

# Math on the Farm

Kansas Farm Bureau encourages students to learn mathematical content and skills that are used to solve a variety of problems. Their intent is to combine the use of mathematical problems with problems that pertain to agriculture in order to help students better see the importance farming and ranching has on their everyday lives.

Some content revised from Oklahoma Ag in the Classroom lesson plan.

## **Materials Included:**

- Cow-Calf Pairs worksheet
- Fence Building worksheet
- Growing A Crop worksheet
- Our World With Wheat worksheet
- The Mighty Egg worksheet

## **Instructions:**

These worksheets can be used to incorporate math and agriculture together in the lesson plan.

Directions for each worksheet are listed at the top of each page.

## **Learning Outcomes:**

Students will be expected to apply basic addition, multiplication, and division skills to problems that relate to agriculture activities. In doing so, the students visually interpret and display numerical (whole numbers) and non-numerical data sets including the use of concrete objects in a variety of situations.

Students will use concepts and procedures of data analysis to apply agriculture to numerical computations.

**Level:** 3rd-4th Grade

**Subject:** Math

**Standard 1:** Number and Computation– The student uses numerical and computational concepts and procedures in a variety of situations.

**Benchmark 4:** Computation – The student models, performs, and explains computation with whole numbers.

## **Indicators:**

M.3.1.4.K7, M.3.1.1.K3a-c, M.4.1.4.K6a-d

-Multiplication using the basic facts through the 5s and the multiplication facts of the 10s

-Student shows the relationship between these operations with the basic fact families including the use of mathematical models

- addition and multiplication
- multiplication and division

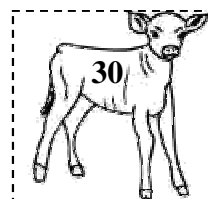
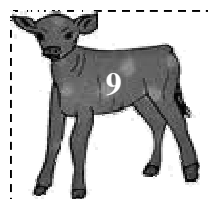
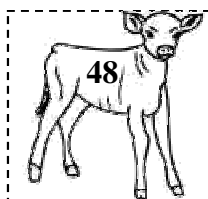
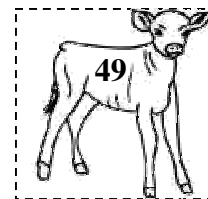
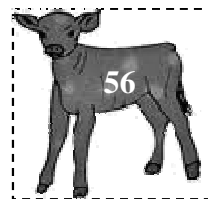
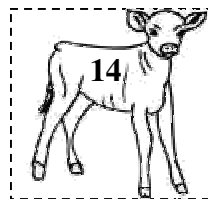
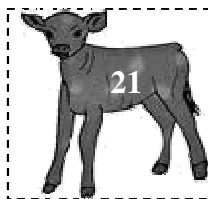
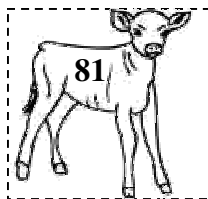
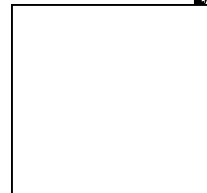
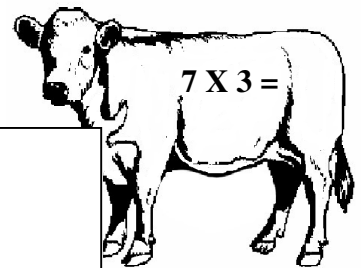
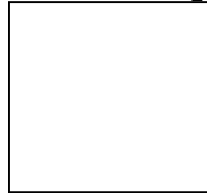
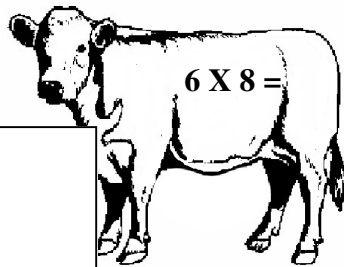
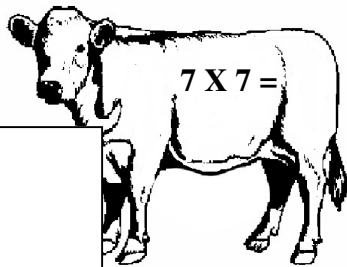
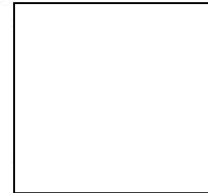
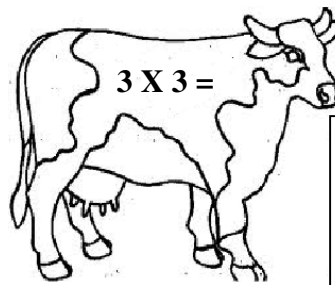
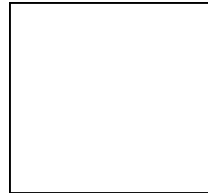
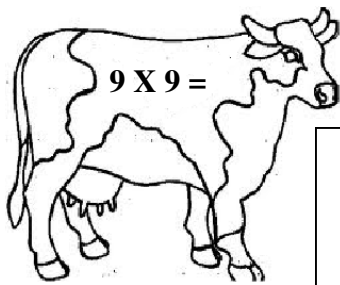
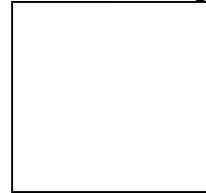
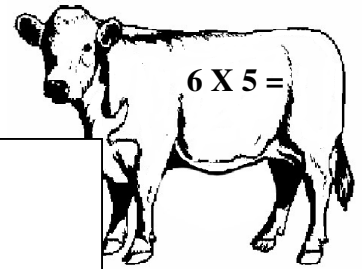
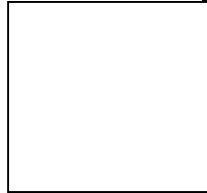
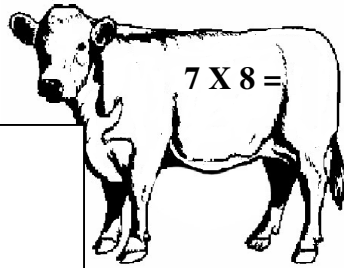
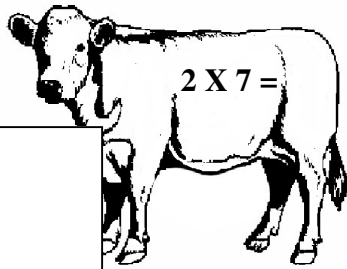


# Cow-Calf Pairs

Name \_\_\_\_\_

A dairy cow can produce over 8 gallons of milk a day. She will use the milk to feed her calf and still have enough milk for us. To produce all of this milk, she will eat about 80 pounds of hay, corn and other grasses, and drink 30-40 gallons of water a day.

Help the calf find his mom by cutting and gluing each calf to the matching cow.

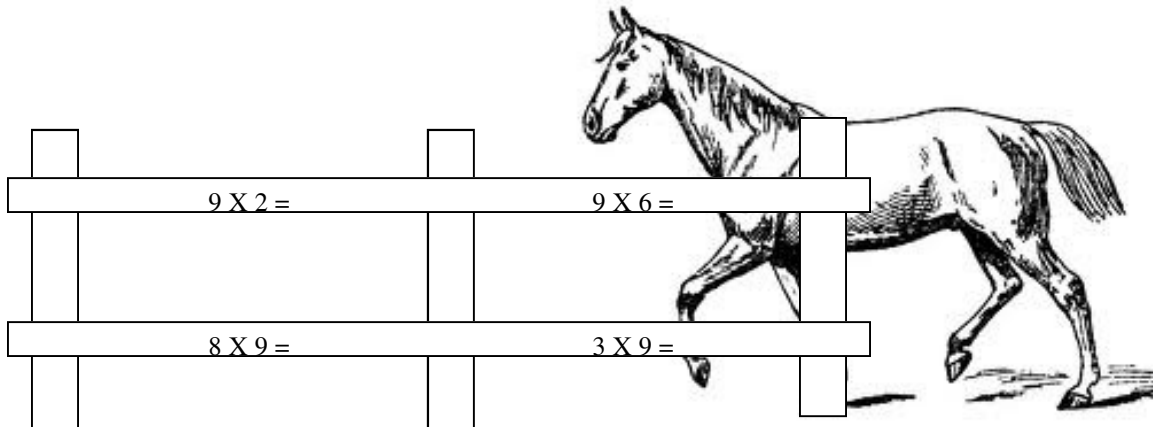
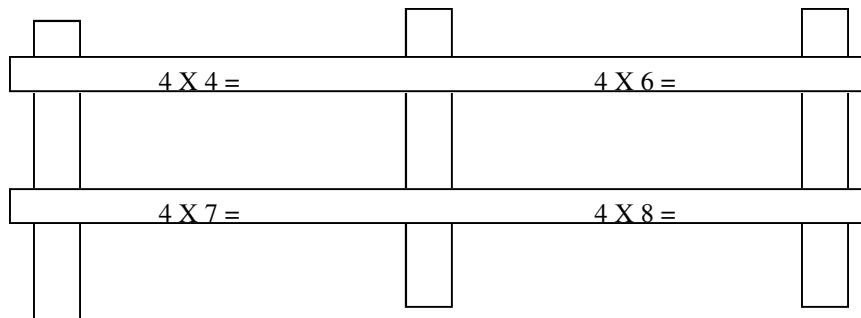
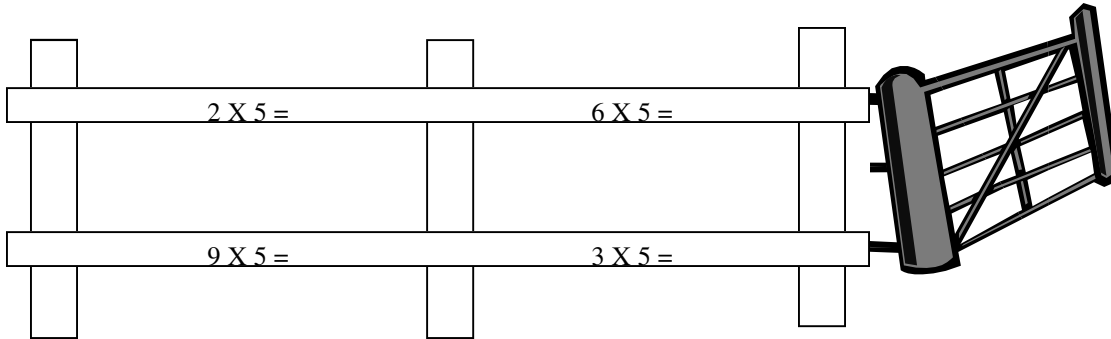


# Fence Building

Name \_\_\_\_\_

Grazing animals, such as cattle, sheep, and horses, can be kept in pastures and need fences to keep them safe and readily accessible by farmers and ranchers so they can be taken care of properly.

The rancher will need 200 total feet of fencing materials to build a pen for his horse. Do the math problems then add up all their products to find the total feet of material he has. Decide if the rancher has enough material to build his pen.



Total feet of fencing material \_\_\_\_\_

Is it enough to build the rancher's horse pen? \_\_\_\_\_

# Growing A Crop

Name \_\_\_\_\_

The color of soil is affected by the minerals and organic matter present in that soil. Soils come in all different shades of colors that include blacks, reds, yellows, whites, browns, and greys.

The farmer has planted his crop in many different types of soils and wants to know what colors of soil they have been planted in.

If the product of the answer is:

Equal to or greater than 0, but less than 10 = Color the row of soil black

Equal to or greater than 10, but less than 20 = Color the row of soil red

Equal to or greater than 20, but less than 30 = Color the row of soil yellow

Equal to or greater than 30, but less than 40 = Color the row of soil brown

Equal to or greater than 40, but less than 50 = Color the row of soil grey



What kinds of soils does the farmer have?

Black and brownish soils are high in organic matter.

Yellow soil can be found in areas where acidic rock is plentiful.

Grey soil appears in wet (low oxygen) soils.

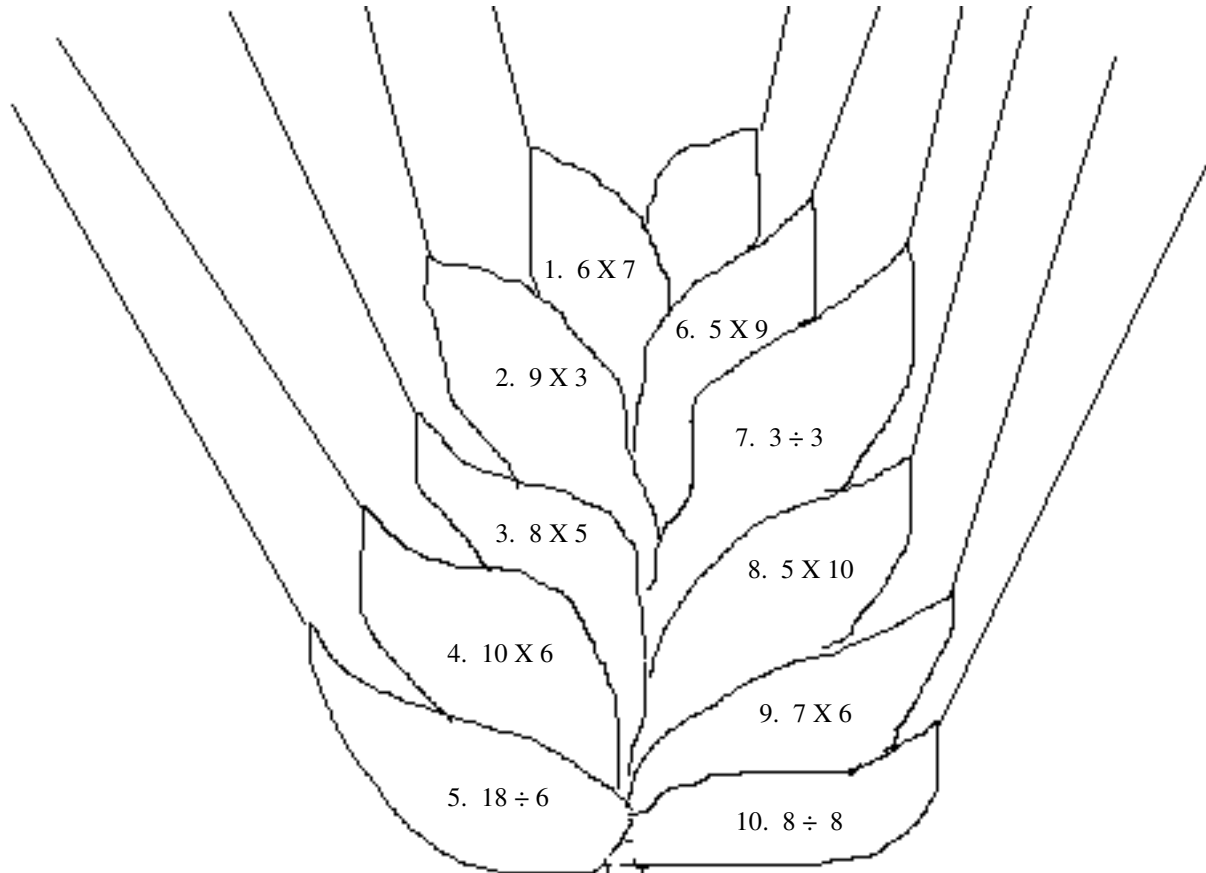
Red soil color usually indicates a high amount of iron.

# Our World With Wheat

Name \_\_\_\_\_

Wheat is an important crop that is the main ingredient for bread, pasta, and cereal. A farmer will plant, harvest, and sell his crop of wheat to provide the world with safe, healthy food.

Fill in the blanks to complete the wheat facts. Mathematical clues can be found in the wheat head to help find the correct answers.



1. Wheat is grown in \_\_\_\_\_ states in the U.S.
2. There are \_\_\_\_\_ million acres of wheat land in the United States.
3. One acre produces \_\_\_\_\_ bushels of wheat.
4. One bushel of wheat weighs \_\_\_\_\_ pounds.
5. Approximately \_\_\_\_\_ billion pizzas are sold in the United States each year.
6. One bushel of wheat makes \_\_\_\_\_ 24-ounce boxes of wheat flake cereal.
7. The state of Kansas ranks \_\_\_\_\_ as the wheat producing state in the U.S.
8. There are \_\_\_\_\_ kernels in one head of wheat
9. One bushel of wheat yields \_\_\_\_\_ loaves of white bread.
10. There are 17,000 kernels in \_\_\_\_\_ pound of wheat

# The Mighty Egg

Name \_\_\_\_\_

An average hen will lay about 300 eggs per year. She will lay about one egg a day until it starts to get cold and the days get shorter. A hen does not need a rooster to lay eggs. A rooster is needed, however, for the eggs to be fertile and hatch chicks. To hatch out chicks, a hen will lay a clutch of 8-10 eggs and sit on them for 21 days to keep them warm. Not all eggs will hatch into chicks, which is why she will sit on so many.

Eggs are an excellent source of protein and can be eaten to maintain a healthy diet.

Help the hen sort out the bad eggs from the good eggs, and put a crack in the eggs with incorrect problems



$$16 \div 4 = 4$$

$$24 \div 3 = 9$$

$$42 \div 6 = 7$$

$$12 \div 2 = 3$$

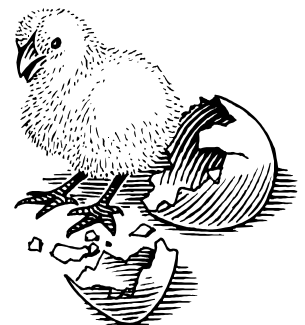
$$18 \div 9 = 2$$

$$36 \div 4 = 8$$

$$25 \div 5 = 5$$

$$64 \div 8 = 8$$

How many good eggs does the hen have in her nest? \_\_\_\_\_

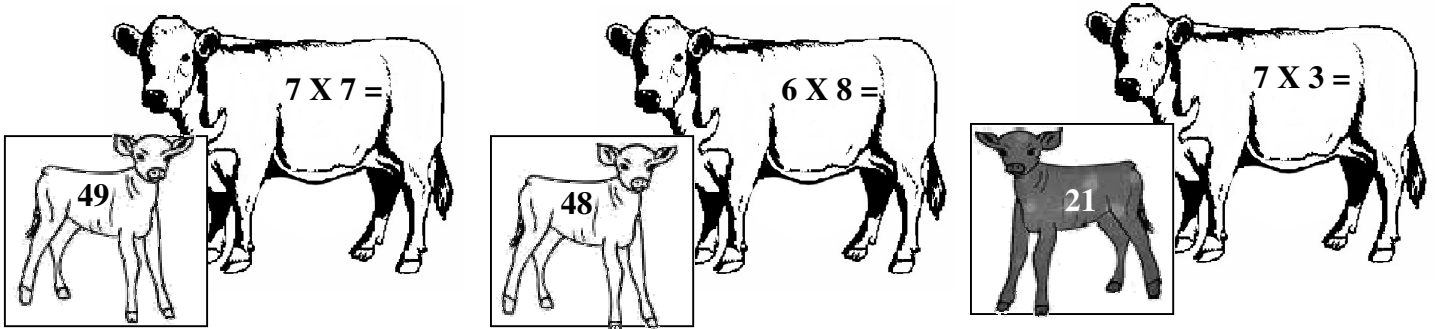
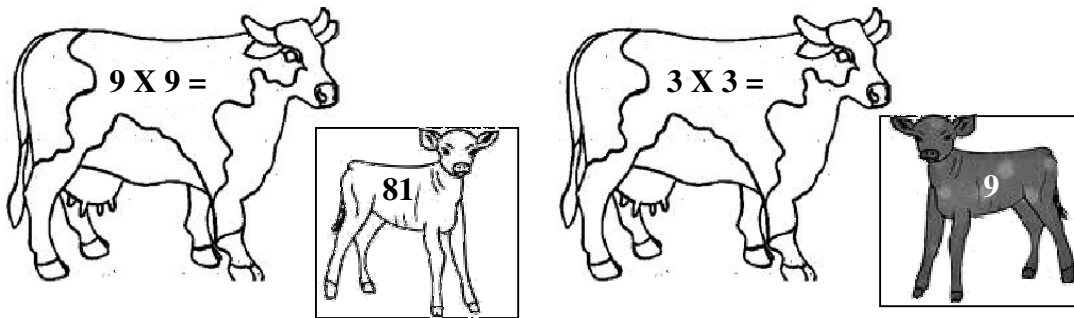
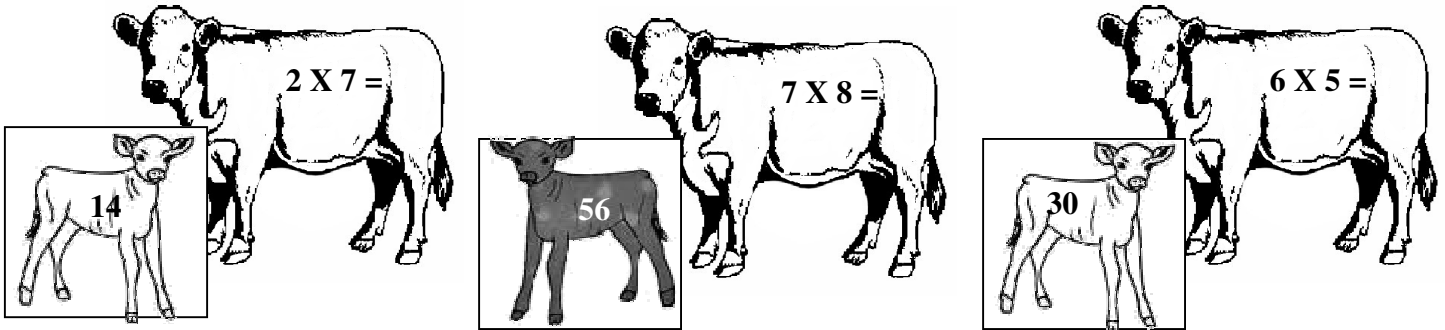


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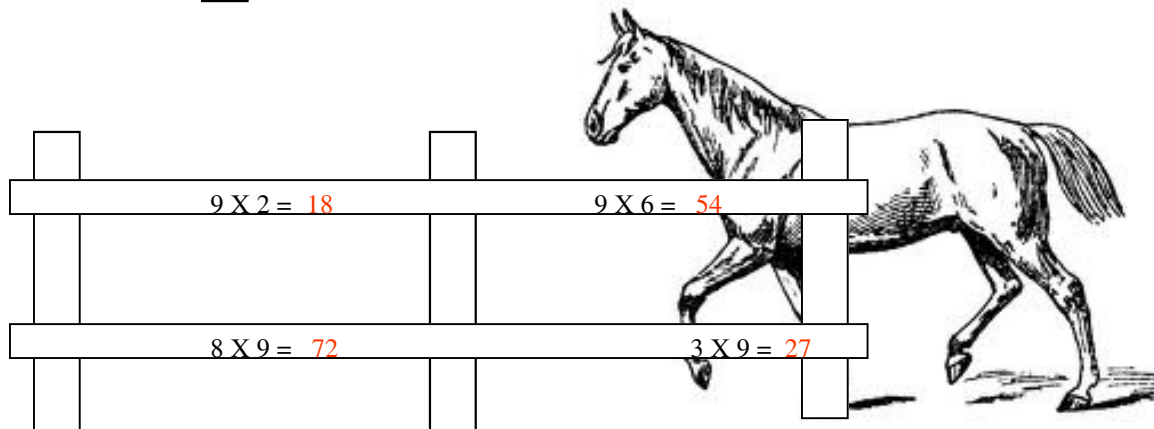
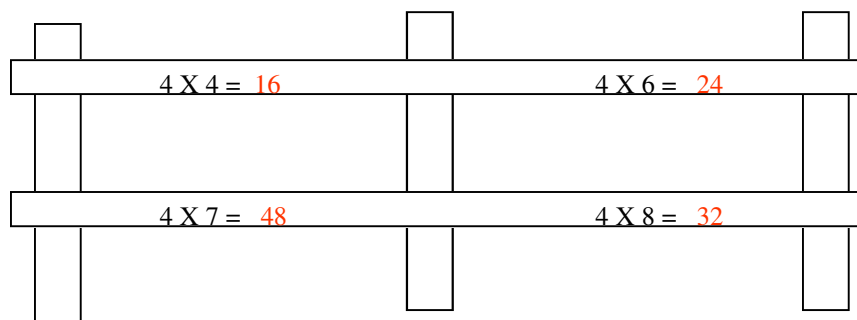
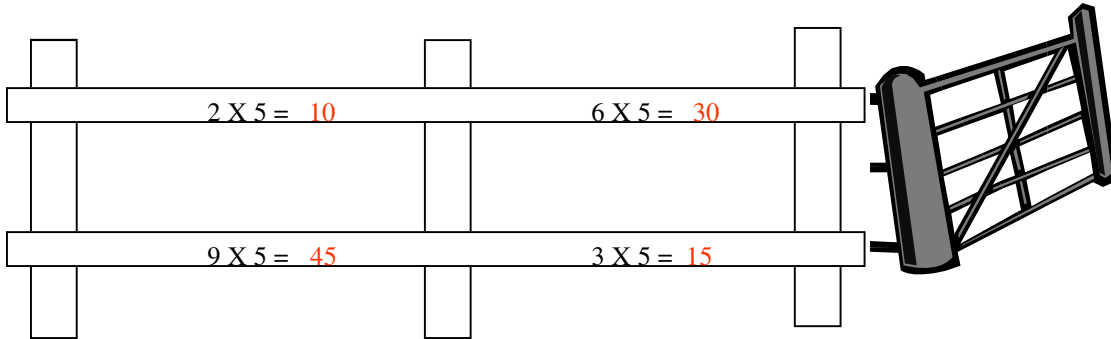



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Total feet of fencing material 391 feet

Is it enough to build the rancher's horse pen? yes



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**What kinds of soils does the farmer have?**

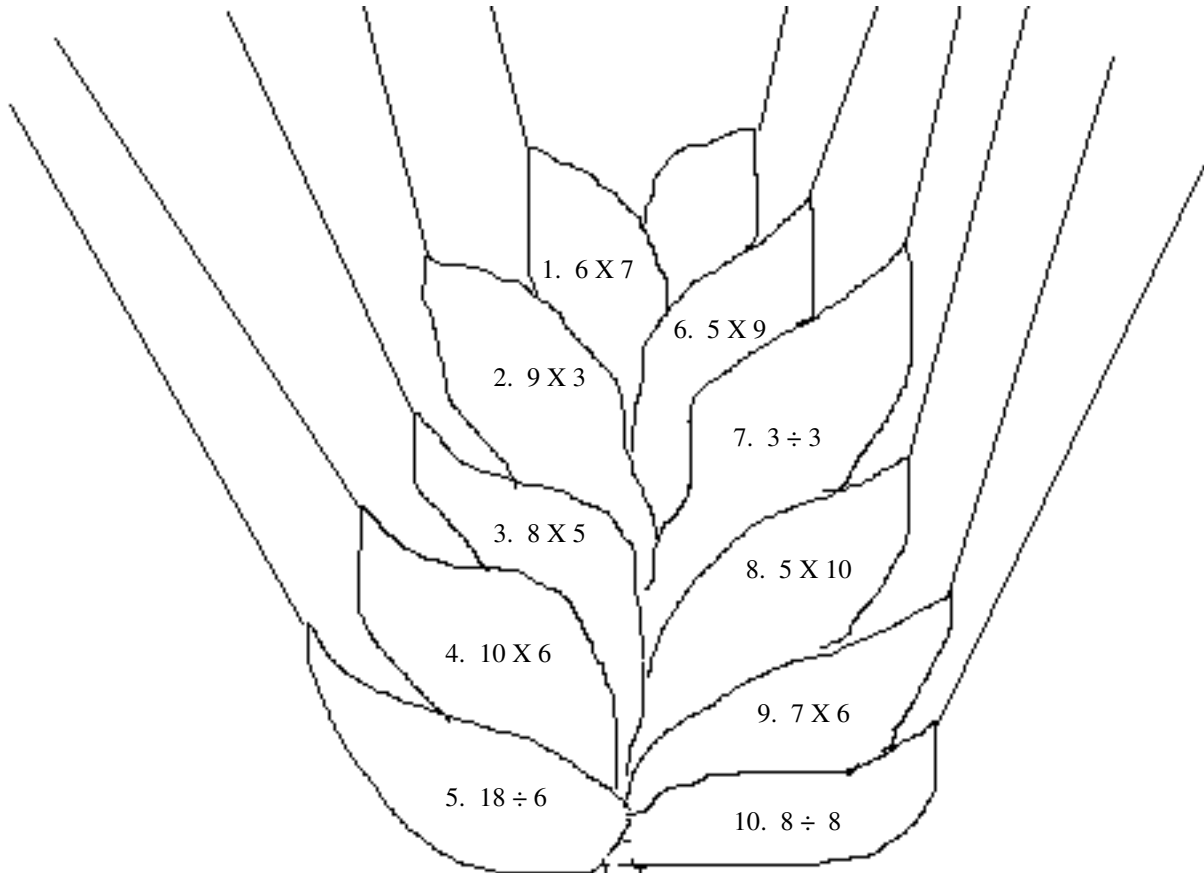
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Fill in the blanks to complete the wheat facts. Mathematical clues can be found in the wheat head to help find the correct answers.



1. Wheat is grown in 42 states in the U.S.
2. There are 27 million acres of wheat land in the United States.
3. One acre produces 40 bushels of wheat.
4. One bushel of wheat weighs 60 pounds.
5. Approximately 3 billion pizzas are sold in the United States each year.
6. One bushel of wheat makes 45 24-ounce boxes of wheat flake cereal.
7. The state of Kansas ranks 1 as the wheat producing state in the U.S.
8. There are 50 kernels in one head of wheat.
9. One bushel of wheat yields 42 loaves of white bread.
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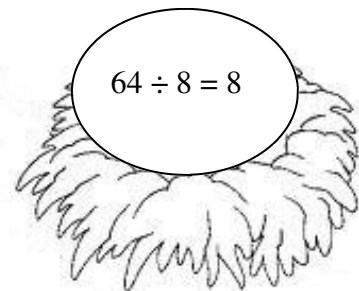
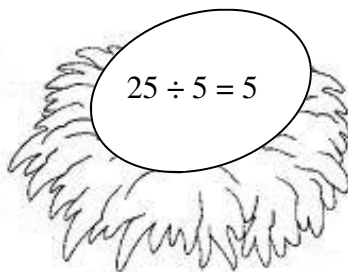
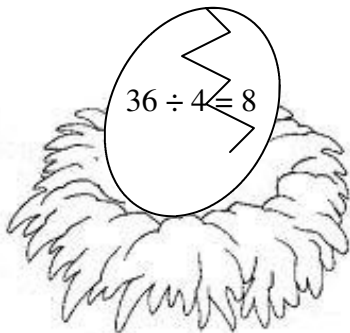
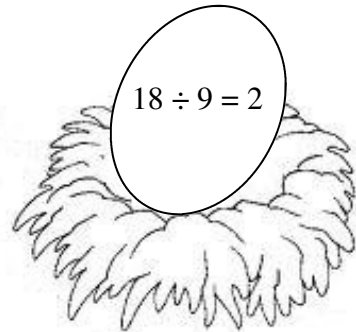
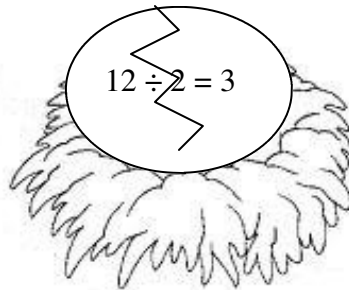
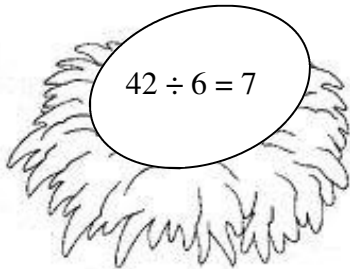
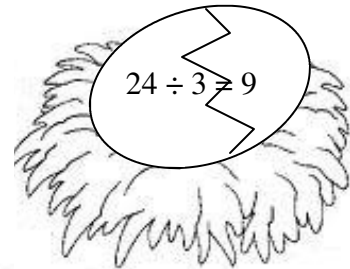
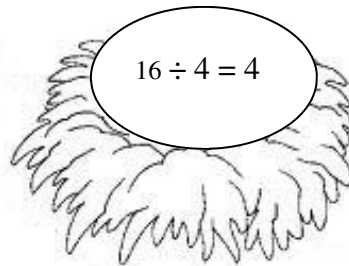
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Help the hen sort out the bad eggs from the good eggs, and put a crack in the eggs with incorrect problems



How many good eggs does the hen have in her nest? 5

