

2.

Base 10 Blocks

Topics:

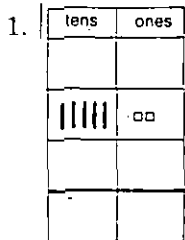
Subtraction—
 (a) using 1 set
 (b) using 2 sets

Division—
 (a) share evenly
 (b) how many for each

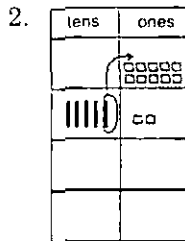
Dienes Blocks, Base 10—
 (a) ones
 (b) tens
 (c) hundreds

Problem A.

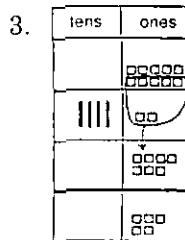
Jim had 52 marbles but lost 27. How many does he have left?



Show 52, putting ones and tens in the correct columns.

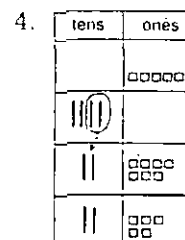


You can't take 7 from 2. Regroup a 10 into 10 ones. This gives 4 tens and 12 ones.



Take away 7 ones.

Show how many are left.

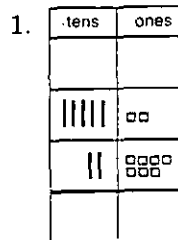


Take away 2 tens.

Show how many tens are left.

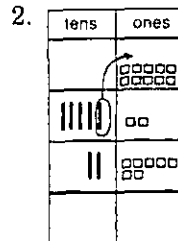
Problem B.

Jim has 52 marbles. John has 27 marbles. How many more marbles does Jim have?



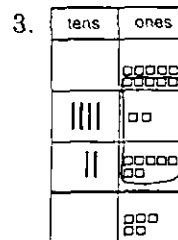
Show 52 and 27, putting ones and tens in the correct columns.

$$\begin{array}{r} 52 \\ -27 \\ \hline \end{array}$$



Compare the ones. Seven is greater than 2. Regroup a 10 into 10 ones. This gives 4 tens and 12 ones.

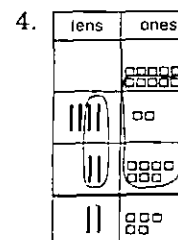
$$\begin{array}{r} 4 \ 1 \\ 52 \\ -27 \\ \hline \end{array}$$



Match up the ones.

Show the difference.

$$\begin{array}{r} 4 \ 1 \\ 52 \\ -27 \\ \hline 5 \end{array}$$



Match up the tens.

Show the difference.

$$\begin{array}{r} 4 \ 1 \\ 52 \\ -27 \\ \hline 25 \end{array}$$

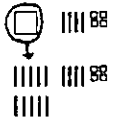
Problem C.

Susan has a package of 144 candy canes that she wants to share evenly among 6 friends. How many canes will each friend get?



Show the 144 canes to be divided evenly among 6 friends.

$$\overline{6)144}$$



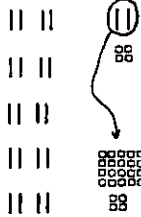
You can't give 100 to each. One hundred is 10 tens, so you have 14 tens altogether.

$$\begin{array}{r} 2 \\ \overline{6)14}4 \end{array}$$



Give 2 tens to each friend, and record 2 in the tens column. This portioning takes 12 tens, leaving 2 tens.

$$\begin{array}{r} 2 \\ \overline{6)14}4 \\ 12 \\ \hline 2 \end{array}$$



Each 10 is 10 ones. With the 4 left, this makes 24 ones.

$$\begin{array}{r} 2 \\ \overline{6)14}4 \\ 12 \\ \hline 24 \end{array}$$



Give 4 canes to each friend, and record a 4 in the ones column. This sharing takes 24 canes, and no canes are left.

$$\begin{array}{r} 2 \\ \overline{6)14}4 \\ 12 \\ \hline 24 \\ 24 \\ \hline 0 \end{array}$$



So, each friend got 24 canes.

Problem D.

Susan has a package of 144 candy canes, enough for her to give 6 to each of her friends. How many friends can she share the candy canes with?



Show the 144 canes to be divided into groups of 6.

$$\overline{6)144}$$

You can't make 100 groups of 6.

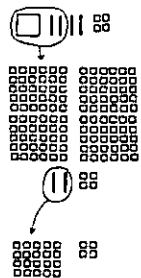
You *can* make 20 groups of 6. Twenty is 2 tens.

Record 2 in the tens column.

$$\begin{array}{r} 2 \\ \overline{6)144} \end{array}$$

Take 100 and 2 tens away.

Two tens are left.



Each 10 is 10 ones. With the 4 left, this makes 24 ones.

$$\begin{array}{r} 2 \\ \overline{6)144} \\ 12 \\ \hline 24 \end{array}$$



Make another 4 groups of 6. Record the 4 in the ones column. Take the 24 away.

$$\begin{array}{r} 2 \\ \overline{6)144} \\ 12 \\ \hline 24 \\ 24 \\ \hline 0 \end{array}$$

There are 24 groups of 6 altogether, so Susan can share with 24 friends.