

# Exploring Proportions Activity

Name: \_\_\_\_\_

Group: \_\_\_\_\_

**Directions:** In this activity you will learn about equal ratios and the nature of proportions. Obtain a bean activity packet from your teacher and follow the instructions below in order. Remember to write down your results and answers.

1. Write the number of white beans: \_\_\_\_\_

Write the number of black beans: \_\_\_\_\_

Write the ratio of white beans to black beans in fraction form: \_\_\_\_\_

2. Make as many piles as you can that contain an equal number of both colors. Each pile must be identical in color and number. What is the greatest number of piles that can be created? \_\_\_\_\_

For each pile, write the ratio of white beans to black beans in fraction form: \_\_\_\_\_

Complete the sentence: You can separate \_\_\_\_\_ white beans and \_\_\_\_\_ black beans into \_\_\_\_\_ piles, each with a ratio of \_\_\_\_\_ white beans to \_\_\_\_\_ black beans. Written as a fraction the ratio is \_\_\_\_\_. THIS RATIO REPRESENTS ONE PILE, A BUILDING BLOCK THAT TAKEN TOGETHER MAKE UP THE WHOLE GROUP OF BEANS.

3. Using the piles just created:

Combine two piles and write the ratio of white beans to black beans: \_\_\_\_\_

Combine three piles and write the ratio of white beans to black beans: \_\_\_\_\_

Combine four piles and write the ratio of white beans to black beans: \_\_\_\_\_

Are the first two ratios equal? Explain why. \_\_\_\_\_

Rewrite the first two ratios as decimal fractions. What do you notice? \_\_\_\_\_

4. WHEN TWO RATIOS ARE EQUAL THEY FORM A PROPORTION. List two ways you can test if two ratios form a proportion. \_\_\_\_\_

Write two more proportions based on your answers to question number three. Show why they are proportions. \_\_\_\_\_