**Division Activities**

**Popcorn Division**

You will need:
- Popped popcorn
- 4 or more cups or other containers

How to Play:
- Count out 12 pieces of popcorn.
- Place three cups or other containers on the table.
- Put one piece of popcorn in the first cup, one in the second cup, and one in the third cup.
- Keep adding popcorn to each cup, one piece at a time, until all of the pieces are in the cups.

\[ 12 \text{ pieces of popcorn} \div 3 \text{ equal groups} = 4 \text{ pieces of popcorn in each group}. \]

- Write a division sentence to show how many pieces of popcorn are in each cup.
  \[ 12 \div 3 = 4 \]
- Empty all of the cups onto the table.
- Take away one of the cups so that only two cups are left.
- Put popcorn into each cup, one piece at a time, as you did the first time.
- Write a division sentence to show how many pieces are in each cup.
- Repeat the activity, using more cups or more pieces of popcorn.
- Write division sentences to show how much popcorn is in each cup.
Division Activities

Stringy Division

You will need:
- Meter stick
- String
- Scissors
- Paper
- Pencil

How to Play:

Problem: You have a piece of string that measures 110 cm in length. You want to give one piece of the string to each of your friends. If you cut pieces that are each 8 cm long, how many of your friends will each get one 8 cm piece of string? To find the answer, follow the steps below.

- Measure and cut a piece of string that is 110 cm in length.
- Start at one end of the string and cut pieces that are 8 cm in length. Cut as many pieces as possible. Measure carefully.
- Count the number of 8 cm pieces that you have cut.
- Measure the piece that is left over. It should measure 6 cm.
- This is an example of using repeated subtraction to divide. Subtract 8 cm thirteen times. There are thirteen 8-cm pieces and 6 cm left over (remainder). The answer to your problem is 13 friends will each get a piece of string 8 cm in length and you will have 6 cm left over.

\[
\begin{align*}
110 - 8 &= 102 \\
102 - 8 &= 94 \\
94 - 8 &= 86 \\
86 - 8 &= 78 \\
78 - 8 &= 70 \\
70 - 8 &= 62 \\
62 - 8 &= 54 \\
54 - 8 &= 46 \\
46 - 8 &= 38 \\
38 - 8 &= 30 \\
30 - 8 &= 22 \\
22 - 8 &= 14 \\
14 - 8 &= 6 \\
\end{align*}
\]

- Write the division sentence that this problem represents.
- Example: \( 110 \div 8 = 13 R 6 \)
- Repeat with other lengths of string.
The Cookie Caper

You will need:

- 30 counters to represent cookies
  (or real cookies)
- Paper
- Pencil

How to Play:

- Players follow along with the story *(printed on next page)* and divide up the counters as the story progresses.

Chelsea the Chipmunk was hungry for chocolate chip cookies. She mixed and measured and baked up a delicious batch of cookies. When they were ready, she had 30 of the most delicious cookies she had ever baked. She decided to eat them all herself.

Before she could eat them, there was a knock on the door. It was her friend, Sonia Squirrel, who had smelled the cookies and wanted to share them.

Sonia and Chelsea divided up the cookies. *(Players divide the counters into two groups and write the matching division sentence: 30 ÷ 2 = 15.)*

Before they could eat their cookies, there was another knock on the door. It was their friend, Randy Raccoon. Of course, they decided to share the cookies with Randy! *(Players divide the 30 cookies into 3 groups and write the corresponding division sentence: 30 ÷ 3 = 10.)*

It wasn’t long before there were more and more knocks on the door. Each time a new friend came along, the cookies were divided into new groups to share. Finally there were 10 friends in all! *(Players continue dividing the 30 cookies into groups of 4, 5, 6, etc., until there are 10 groups. Players write the division sentences each time. Some problems will have remainders.)*
## Division Activities

<table>
<thead>
<tr>
<th>Number of Friends</th>
<th>Number of Groups</th>
<th>Number of Cookies for Each Friend</th>
<th>Division Sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>30</td>
<td>$30 \div 1 = 30$</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>15</td>
<td>$30 \div 2 = 15$</td>
</tr>
</tbody>
</table>
Division Activities

Circle Division

You will need:

- Pencil
- Paper (or “Division by Threes” work mat at back of this packet)
- Jar of 30 pennies

Preparation:

- If you are making your own work mat, draw three large circles on paper, and label it “Division Mat or Dividing by Three.” Number the circles 1, 2, and 3.

How to Play:

- Take three pennies from the jar. Put one penny in each circle. *How many pennies are in each circle? You have shown the division fact 3 ÷ 3 = 1.*

  3 pennies ÷ into 3 equal groups = 1 penny in each group.

- Put a second penny in each of the three circles. *How many pennies did you use? You have shown the division fact 6 ÷ 3 = 2.*

  6 pennies ÷ into 3 equal groups = 2 pennies in each group.

- Continue to use the rest of the pennies in this way to show the remaining division facts for 3.
Egg Carton Division

You will need:
- 5 empty egg cartons
- 60 marbles

Preparation:
- Break the egg cartons in half so that each carton has 6 compartments.

How to Play:
- Count out 6 marbles, and put one in each section of a half-carton. You have shown the division fact $6 \div 6 = 1$.

$6 \text{ marbles} \div 6 \text{ equal groups} = 1 \text{ marble in each group.}$

- Now count out 12 marbles, and put two in each section of a half-carton. You have shown the division fact $12 \div 6 = 2$.

$12 \text{ marbles} \div 6 \text{ equal groups} = 2 \text{ marbles in each group.}$

- Continue to use the half-carton and marbles to show the rest of the division facts for 6.
Division Activities

1

2

3