Farm Math Story Problems

Subject: Social Studies: Agriculture

Grade Level: 5-8

McRel Standards: US History   Era 6: The development of the Industrial United States (1870-1900)

Benchmark: Understands how the rise of corporations, heavy industry, and mechanized farming transformed American society.

Iowa Model Standard   **Math: Algebra**   Understands, analyzes, solves and applies equations.

Connections   Recognizes and applies mathematics in contexts outside of mathematics.

Communication: Organizes and consolidates his/her mathematical thinking through communication.

Anticipatory Set: Farmers use math each day on the farms. How many different ways do you think that farmers use math?

Purpose: For students to improve ability to solve math story problems and to see the connections between math and farming.

Objective: Students will be able to solve the math story problems.

Teaching to the Objective:

1. Teacher will hand out farm math story problems.
2. Students will solve math story problems and show their work.
3. Students will be able to explain the thinking process that they used to solve the problems when the present their solution to the class

Assessment: Student will turn in to the teacher the completed story problems.

Farm Math continued

1. The grain on the trucks is weighed at the grain elevator before it is dumped into the bin. Shannon's ticket says her truck weighed 31, 911 pounds full. After it was emptied, the truck weighted 10,629 pounds. How many pounds of wheat were on the truck? Wheat is sold by the bushel. A bushel is sixty pounds. How many bushels of wheat were on the truck?

2. Mike and Shannon harvested 117,544 pounds of winter wheat off the Stone Ranch. There are sixty pounds in a bushel. They planted 24.4 acres of winter wheat. How many bushels per acre did the crop yield?

3. Mike is going to take eighteen calves to the livestock sale yard. If the average weight is six hundred seventy-two pounds each, and the average price the calves are selling at the auction is 92 cents per pound, about how much money will Mike bring home from the calves he sells?

4. Mike and Shannon sold $128,075 pounds of winter wheat. The price they sold it for was $3.81 per bushel. If there are sixty pounds per bushel, how much money did they get for their winter wheat crop?

5. The herds are split up as follows:
   At Mamie's pasture: 16 cows   13 heifers   7 calves
   At McLoed's pasture: 18 cows   11 calves   1 bull
   At Mary Lou's pasture: 16 cows   5 calves   1 bull
   At Nadine's pasture: 12 calves

   Cows make up what percentage of all the animals in the four pastures?

   Heifers make up what percentage of all the animals in the four pastures?

   Calves make up what percentage of all the animals in the four pastures?

   Bulls make up what percentage of all the animals in the four pastures?
   Round your answer to the nearest percent.

6. A long acting pour pesticide on is applied in May, before we turn the cattle out into the pasture. This will help to prevent problems from flies and lice. The directions say to apply one-fourth of a fluid ounce per one hundred pounds of body weight. The cows average about 1,000 pound, the heifers are about 800 pounds and the bulls are about 1,600 pounds each. If there are 42 cows, eight heifers, and four bulls, how many fluid ounces of pour on will be needed?

7. You are a farmer and you have just harvested a 120-acre field. Your GPS system says that your corn is yielding 168 bushels per acre. How many bushels of corn will you have for the 120-acre field?

8. Truck drivers come to the farm to haul your corn to a nearby town that has an ethanol plant. The first truck is filled 1/2 full with corn. The second truck is filled 1/3 full with corn. How much corn is in the two trucks? Were two trucks needed to carry the corn?

9. The processors at the ethanol plant receive your corn and combine it with the shipment of corn that has arrived by rail car. The corn is made into ethanol. The ethanol is then piped into three tanker trucks and they each drive 56 miles to a gasoline distributor. How many total miles are driven if you combine the mileage of all three trucks?

10. Meanwhile a marketer at the local corn growers association is budgeting for some radio ads to promote ethanol to consumers. The marketer will have to pay $650 to the radio station manager for each radio ad. The marketer decides to purchase two ads. What is the total cost of the ads placed?

11. A consumer hears one of the radio ands and drives to the gas station to fill up her car with ethanol. She purchased 12 gallons of fuel mixed with ethanol. Her car can drive 31 miles for each gallon of gas. How far can she go on the fuel that she purchased?