CONNEAUT AREA SCHOOL DISTRICT MATHEMATICS		
UNIT OF STUDY: Multiplication and division of fractions and decimal fractions	COURSE/GRADE: 5	# WEEKS: 7
• MODULE 4		

Focus (emphasis) Standards/EC:

CC.2.1.5.C.2 – Apply and extend previous understandings of multiplication and division to multiply and divide fractions

-Eligible Content:

* **M05.A-F.2.1.1:** solve word problems involving division of whole numbers leading to answers in the form of fractions (including mixed numbers)
* **M05.A-F.2.1.2:** multiply a fraction (including mixed numbers) by a fraction
* **M05.A-F.2.1.3:** Demonstrate an understanding of multiplication as scaling (resizing)

(Comparing the size of a product to the size of one factor on the basis of the size of the other factor without performing the indicated multiplication. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number – recognizing multiplication by whole numbers greater than 1 as a familiar case -; explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number.

* **M05.A-F.2.1.4:** divide unit fractions by whole numbers and whole numbers by unit fractions

Technology/manipulatives:

Number lines, area models, fraction bars/strips (see Grade 5 Module 4 attachment for examples of usage)

Frayer Model graphic organizer (note-taking)

Dry-erase boards, eno-board

National Library of Virtual Manipulatives (Rectangle Multiplication; Number Line Bars)

studyzone.org (resources and interactive practice)
www.studyisland
www.firstinmath.com
xpmath.com

Important (reinforced) Standards/EC:

CC.2.4.5.A.1 – Solve problems using conversions within a given measurement system

-Eligible Content:

***M05.D-M.1.1.1:** convert between different-sized measurement units within a given measurement system. (equivalency table provided – ie: convert 5 cm to meters)

CC.2.4.5.A.2 – Represent and interpret data using appropriate scale

CC.2.4.5.A.4 – Solve problems involving computation of fractions using information provided in a line plot

-Eligible Content:

* **M05.D-M.2.1.1:** solve problems involving computation of fractions by using information presented in line plots
* **M05.D-M.2.1.2:** display and interpret data shown in tallies, tables, charts, pictographs, bar graphs, and line graphs, and use a title, appropriate scale, and labels. A grid will be provided to display data on bar graphs or line graphs

Reading, writing, speaking strategies:

Journaling, read aloud, lecture, word problems, persuasive/informational/expository writing, graphic organizers, Frayer model, cooperative learning, board work, demonstration, Think-Pair-Share, note-taking, crossword puzzles, , bell-ringers

Vocabulary: Area model; array; customary/metric units of measurement (capacity, mass, weight); distributive property; multiplicative identity property of 1; dividend; divisor; factor; product; quotient; partial quotient; remainder; unit fraction; numerator; denominator; equivalent fractions; fraction greater than/less than 1; mixed number; simplify; simplest form; compatible numbers; square unit; inverse operations; elapsed time; estimate; equation; scaling/resizing	**Questioning and discussion techniques:** Bell-ringers; exit tickets; journals; Frayer Model; highlighting key terms; small group/ whole group; demonstrations; homework review; dry-erase checks
Real life application: Career options: http://www.xpmath.com/careers/topicsresult.php?subjectID=3&topicID=14	**Performance assessment:** http://www.sandi.net/Page/62252
Computation: Multiply a fraction and mixed numbers by a fraction; demonstrate an understanding of multiplication as scaling/resizing; divide unit fractions by whole numbers and whole numbers by unit fractions; convert among different sized measurement units within a given measurement system using a provided table of equivalencies; solve problems involving computations of fractions using information presented in line plots; display and interpret data shown in tallies, tables, charts, pictographs, bar graphs, and line graphs; display and interpret data using the title, appropriate scale, and labels	**Accommodations/adaptations:** Agendas, differentiation strategies, small group instruction, cooperative learning, guided practice, peer tutoring, limited problems/choices, manipulatives and models, clarity checks, diagrams and graphs
SAS Module Resources: pdesas.org *Teacher Tools-Curriculum Mapping-Instructional Frameworks Math-PA Standards: Focus and Important Standards * Math Cluster Matrix grades 4,5,6 (prior and future learning)	