

## Equivalent Fractions and Predicting the Nature of a Population from a Sample

1. **Bag 1** contains 20 squares. Fill in the blanks.

(a) The first time we picked 10 squares:

\_\_\_\_\_ out of 10 were yellow.

What fraction of the 10 squares were yellow? \_\_\_\_\_

What fraction of the 20 squares should be yellow? \_\_\_\_\_

What is the best scientific guess about how many of the 20 squares in the bag are yellow based on the 10 squares we picked? \_\_\_\_\_

(b) The second time we picked 10 squares:

\_\_\_\_\_ out of 10 were yellow.

What fraction of the 10 squares were yellow? \_\_\_\_\_

What fraction of the 20 squares should be yellow? \_\_\_\_\_

What is the best scientific guess about how many of the 20 squares in the bag are yellow based on these 10 squares? \_\_\_\_\_ Explain.

Will this best scientific guess necessarily be correct? \_\_\_\_\_ Explain.

2. **Bag 2** contains 30 squares. Fill in the blanks.

(a) The first time we picked 10 squares from bag 2:

\_\_\_\_\_ out of 10 were yellow.

What fraction of the 10 squares were yellow? \_\_\_\_\_

What fraction of the 30 squares should be yellow? \_\_\_\_\_

What is the best scientific guess about how many of the 30 squares in the bag are yellow based on the 10 squares we picked? \_\_\_\_\_

(b) The second time we picked 10 squares from bag 2:

\_\_\_\_\_ out of 10 were yellow.

What fraction of the 10 squares were yellow? \_\_\_\_\_

What fraction of the 30 squares should be yellow? \_\_\_\_\_

What is the best scientific guess about how many of the 30 squares in the bag are yellow based on these 10 squares? \_\_\_\_\_

3. **Bag 3** contains 40 squares. Fill in the blanks.

(a) The first time we picked 10 squares from bag 3:

\_\_\_\_\_ out of 10 were yellow.

What fraction of the 10 squares were yellow? \_\_\_\_\_

What fraction of the 40 squares should be yellow? \_\_\_\_\_

What is the best scientific guess about how many of the 40 squares in the bag are yellow based on the 10 squares we picked? \_\_\_\_\_

(b) The second time we picked 10 squares from bag 3:

\_\_\_\_\_ out of 10 were yellow.

What fraction of the 10 squares were yellow? \_\_\_\_\_

What fraction of the 40 squares should be yellow? \_\_\_\_\_

What is the best scientific guess about how many of the 40 squares in the bag are yellow based on these 10 squares? \_\_\_\_\_