Problem Solving • Find the Whole Group Using Unit Fractions

Essential Question How can you use the strategy *draw a diagram* to solve fraction problems?

Learning Objective You will use the strategy *draw a diagram* to find parts of a group by drawing counters.

Unlock the Problem · Real World

Cameron has 4 clown fish in his fish tank. One third of the fish in the tank are clown fish. How many fish does Cameron have in his tank?

Use the graphic organizer to help you solve the problem.

Read the Problem	Solve the Problem
What do I need to find? I need to find _____ are in Cameron's fish tank.	**Describe how to draw a diagram to solve.** The denominator in $\frac{1}{3}$ tells you that there are _____ equal parts in the whole group. Draw 3 circles to show _____ equal parts. Since 4 fish are $\frac{1}{3}$ of the whole group, draw _____ counters in the first circle. Since there are _____ counters in the first circle, draw _____ counters in each of the remaining circles. Then find the total number of counters.
What information do I need to use? Cameron has _____ clown fish. _____ of the fish in the tank are clown fish.	
How will I use the information? I will use the information in the problem to draw a _____.	So, Cameron has _____ fish in his tank.

Name _____

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1. Lily has 3 dog toys that are red. One fourth of all her dog toys are red. How many dog toys does Lily have?

   First, draw _____ circles to show _____ equal parts.

   Next, draw _____ toys in _____ circle since

   _____ circle represents the number of red toys.

   Last, draw _____ toys in each of the remaining circles. Find the total number of toys.

   So, Lily has _____ dog toys.

2. **THINK SMARTER**   What if Lily has 4 toys that are red? How many dog toys would she have?

   _____

3. The pet store sells bags of pet food. There are 4 bags of cat food. One sixth of the bags of food are cat food. How many bags of pet food does the pet store have?

   _____

4. Rachel owns 2 parakeets. One fourth of all her birds are parakeets. How many birds does Rachel own?

   _____

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Draw a quick picture to solve.

1. Katrina has 2 blue ribbons for her hair. One fourth of all her ribbons are blue. How many ribbons does Katrina have in all?

   _____ 8 ribbons _____

2. One eighth of Tony's books are mystery books. He has 3 mystery books. How many books does Tony have in all?

   _____

3. Brianna has 4 pink bracelets. One third of all her bracelets are pink. How many bracelets does Brianna have?

   _____

4. Ramal filled 3 pages in a stamp album. This is one sixth of the pages in the album. How many pages are there in Ramal's stamp album?

   _____

5. Jeff helped repair one half of the bicycles in a bike shop last week. If Jeff worked on 5 bicycles, how many bicycles did the shop repair last week?

   _____

6. **WRITE** ▸ *Math* Write a problem about a group of objects in your classroom. Tell how many are in one equal part of the group. Solve your problem. Draw a diagram to help you.

   _____

   _____