantities of money, solving problems using information from charts and graphs.	***Accommodations/adaptations*** Strategies for struggling learners are: • Use concrete objects. • Create real object graphs then move to picture or other types of graphs. • Give students many opportunities to work with money, measurem

	ent, and graphing
SAS Module Resources *Links to resources that may support the content and/or instruction* **Interdisciplinary Connections** *Extensions that naturally extend to other subject areas* In reading, read and discuss books on these math concepts, such as the ones in the following links: Money: **http://letsreadmath.com/math-and-childrens-literature/money/** Graphs: **http://letsreadmath.com/math-and-childrens-literature/probability-and-statistics/** Measurement: http://letsreadmath.com/math-and-childrens-literature/measurement/ In science, graph measurement data collected. **Additional Resources** *Links to resources that may support the content and/or instruction*	

• *http://commoncoretools.files.wordpress.com/2011/06/ccss_progression_md_k5_2011_06_20.pdf* • *http://illuminations.nctm.org/ActivityDetail.aspx?ID=217* • *http://illuminations.nctm.org/LessonDetail.aspx?id=L174*	