The purpose of this project is to demonstrate a clear understanding of two concepts of division using fractions.

For this project, two students should work together. You will turn in ONE project for the two of you and both will receive the same grade. The project is worth the same as **two quizzes**: 20 points and is due **IN CLASS** Friday, November 11, 2016.

Use only one side of each piece of paper. Your project will have five pages.

Page 1) Cover Page This is online along with this instruction sheet – Please print out and fill in names and class time.

Page 2) Repeated-Subtraction Write a story problem using the repeated-subtraction concept of division. Do not use a situation that involves food or candy. Use $3\frac{1}{2}$ as the dividend and a fraction for the divisor such that the quotient is a mixed number. Show the division arithmetic work and the quotient.

Page 3) Repeated-Subtraction Drawing Using an entire sheet of unlined paper, make an appropriate drawing for your problem that clearly shows the correct quotient. Use labels on your drawing.

Page 4) Sharing Write a story problem using the sharing concept of division. Do not use a situation that involves food or candy. Use $3\frac{1}{2}$ as the dividend and a fraction for the divisor (different from the first problem) such that the quotient is a mixed number. Show the division arithmetic work and the quotient.

Page 5) Sharing Drawing Using an entire sheet of unlined paper, make an appropriate drawing for your problem that clearly shows the correct quotient. Begin by drawing the DIVISOR. You are sharing $3\frac{1}{2}$ of something with your divisor. Use labels on your drawing.

Additional information:
Also attached here are some examples of word problems to give you ideas of how they can be written to attend to repeated subtraction and sharing. All of the problems in these examples have a whole number answer of 6. Your problems should NOT have whole number answers.

Cover Page for Fraction Division Quiz Project

Student 1: _____

Student 2: _____

Class Time: _____

Quiz # 13

Repeated Subtraction:

Pages stapled – 1 pt _____

Word problem – 3 pts _____
Correct concept and numbers

Correct work shown – 2 pts _____

Entire sheet blank paper – 1 pt _____

Clear drawing with word and number labels to make it easy to read – 3 pts _____

Total: _____

Quiz # 14

Sharing:

New divisor – 1 pt _____

Word problem – 3 pts _____
Correct concept and numbers

Correct work – 2 pts _____

Entire sheet – 1 pt _____

Clear drawing – 3 pts_____

Total:_____

Ways of thinking about sharing and repeated-subtraction

Arithmetic problem: 4 ½ divided by ¾. Answer: 6

Sharing: draw divisor first

Repeated subtraction: draw dividend first

I have 4 ½ bottles of nail polish to share with ¾ of the bridal party. **sharing**

Q: How many bottles will I need to have for the whole bridal party?

I have 4 ½ bottles of nail polish and each person requires ¾ of a bottle. **r-s**

Q: How many people can get nail polish?

The farmer has harvested 4 ½ acres of field in ¾ of a day**. sharing**

Q: How many acres can he harvest in one day?

The farmer must harvest 4 ½ acres of field. He can harvest ¾ acre per day. **r-s**

Q: How many days will it take him to harvest his field?

The gardener has 4 ½ bags of topsoil to put on ¾ of the garden area. **sharing**

Q: How many bags will she need to put on the entire garden?

The gardener has 4 ½ bags of topsoil and each flower area needs ¾ of a bag**. r-s**

Q: How many flower areas can she cover?

Julia has 4 ½ yards of fabric to make ¾ of the costumes for the dance troop. **sharing**

Q: How many yards will she need to make the costumes for the whole troop?

Julia has 4 ½ yards of fabric to make costumes for the dancers. Each costume requires ¾ yard. **r-s**

Q: How many costumes can she make?