GRADED WORK IN ARITHMETIC

S. W. BAIRD

AMERICAN·BOOK·COMPANY
NEW YORK · CINCINNATI · CHICAGO

FIRST·YEAR

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Received May 15, 1903.

GRADED WORK

IN

ARITHMETIC

BY

S. W. BAIRD

PRINCIPAL FRANKLIN GRAMMAR SCHOOL, WILKESBARRE, PA.

FIRST YEAR

NUMBERS FROM 1 TO 20

NEW YORK ·:· CINCINNATI ·:· CHICAGO

AMERICAN BOOK COMPANY

GRADED WORK IN ARITH. I.

W. P. I

NOTE

THE lessons in this book are on numbers from 1 to 20, and are designed to cover the first year's work in arithmetic, although some classes will undoubtedly complete the exercises in less than one year, and others may require more time.

The fundamental operations — addition, subtraction, multiplication, and division — and simple fractions are introduced in connection with each number. There are frequent reviews, many drills, and a combination of slate and oral work. The problems are simple and practical.

Pictures, suggestions for object lessons, and other devices calculated to interest the pupil, are presented; and the illustrations, type, and arrangement of matter have been selected with a view to render the book attractive to young children.

ORAL WORK

How many girls do you see in the picture?

How many girls are on the bench? How many are standing?

How many hens do you see in the picture?

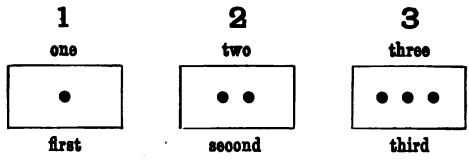
How many eggs do you see in the nest?

If each of the two girls on the bench takes an egg out of the nest, how many eggs will be left in the nest?

If you take two eggs from three eggs, how many eggs will be left?

Now, if each hen lays an egg in the nest, how many eggs will there be in the nest then?

One egg and two eggs are how many eggs?



ORAL WORK

How many dots do you see on the first card?

How many dots are on the second card?

How many dots are on the third card?

Count the dots on the first and second cards, and tell me how many are on both together.

One dot and two dots are how many dots?

How many more dots are there on the second card than on the first card?

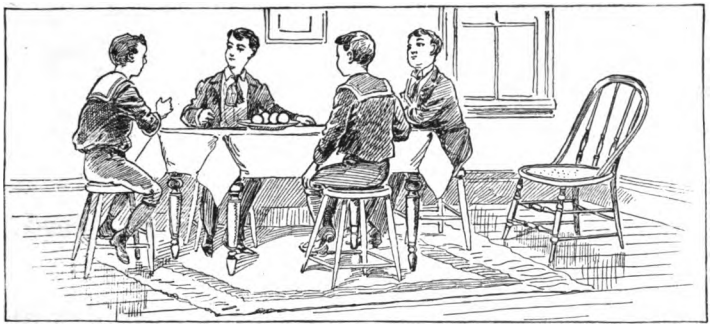
How many more dots are there on the third card than on the first?

Two books and one book are how many books?

If Mary has three books and gives one to her sister, how many books has Mary left?

How many eggs can you buy for three cents, if one egg costs one cent?

There are three plums on a plate. Now, if two girls take one plum each, how many plums will be left on the plate?



ORAL WORK

How many boys do you see in the picture?

How many oranges are on the plate on the table?

How many legs has the table?

How many legs has the chair?

If one boy eats an orange, how many oranges will be left on the plate?

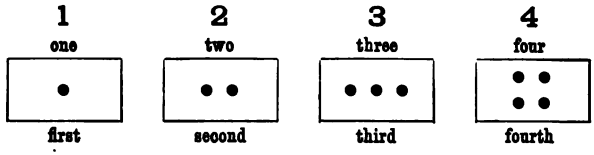
If you take one orange from four oranges, how many oranges will be left?

If two boys leave the table, how many boys will be left at the table?

How many eyes have two horses?

From four apples take away two apples, and how many apples will be left?

How many balls are two balls and two balls?



ORAL WORK

How many dots do you see on the first card?

I see —— dot on the first card.

How many dots do you see on the second card?

I see —— dots on the second card.

How many dots do you see on the third card?

I see —— dots on the third card.

How many dots do you see on the fourth card?

I see —— dots on the fourth card.

How many dots are three dots and one dot?

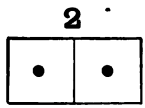
Three dots and one dot are —— dots.

Draw a card and make four dots on it.

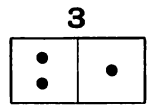
Now, rub out two dots and tell me how many dots are left on the card.

If you have two cents and spend two of them for candy, how many cents have you left?

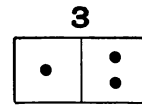
Willie's mother gave him three cookies. After he ate one how many cookies had he left?



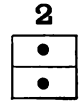
1+1=
2−1=
½ of 2=



2+1=
3−1=
3÷2=



1+2=
2+1=
3−2=

½ of 2= 

ORAL WORK

1 dot and 1 dot are how many dots?

2 dots less 1 dot are how many dots?

2 dots and 1 dot are how many dots?

3 dots less 1 dot are how many dots?

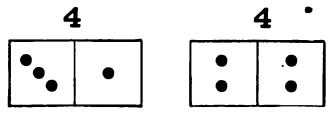
3 dots less 2 dots are how many dots?

There are 2 mice in one trap and 1 mouse in another trap. How many mice are there in both traps?

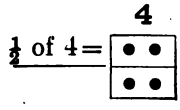
Anna has 2 dimples in her cheeks, and 1 dimple in her chin. How many dimples has Anna?

I see 2 birds in a tree and 1 bird on the fence. How many birds do I see?

Mary had 3 cents and paid 2 cents for a pencil. How many cents had she left?



3+1=	2+2=
1+3=	2×2=
4−1=	4−2=
4−3=	4÷2=
4÷3=	½ of 4=

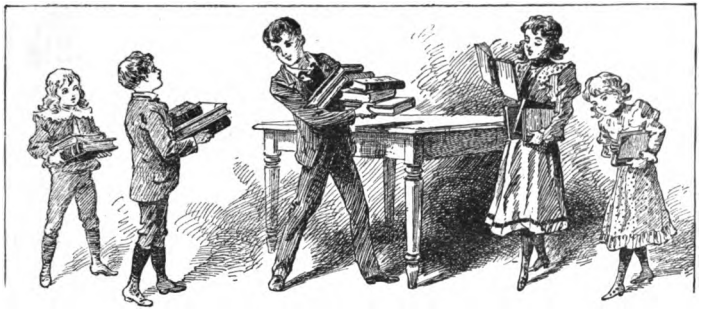


ORAL WORK

3 dots and 1 dot are how many dots?
2 dots and 2 dots are how many dots?
2 times 2 dots are how many dots?
4 dots less 2 dots are how many dots?
½ of 4 dots is —— dots.
2 dots and —— are 4 dots.
4 dots less —— are 2 dots.
4 dots are how many more dots than 3 dots?

SLATE WORK

2+1=	3+1=	4−3=
3−1=	2+2=	4÷2=
3÷2=	4−2=	4÷3=



ORAL WORK

How many boys do you see in the picture?

How many girls do you see?

Three boys and two girls are how many children?

How many books is the largest boy carrying?

How many books has the next boy?

How many books has the smallest boy?

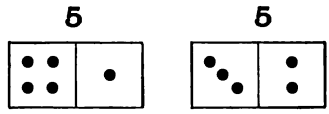
Three books and two books are how many books?

How many books have the two girls together?

Four books and one book are how many books?

How many more books has the larger girl than the smaller?

Four books less one book are how many books?



4+1=	3+2=
1+4=	2+3=
5−4=	5−3=
5+4=	5+3=

ORAL WORK

4 dots and 1 dot are how many dots?

5 dots less 4 dots are how many dots?

3 dots and 2 dots are how many dots?

5 dots less 3 dots are how many dots?

5 dots are —— more dots than 2 dots?

How many 4's are there in 5, and how many are left over? $5 \div 4 = 1$, and 1 left over.

How many 3's are there in 5, and how many are left over? $5 \div 3 = 1$, and 2 left over.

If you have a three-cent piece and a two-cent piece, how much money have you?

If I have a five-cent piece and you have a two-cent piece, how much more money have I than you?

5 cents less 2 cents are —— cents.

SLATE WORK

$1+2=$	$3+2=$	$2+?=4$	$4-2=$
$3+1=$	$4-1=$	$5-?=2$	$5-4=$
$2+3=$	$5-2=$	$4\div?=2$	$2\times2=$
$4+1=$	$4-3=$	$3+?=5$	$\frac{1}{2}$ of $4=$
$5-1=$	$5-3=$	$4-?=3$	$\frac{1}{2}$ of $2=$

ORAL WORK

Hold up your right hand; your left hand.

How many fingers have you on each hand?

How many fingers have you on each hand, not counting the thumbs?

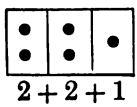
How many joints has the thumb?

How many joints has each of the other fingers?

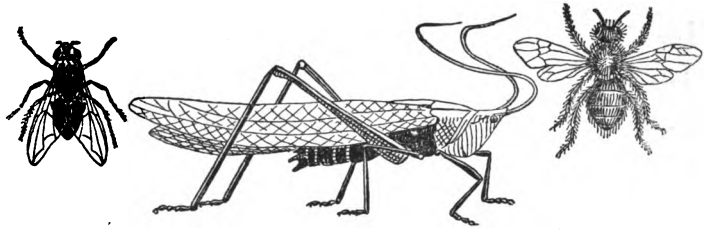
How many joints have your thumb and little finger together?

If I buy 2 two-cent stamps with a five-cent piece, how much money will I have left?

How many 2's are there in 5, and how many are left over?

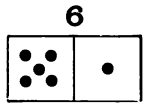


$5\div2=$——, and —— left over.

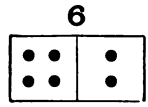


ORAL WORK

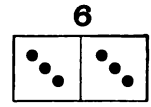
How many legs has a grasshopper?
How many legs has a fly?
How many legs has a bee?
A fly has two wings. A bee has four wings.
How many wings have 2 flies?
Two things make a pair. Two shoes are a pair. Two gloves are a pair. Two stockings are a pair.
How many pairs of legs has a grasshopper?
How many pairs of legs has a bee?
How many pairs of legs has a fly?
How many pairs of wings has a bee?
How many pairs of wings has a fly?
If a work bee loses two of its wings, how many will it have left?



5 + 1 =
1 + 5 =
6 − 1 =
6 − 5 =
6 + 5 =

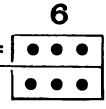


4 + 2 =
2 + 4 =
6 − 2 =
6 − 4 =
6 ÷ 4 =



3 + 3 =
2 × 3 =
6 − 3 =
6 ÷ 3 =
½ of 6 =

½ of 6 =



ORAL WORK

6 dots less 2 dots are how many dots?
3 dots and 3 dots are how many dots?
2 times 3 dots are how many dots?
½ of 6 dots is how many dots?
6 dots are how many more dots than 4 dots?
6 dots less 4 dots are how many dots?
How many 5's are there in 6, and how many are left over? 6 ÷ 5 = ——, and —— over.
How many 4's are there in 6, and how many are left over? 6 ÷ 4 = ——, and —— over.
How many 3's are there in 6?
If you divide 6 apples equally between two girls, how many apples will each girl get?

SLATE WORK

$4+2=$	$5-3=$	$4\div 2=$	$5-?=2$
$3+2=$	$6-3=$	$6\div 2=$	$3+?=6$
$2+2=$	$4-2=$	$6\div 3=$	$2+?=6$
$2\times 2=$	$3+3=$	$6-?=3$	$5-?=1$
$4+1=$	$2\times 3=$	$4+?=6$	$6-?=4$

ORAL WORK

2 roses and 3 roses are —— roses.

3 tops and 3 tops are —— tops.

4 dolls and —— dolls are 6 dolls.

5 birds less 2 birds are —— birds.

6 hats less —— hats are 2 hats.

5 boys less —— boys are 2 boys.

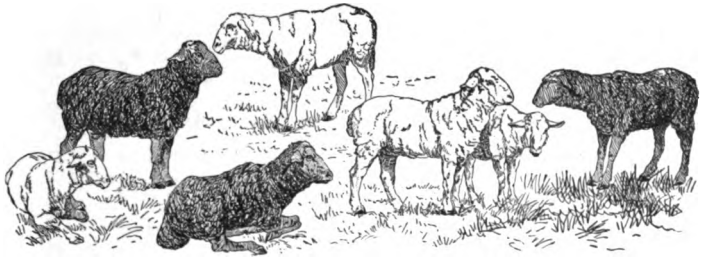
3 times —— flags are 6 flags.

How many two-cent stamps can you buy for 6 cents?

How many shoes are there in three pairs of shoes?

Mary had 6 lilies and gave $\frac{1}{2}$ of them to me. How many did she give me?

Lulu has 6 stockings. How many pairs of stockings has she?



ORAL WORK

How many white sheep do you see in the picture?

How many black sheep do you see?

Four sheep and three sheep are how many sheep?

How many more white sheep are there than black sheep?

Four sheep less three sheep are how many sheep?

How many sheep are standing?

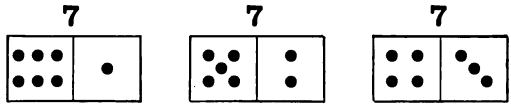
How many are lying down?

Five sheep and two sheep are how many?

Seven sheep less two sheep are how many?

How many more sheep are standing than there are lying down?

Five sheep less two sheep are how many sheep?



7	7	7
$6+1=$	$5+2=$	$4+3=$
$1+6=$	$2+5=$	$3+4=$
$7-1=$	$7-2=$	$7-3=$
$7-6=$	$7-5=$	$7-4=$
$7\div 6=$	$7\div 5=$	$7\div 4=$

ORAL WORK

5 dots and 2 dots are how many dots?

7 dots less 2 dots are how many dots?

4 dots and 3 dots are how many dots?

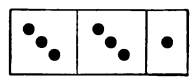
7 dots less 4 dots are how many dots?

3 apples and 4 apples are how many apples?

How many 6's are there in 7, and how many are left over? $7\div 6=$ ——, and —— left over.

How many 5's are there in 7, and how many are left over? $7\div 5=$ ——, and —— left over.

How many 3's are there in 7, and how many are left over?



7

$3+3+1$

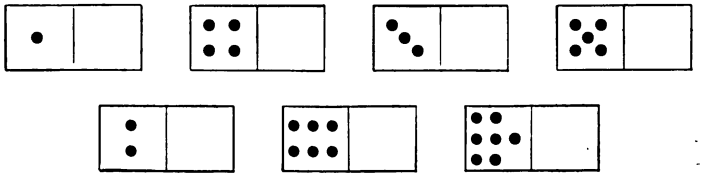
SLATE WORK

3+2=	7−3=	2+5=	7−2=
5+1=	5−2=	3+4=	3+?=5
5−3=	4+3=	5−4=	5+?=7
6−3=	6−4=	2+3=	7−?=4
5+2=	4+2=	7−5=	6−?=3

Copy and finish:

5 dots less 3 dots are —— dots.
7 dots less —— dots are 4 dots.
4 horses and —— horses are 7 horses.
5 fingers and —— fingers are 7 fingers.
2 geese and 4 geese are —— geese.
2 baskets and —— baskets are 5 baskets.
6 clocks less 2 clocks are —— clocks.
6 cups less 4 cups are —— cups.
7 blocks less —— blocks are 2 blocks.

Copy, and fill in dots enough to make seven in each card:



ORAL WORK

How many spiders do you see in the picture?

How many bees do you see?

How many legs has each spider?

How many pairs of legs has each spider?

How many pairs of legs have both spiders together?

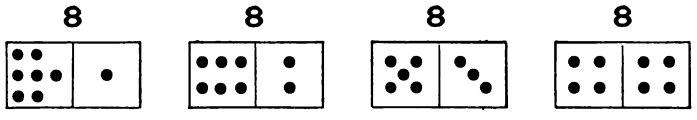
How many pairs of wings has each bee?

How many pairs of wings have both bees together?

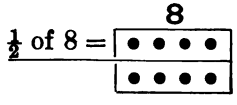
How many pairs of legs have both bees?

How many more pairs of legs has a spider than a bee?

How many less legs has a fly than a spider?

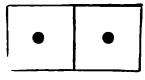


8	8	8	8
$7+1=$	$6+2=$	$5+3=$	$4+4=$
$1+7=$	$2+6=$	$3+5=$	$2\times 4=$
$8-1=$	$8-2=$	$8-3=$	$8-4=$
$8-7=$	$8-6=$	$8-5=$	$8+4=$
$8\div 7=$	$8\div 6=$	$8\div 5=$	$\frac{1}{2}$ of $8=$

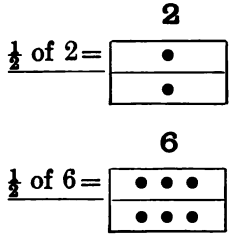


ORAL WORK

6 dots and 2 dots are how many dots?
8 dots less 2 dots are how many dots?
5 dots and 3 dots are how many dots?
8 dots less 3 dots are how many dots?
4 dots and 4 dots are how many dots?
2 times 4 dots are how many dots?
$\frac{1}{2}$ of 8 dots are how many dots?
How many 7's are there in 8, and how many are left over? $8\div 7=$ ——, and —— over.
How many 6's are there in 8, and how many are left over? $8\div 6=$ ——, and —— over.
$8\div 5=$ ——, and —— over.



2	4	6	8
$1+1=$	$2+2=$	$3+3=$	$4+4=$
$2\times 1=$	$2\times 2=$	$2\times 3=$	$2\times 4=$
$2+2=$	$4+2=$	$6+2=$	$8+2=$
$\frac{1}{2}$ of $2=$	$\frac{1}{2}$ of $4=$	$\frac{1}{2}$ of $6=$	$\frac{1}{2}$ of $8=$



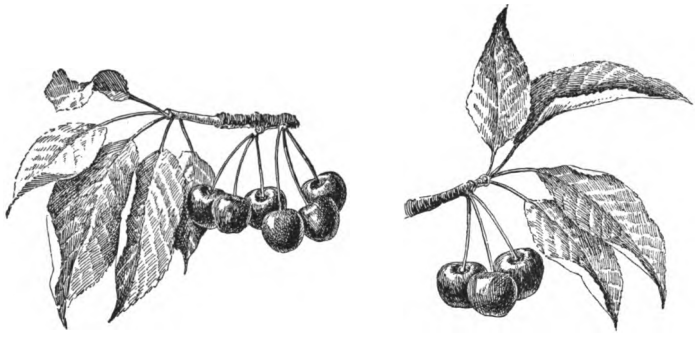
SLATE WORK

$1+1=$	$2\times 1=$	$2\div 2=$	$\frac{1}{2}$ of $2=$
$2+2=$	$2\times 2=$	$4\div 2=$	$\frac{1}{2}$ of $4=$
$3+3=$	$2\times 3=$	$6\div 2=$	$\frac{1}{2}$ of $6=$
$4+4=$	$2\times 4=$	$8\div 2=$	$\frac{1}{2}$ of $8=$
$4+3=$	$4+4=$	$4+2=$	$4+?=7$
$5+3=$	$8-5=$	$3+3=$	$6-?=2$
$8-4=$	$7-2=$	$2+5=$	$5+?=8$
$7-3=$	$6-2=$	$7-4=$	$7-?=3$
$6+2=$	$3+2=$	$6-3=$	$3+?=8$

SLATE WORK

Copy and finish:

3 pairs of legs are —— legs.
8 slates less —— slates are 5 slates.
7 boxes less 3 boxes are —— boxes.
2 times 2 spoons are —— spoons.
2 times 3 kittens are —— kittens.
7 days less —— days are 3 days.
8 books are —— books more than 5 books.
2 times 4 rabbits are —— rabbits.
A man had 6 pigs and sold $\frac{1}{2}$ of them. He had —— pigs left.
If a man had 4 lambs and sold $\frac{1}{2}$ of them, he had —— lambs left.
If Mary had 5 cents and her mother gave her 3 cents more, Mary then had —— cents.
3 oranges at 2 cents each will cost —— cents.
A spider has —— more legs than a boy.
At 2 cents each, for 6 cents I can get —— pencils.
3 times 2 pencils are —— pencils.
If John had 8 chickens and sold $\frac{1}{2}$ of them, he had —— chickens left.



ORAL WORK

How many cherries do you see in the picture?

How many are there in the larger bunch?

How many are there in the smaller bunch?

Six cherries and three cherries are how many cherries?

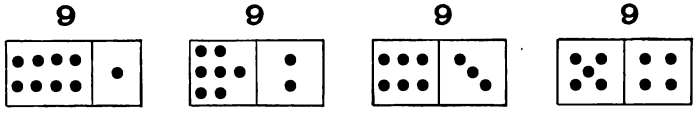
Nine cherries less three cherries are how many cherries?

How many leaves are there on the larger bunch of cherries?

How many are there on the smaller bunch?

Five leaves and four leaves are how many leaves?

Nine leaves less four leaves are how many leaves?



9	9	9	9
8 + 1 =	7 + 2 =	6 + 3 =	5 + 4 =
1 + 8 =	2 + 7 =	3 + 6 =	4 + 5 =
9 − 1 =	9 − 2 =	9 − 3 =	9 − 4 =
9 − 8 =	9 − 7 =	9 − 6 =	9 − 5 =
9 ÷ 8 =	9 ÷ 7 =	9 ÷ 6 =	9 ÷ 5 =

ORAL WORK

7 dots and 2 dots are how many dots?

9 dots less 2 dots are how many dots?

3 dots and 6 dots are how many dots?

9 dots less 3 dots are how many dots?

4 dots and 5 dots are how many dots?

6 beans and 3 beans are how many beans?

9 plums less 6 plums are how many plums?

How many 8's are there in 9, and how many are left over? 9 ÷ 8 = ——, and —— left over.

How many 7's are there in 9, and how many are left over? 9 ÷ 7 = ——, and —— left over.

9 ÷ 6 = ——, and —— left over.

9 ÷ 5 = ——, and —— left over.

SLATE WORK

3+5=	5+4=	2+5=	3+2=
4+3=	8−5=	1+7=	8÷4=
6+3=	3+6=	2+7=	6÷2=
7−4=	8−3=	8−4=	8÷5=
6−3=	7−5=	1+8=	7÷4=

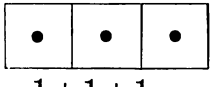
Copy and add:

3	2	4	5	2	6	3	4	6
1	3	2	1	5	1	3	3	3
4	5							

Copy and find the difference:

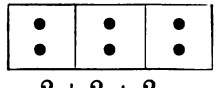
4	5	7	4	6	7	7	8	9
3	2	3	2	4	3	5	5	3
1	3							

3



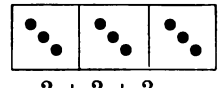
1 + 1 + 1 =
3 × 1 =
3 ÷ 3 =

6



2 + 2 + 2 =
3 × 2 =
6 ÷ 3 =

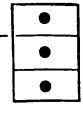
9



3 + 3 + 3 =
3 × 3 =
9 ÷ 3 =

$\frac{1}{3}$ of 3 =

3



In the same way show:

$\frac{1}{3}$ of 6 $\frac{1}{3}$ of 9

SLATE WORK

Copy and finish:

If Nettie paid 3 cents for 3 cakes, for 1 cake she would have to pay —— cent.

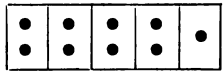
At 1 cent each, 4 cakes will cost —— cents more than 2 cakes.

If a lady divides 6 cherries equally among 3 boys, each boy will get —— cherries.

If 9 blocks are divided into 3 equal piles, in each pile there will be —— blocks.

If Ella had 9 cherries and gave 5 of them to Charlie, she had left —— cherries.

Write 9 dots on your slate in this way:



Now tell me how many 2's there are in 9, and how many there are left over.

2 and 2 and 2 and 2 and 1 are ——

There are —— twos in 9, and —— left over.

How many 4's are there in 9, and how many are left over? $9 \div 4 =$ ——, and —— left over.

If Grace had 6 roses and gave $\frac{1}{3}$ of them to Tom, she had left —— roses.

ORAL WORK

What is the little girl in the picture doing?

How many hens do you see in the picture?

How many chicks has the first hen?

How many has the second hen?

Five chickens and three chickens are how many chickens?

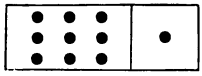
Now count the chickens and the hens, and tell me how many fowl there are in all.

Eight chickens and the two hens are how many chickens?

Ten chickens less two chickens are how many chickens?

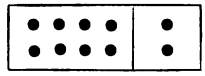
If two of the ten chickens should die, how many chickens would be left?

10



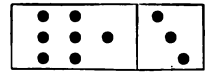
$9+1=$
$1+9=$
$10-1=$
$10-9=$
$10\div 9=$

10



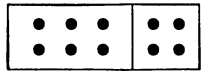
$8+2=$
$2+8=$
$10-2=$
$10-8=$
$10\div 8=$

10



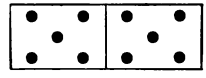
$7+3=$
$3+7=$
$10-3=$
$10-7=$
$10\div 7=$

10



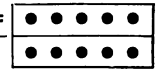
$6+4=$
$4+6=$
$10-4=$
$10-6=$
$10\div 6=$

10



$5+5=$
$2\times 5=$
$10-5=$
$10\div 5=$
$\frac{1}{2}$ of $10=$

$\frac{1}{2}$ of $10=$ 10

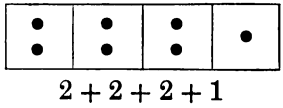


ORAL WORK

9 dots and 1 dot are how many dots?
8 dots and 2 dots are how many dots?
10 dots less 4 dots are how many? 10 less 5?
2 times 5 dots are how many dots?
$\frac{1}{2}$ of 10 dots are how many dots?
How many 9's are there in 10, and how many are left over? how many 8's?

SLATE WORK

7+2=	4+5=	5+5=	4+2=
1+8=	8−5=	9−3=	4+3=
9−4=	6+4=	10−4=	5+2=
3+6=	3+5=	7−2=	2+7=
7+3=	9−6=	2+8=	6+3=
2+2=	3+3=	4+4=	5+5=
2×2=	2×3=	2×4=	2×5=
4−2=	6−3=	8−4=	10−5=
4÷2=	6÷2=	8÷2=	10÷2=
½ of 4=	½ of 6=	½ of 8=	½ of 10=

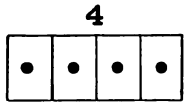


How many 2's are there in 7?

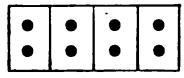
There are 3 twos in 7, and 1 left over.

In the same way show:

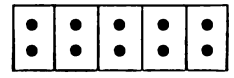
How many 4's there are in 7.
How many 3's there are in 7.
How many 3's there are in 8.
How many 2's there are in 8.
How many 2's there are in 9.
How many 3's there are in 9.
How many 3's there are in 10.



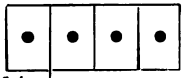
1+1+1+1=
4×1=
4÷4=



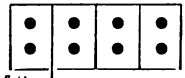
2+2+2+2=
4×2=
8÷4=



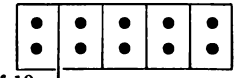
2+2+2+2+2=
5×2=
10÷5=



¼ of 4=



¼ of 8=



⅕ of 10=

SLATE WORK

4+1=	1+8=	7+3=	¼ of 4=
2+4=	9+1=	8+2=	¼ of 8=
3+2=	7−5=	4+6=	⅕ of 10=
7−3=	2+6=	9−4=	½ of 10=
8−5=	5+4=	8−7=	½ of 8=
2×1=	3×1=	8÷2=	10÷2=
2×2=	3×2=	8÷4=	10÷5=
2×3=	3×3=	6÷2=	8÷?=4
2×4=	5×2=	6÷3=	6÷?=3
2×5=	4÷2=	9÷3=	10÷?=2

Copy and add:

2	1	3	5	4	5	7
1	4	1	1	4	4	2
3	2	4	2	2	1	1

ORAL WORK

Add at sight:

2	4	2	4	8	2	4	5	6
3	1	4	3	1	5	5	3	3
2	7	3	5	9	4	2	5	8
7	3	6	2	1	6	6	5	2

Subtract at sight:

4	5	6	7	7	6	6	9	9
2	2	1	2	4	5	3	8	1
8	7	10	8	10	8	10	5	10
4	5	9	5	7	2	3	1	5

Read at sight:

4 and 3 are —
3 and 4 are —
7 and 2 are —
7 less 5 are —
2 and 8 are —
9 less 4 are —
8 less 3 are —

2 and 5 are —
10 less 7 are —
9 less 6 are —
$\frac{1}{4}$ of 8 is —
$\frac{1}{3}$ of 9 is —
$\frac{1}{2}$ of 10 is —
$\frac{1}{5}$ of 10 is —

SLATE WORK

In 7 there are three 2's, and 1 left over.

In 9 there are —— 4's, and —— left over.

In 10 there are —— 3's, and —— left over.

In 10 there are —— 2's, and —— left over.

4 apples and 5 apples are —— apples.

8 peaches are —— more peaches than 3 peaches.

If Frank caught 4 fish and Robert caught 6, they both caught —— fish.

If there are 4 windows in one schoolroom and 5 in another, there are in both rooms —— windows.

If there are 3 chairs in one room and 7 in another, there are —— chairs in both rooms.

3 times 2 are —— less than 9.

4 times 2 are —— more than 5.

$\frac{1}{3}$ of 9 is —— less than 8.

If a boy has 9 nuts in one hand and 5 nuts in the other, he has —— more nuts in one than in the other.

$\frac{1}{2}$ of 10 is —— more than 2.

ORAL WORK

Tell your teacher stories about:

3 hats and 2 hats.
7 plums and 3 plums.
9 hens less 2 hens.
8 spoons less 5 spoons.
2 baskets and 7 baskets.
10 cents less 5 cents.
3 pears and 6 pears.
6 birds less 4 birds.
3 roses and 6 roses.
4 lemons and 5 lemons.
8 chairs less 3 chairs.
6 kittens less 2 kittens.
7 boys and 2 boys.
7 plates less 4 plates.
9 forks and 1 fork.
8 dolls and 2 dolls.
4 cats and 6 cats.

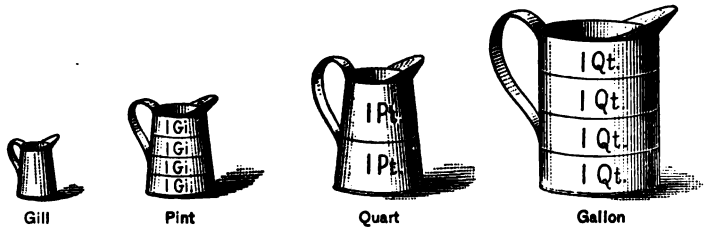
If you had 3 cents, how many more cents would you need to make 9 cents?

If I divide 9 marbles equally among 3 boys, how many marbles will each boy get?

A five-cent piece is called a nickel. If a girl has a nickel, a two-cent piece, and a cent, how much money has she?

If 8 marbles are put in 4 equal piles, how many marbles will there be in each pile?

Robert had 2 nickels. He bought 2 oranges at 3 cents each, and a 2-cent stamp. How much money had he left?



Gill Pint Quart Gallon

ORAL WORK

4 gills make 1 pint.
2 pints make 1 quart.
4 quarts make 1 gallon.

How many gills are there in 2 pints?
How many pints are there in 2 quarts?
How many quarts are there in 2 gallons?
How many gills are there in $\frac{1}{2}$ of a pint?
How many pints are there in $\frac{1}{2}$ of a quart?
How many quarts are there in $\frac{1}{2}$ of a gallon?
How many pints are there in 8 gills?
How many quarts are there in 4 pints?
How many quarts are there in 8 pints?
How many gallons are there in 8 quarts?
How much will a pint of milk cost at a cent for 1 gill?
How much will a quart of milk cost at 2 cents a pint?

SLATE WORK

Copy and finish:

In 1 gallon there are —— quarts.
In 2 gallons there are —— quarts.
In 1 quart there are —— pints.
In 2 quarts there are —— pints.
In 3 quarts there are —— pints.
In 1 pint there are —— gills.
In 2 pints there are —— gills.
In 4 pints there are —— quarts.
In 6 pints there are —— quarts.
In 8 pints there are —— quarts.
At 6 cents a quart, a pint of milk will cost —— cents.
At 10 cents a pint, $\frac{1}{2}$ of a pint of cream will cost —— cents.
It will take —— pint measures to hold 3 quarts of water.
It will take —— quart measures to hold 6 pints of milk.
At 8 cents a quart, 1 pint of milk will cost —— cents, and $\frac{1}{2}$ a pint will cost —— cents.

ORAL WORK

Into how many equal parts is this melon divided?

Each of these parts is called *one half* ($\frac{1}{2}$).

How many halves are there in a melon?

How many halves of an apple make a whole apple?

How many halves are there in this circle?

Draw a line like this, _____, divide it into two equal parts, and tell what each part is called.

How many halves are there in this triangle?

What part of this square  is  ?

This is what part of this circle  ?

How many halves are there in a pie?

How many pies will it take to give one half of a pie to each of two boys?

How many halves are there in anything?

SLATE WORK

Finish the answers to these questions:

How many halves of an orange make 1 orange?

—— halves of an orange make 1 orange.

How many halves are there in 2 melons?

There are —— halves in 2 melons.

How many halves are there in 3 melons?

There are —— halves in 3 melons.

How many pies will be needed to give $\frac{1}{2}$ of a pie to each of 4 boys?

There will be needed —— pies.

One peach and $\frac{1}{2}$ of a peach are how many halves of a peach?

One peach and $\frac{1}{2}$ of a peach are —— halves of a peach.

How many pears will be needed to give to each of 2 boys 3 halves of a pear?

There will be needed —— pears.

How many whole pears are there in 8 halves of a pear?

There are —— whole pears.

In 10 halves of an apple there are —— apples.

ORAL WORK

If I buy some beans for 6 cents and some peas for 4 cents, how much do I pay for both?

I pay 6 cents and 4 cents, or —— cents.

A boy earned 9 cents and spent 7 cents for paper. How many cents had he left?

He had left 9 cents less 7 cents, or —— cents.

A little boy had 9 blocks and gave 5 of them to his sister. How many had he left?

He had left 9 blocks less 5 blocks, or —— blocks.

I paid 5 cents for tacks and had 3 cents left. How many cents had I at first?

I had 5 cents and 3 cents, or —— cents.

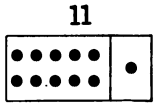
A man had 7 lambs and bought 2 more. How many lambs had he then?

He had 7 lambs and 2 lambs, or —— lambs.

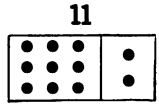
Tom has 8 roses, and his sister has 2. How many more roses has Tom than his sister?

He has 8 roses less 2 roses, or —— roses more than his sister.

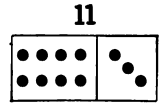
10 eggs less 7 eggs are —— eggs.



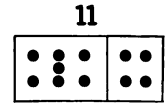
10+ 1=
1+10=
11− 1=
11−10=
11÷10=



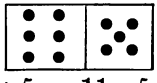
9+2=
2+9=
11−2=
11−9=
11÷9=



8+3=
3+8=
11−3=
11−8=
11÷8=



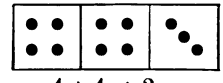
7+4=
4+7=
11−4=
11−7=
11÷7=



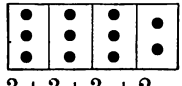
6+5=
5+6=

11−5=
11−6=
11÷6=

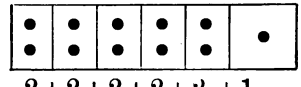
5+5 +1=
2×5,+1=
11÷5=



4+4 +3=
2×4,+3=
11÷4=



3+3+3 +2=
3×3,+2=
11 ÷3=



2+2+2+2+2 +1=
5×2,+1=
11 ÷2=

ORAL WORK

10 dots and 1 dot are how many dots?
9 dots and 2 dots are how many dots?
11 dots less 3 dots are how many dots?
7 pencils and 4 pencils are how many pencils?
3 fans and 8 fans are how many fans?
11 doors less 7 doors are how many doors?
How many 4's are there in 11, and how many are left over? how many 3's? how many 2's?

SLATE WORK

10+1=	8+2=	11−2=	11− 1=
9+2=	5+4=	11−4=	11− 7=
8+3=	5+6=	11−3=	11− 9=
7+4=	6+4=	11−5=	11− 8=
6+5=	3+8=	11−6=	11−10=

Copy and add:

4	2	3	4	1	5	7	6
4	5	2	2	8	3	3	4
3	4	6	3	2	1	1	1

5+5+1=	5+4−3=	2×5,+1=
3+4+2=	6+3−2=	2×4,+3=
1+6+3=	3+8−4=	3×3,+2=
4+3+3=	7+4−6=	5×2,+1=
5+3+3=	8+3−7=	4×1,+7=

11÷ 4=? 11÷4=2, and 3 left over.
11÷ 6= ——, and —— left over.
11÷10= ——, and —— left over.
11÷ 8= ——, and —— left over.
11÷ 5= ——, and —— left over.
11÷ 9= ——, and —— left over.

SLATE WORK

$2+2+2=$	$2+2+2+2=$	$5\times 2=$
$3\times 2=$	$4\times 2=$	$10\div 5=$
$6\div 3=$	$8\div 4=$	$\frac{1}{5}$ of $10=$
$\frac{1}{3}$ of $6=$	$\frac{1}{4}$ of $8=$	$\frac{1}{2}$ of $10=$
$5+5+1=$	$4+4+3=$	$3+3+3+2=$
$2\times 5,+1=$	$2\times 4,+3=$	$3\times 3,+2=$
$11-5-5=$	$11-4-4=$	$11-3-3=$
$11-5-1=$	$11-4-3=$	$11-3-2=$

Copy, and find the difference:

7	6	5	7	8	8	9	10	10	11
3	4	2	4	6	3	5	6	4	6
4									

$3\times 2,+?=11$	$2\times 1,+?=11$	$8+3=$
$2\times 5,+?=11$	$4\times 1,+?=11$	$9\div 3=$
$3\times 3,-?=4$	$3\times 3,+?=11$	$8\div 4=$
$2\times 4,-?=2$	$6\times 1,+?=11$	$8\div 2=$
$8\times 1,+?=11$	$2\times 2,+?=10$	$6\div 3=$
$3\times 2,+?=10$	$5\times 1,+?=8$	$3\times 3=$
$3\times 1,+?=11$	$5\times 2,-?=6$	$4\times 2=$
$7\times 1,+?=11$	$9\times 1,+?=11$	$5\times 2=$
$5\times 2,-?=3$	$4\times 2,-?=2$	$10\div 5=$

ORAL WORK

Read at sight:

5 and 4 are —
6 and 3 are —
7 and 2 are —
2 and 8 are —
8 and 3 are —
6 and 5 are —
7 and 4 are —
9 and 2 are —

9 less 6 are —
10 less 2 are —
11 less 5 are —
11 less 7 are —
11 less 3 are —
11 less 6 are —
11 less 2 are —
11 less 4 are —
11 less 8 are —

3 twos and — = 11
4 twos and — = 11
2 threes and — = 11
3 threes and — = 11
2 fours and — = 11

5 ones and — = 11
2 fives and — = 11
7 ones and — = 11
3 and — fours = 11
7 and — twos = 11

2 ones and 5 =
4 twos and 3 =
3 twos and 4 =
2 twos and 7 =
2 fours and 2 =

7 ones and 3 =
1 seven and 4 =
2 threes and 3 =
3 threes and 2 =
1 three and 5 =

ORAL WORK

I bought 2 pints of milk from one man and 1 quart from another. How many pints did I buy?

A farmer has 4 sheep in one field and 7 in another. How many sheep has he?

If a cow gives 4 quarts of milk each day, in 2 days how many quarts will she give?

Jennie is 10 years old. Her little brother is $\frac{1}{2}$ as old. How old is her brother?

At 3 cents each how much will 3 rulers cost?

How many pints are there in 5 quarts?

4 pairs of legs are how many legs?

How many pairs of legs has a fly?

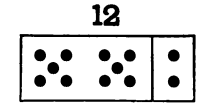
How many pairs of legs has a spider?

How many 3's are there in 6? How many 4's are there in 8?

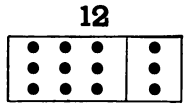
How many oranges will it take to give each of 8 boys $\frac{1}{2}$ of an orange?

If you divide 9 plums equally among 3 boys, how many plums will each boy get?

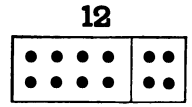
A boy picked 10 cherries and gave his sister $\frac{1}{2}$ of them. How many cherries had each then?



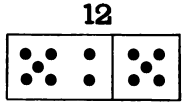
$10 + 2 =$ $12 - 10 =$
$12 - 2 =$ $12 \div 10 =$



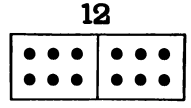
$9 + 3 =$ $12 - 9 =$
$12 - 3 =$ $12 \div 9 =$



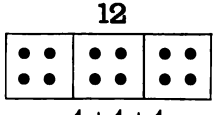
$8 + 4 =$ $12 - 8 =$
$12 - 4 =$ $12 \div 8 =$



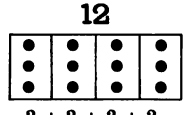
$7 + 5 =$ $12 - 7 =$
$12 - 5 =$ $12 \div 7 =$



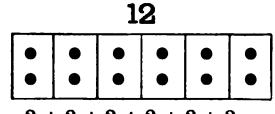
$6 + 6 =$ $12 - 6 =$
$2 \times 6 =$ $12 \div 6 =$



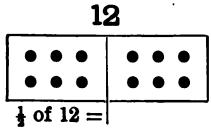
$4 + 4 + 4 =$
$3 \times 4 =$ $12 \div 4 =$

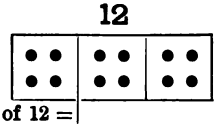


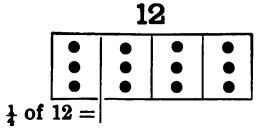
$3 + 3 + 3 + 3 =$
$4 \times 3 =$ $12 \div 3 =$

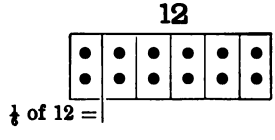


$2 + 2 + 2 + 2 + 2 + 2 =$
$6 \times 2 =$ $12 \div 2 =$









10 dots and 2 dots are how many dots?
12 dots less 2 dots are how many dots?
7 dots and 5 dots are how many? 12 less 7?
9 lamps and 3 lamps are how many lamps?
12 knives less 5 knives are how many knives?

SLATE WORK

10+ 2=	9+3=	12−10=	12− 4=
2+10=	4+8=	12− 6=	12− 2=
6+ 6=	11+1=	12− 8=	12−11=
7+ 5=	5+7=	12− 5=	12− 1=
8+ 4=	3+9=	12− 7=	12− 3=

7+ — =11	6+ — =12	3+ — =12
5+ — =11	8+ — =12	10+ — =12
3+ — =11	4+ — =12	11+ — =12
4+ — =11	9+ — =12	7+ — =12
6+ — =11	5+ — =12	2+ — =12

Copy and add:

6	8	7	6	9	8	7	6	10	11
5	3	4	6	3	4	5	3	2	1

Copy and finish:

12÷ 8=1, and 4 left over.
12÷10= ——, and —— left over.
12÷ 7= ——, and —— left over.
12÷ 9= ——, and —— left over.
12÷11= ——, and —— left over.
12÷ 4= ——, and —— left over.

SLATE WORK

$4+4+4=$	$3+3+3+3=$
$3\times4=$	$4\times3=$
$12-3=$	$12-4=$
$12\div3=$	$12\div4=$
$2+2+2+2+2+2=$	$\frac{1}{2}$ of $12=$
$6\times2=$	$\frac{1}{3}$ of $12=$
$12-6=$	$\frac{1}{4}$ of $12=$
$12\div6=$	$\frac{1}{6}$ of $12=$

Copy and find the difference:

9	9	10	10	11	11	12	12	12	12
5	4	7	4	6	8	6	4	8	5

$5+5+2=$	$4+4+3=$	$2\times3,+6=$
$2\times5,+2=$	$2\times4,+3=$	$6\times1,+6=$
$12-6-6=$	$11-6-5=$	$4\times1,+8=$
$12-8-4=$	$11-7-4=$	$5\times1,+7=$
$2\times5,+?=12$	$3\times2,+?=11$	$4\times2,-?=3$
$4\times2,+?=12$	$4\times1,+?=12$	$3\times3,-?=4$
$7\times1,+?=12$	$3\times3,+?=11$	$2\times6,-?=7$
$3\times3,+?=12$	$4\times2,+?=11$	$4\times3,-?=5$
$6\times1,+?=12$	$5\times1,+?=9$	$9\div?=3$
$3\times2,+?=12$	$2\times2,+?=12$	$10\div?=5$
$8\times1,+?=12$	$7\times1,+?=11$	$12\div?=3$

ORAL WORK

Read at sight:

6 and 5 are —	9 less 3 are —
4 and 7 are —	11 less 7 are —
5 and 4 are —	10 less 4 are —
10 and 1 are —	11 less 5 are —
7 and 2 are —	10 less 3 are —
3 and 8 are —	8 less 3 are —
6 and 4 are —	10 less 8 are —
8 and 4 are —	11 less 3 are —
7 and 5 are —	12 less 2 are —
10 and 2 are —	12 less 4 are —
3 and 9 are —	12 less 3 are —
11 and 1 are —	12 less 5 are —
6 and 6 are —	12 less 7 are —
4 and 8 are —	12 less 6 are —
9 and 3 are —	12 less 8 are —

5 twos and — = 12	2 threes and — = 12
4 twos and — = 12	2 fives and — = 12
3 twos and — = 12	2 twos and — = 12
3 threes and — = 12	4 ones and — = 12
2 fours and — = 12	5 ones and — = 12
3 ones and — = 12	9 ones and — = 12

SLATE WORK

Copy and add:

3	5	2	3	8	7	6	1	2
4	1	6	2	1	2	3	3	4
2	4	3	4	2	3	2	8	6

Copy and finish:

$11 \div 3 = 3$, and 2 left over.

$11 \div 4 =$ ——, and —— left over.

$9 \div 2 =$ ——, and —— left over.

$11 \div 6 =$ ——, and —— left over.

$11 \div 5 =$ ——, and —— left over.

$12 \div 5 =$ ——, and —— left over.

$12 \div 7 =$ ——, and —— left over.

$12 \div 8 =$ ——, and —— left over.

$12 \div 9 =$ ——, and —— left over.

4 times 2 horses, and 3 horses are —— horses.

3 times 2 books, and —— books are 11 books.

4 times 3 pints of milk are —— pints of milk.

2 pints make 1 quart. 8 pints make —— quarts.

In 1 apple there are 2 halves. In 4 apples there are —— halves.

ORAL WORK

We call twelve things a dozen.

A dozen oranges are how many oranges?

A dozen buttons are how many buttons?

How many shoes are 6 pairs of shoes?

How many eggs are a dozen eggs?

How many eggs make $\frac{1}{2}$ of a dozen?

How many eggs make $\frac{1}{3}$ of a dozen?

How many eggs make $\frac{1}{4}$ of a dozen?

There are 12 months in a year.

How many months make $\frac{1}{2}$ of a year?

A little girl went to the store with a dozen eggs, but broke 3 of them on the way. How many were not broken?

How many legs have 2 flies?

2 flies have as many legs as how many boys?

How many 3's are there in 9?

How many 3's are there in 12?

How many more 3's are there in 12 than in 9?

6 lemons are what part of a dozen lemons?

George is 12 years old, and his sister is $\frac{1}{3}$ as old. How old is his sister?

SLATE WORK

1 dozen eggs at a cent apiece will cost —— cents.

$\frac{1}{2}$ of a dozen oranges at 2 cents apiece will cost —— cents.

If 1 pear costs 2 cents, $\frac{1}{3}$ of a dozen will cost —— cents.

At 3 cents apiece $\frac{1}{4}$ of a dozen lemons will cost —— cents.

It will take —— oranges to give $\frac{1}{2}$ an orange to each of 12 boys.

It will take —— dozen pint cans to hold as much water as $\frac{1}{2}$ a dozen quart cans.

1 dozen is —— more than $\frac{1}{2}$ a dozen.

If a boy has 5 marbles, he must get —— more to have a dozen.

At 3 cents apiece I can get —— melons for 9 cents.

At 4 cents apiece I can get —— melons for 12 cents.

If 2 pears cost 1 cent, 4 pears will cost —— cents.

$\frac{1}{4}$ of a dozen is —— less than $\frac{1}{3}$ of a dozen.

ORAL WORK

This line ———— is 1 inch long.

This one ————|———— is 2 inches long.

This one ————|————|———— is 3 inches long.

The second line is how many times as long as the first line?

The length of the first line is what part of the length of the second line?

The third line is how many times as long as the first line?

Count the inches marked off on your ruler, and tell me how many inches long it is.

Cut a strip of paper 12 inches long and 1 inch wide, and mark it off into inches.

A measure 12 *inches long is called a foot.*

Draw a line on the board, as nearly as you can, 12 inches long. Now measure it to see how near 12 inches long it is.

How many inches make $\frac{1}{2}$ a foot?

Draw a line 12 inches long. Divide it into 3 equal parts. How long is each part?

1 inch		1 inch		1 inch	
½ in.	½ in.	½ in.	½ in.	½ in.	½ in.

ORAL WORK

How many half inches make 1 inch?
How many half inches are there in 2 inches?
How many half inches are there in 3 inches?
How many inches are there in $\frac{1}{3}$ of a foot?
How many inches are there in $\frac{1}{4}$ of a foot?
How many inches are there in $\frac{1}{6}$ of a foot?
How many half inches are there in $\frac{1}{3}$ of a foot?
How many half inches are there in $\frac{1}{6}$ of a foot?
How many half inches are there in $\frac{1}{2}$ of a foot?
4 half inches make how many whole inches?
6 half inches make how many whole inches?
8 half inches make how many whole inches?
12 half inches make how many whole inches?
in. means the same as inch or inches.
ft. means the same as foot or feet.
2 in. and $\frac{1}{2}$ of an in. equal how many halves of an in.?

SLATE WORK

9+2=	9−5=	2+10=	$\frac{1}{2}$ of 8=
4+3=	8−2=	3+ 9=	$\frac{1}{4}$ of 8=
6+2=	8÷4=	8+ 4=	$\frac{1}{3}$ of 9=
8+3=	6÷3=	7− 5=	$\frac{1}{2}$ of 12=
6+4=	9÷3=	6− 2=	$\frac{1}{3}$ of 12=

Copy and finish:

In one year there are —— months.
In $\frac{1}{2}$ of a year there are —— months.
In $\frac{1}{3}$ of a year there are —— months.
In $\frac{1}{4}$ of a year there are —— months.

$\frac{1}{2}$ of a foot = — in.	4 half inches = — in.
$\frac{1}{4}$ of a foot = — in.	6 half inches = — in.
$\frac{1}{3}$ of a foot = — in.	8 half inches = — in.
$\frac{1}{2}$ of a dozen = —	10 half inches = — in.
$\frac{1}{3}$ of a dozen = —	12 half inches = — in.

Copy and add:

3	2	2	4	1	6	1	5	3	4
4	3	2	2	5	1	2	2	4	1
1	5	3	3	2	3	3	3	1	2
3	2	1	3	3	2	6	2	3	5

SLATE WORK

There are 4 weeks in 1 month. In 2 months there are —— weeks.

In 3 months there are —— weeks.

In 1 gallon there are —— quarts.

In 1 gallon and 2 quarts there are —— quarts.

In 2 gallons and 3 quarts there are —— quarts.

In 3 quarts and 1 pint there are —— pints.

4 apples and 3 apples and 5 apples are —— apples.

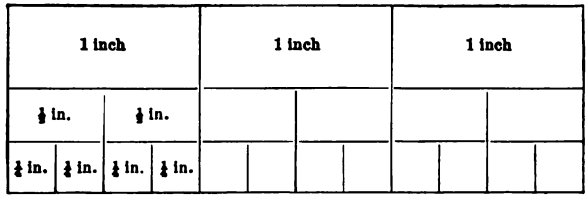
In 11 there are —— threes and —— remainder.

A boy has a 5-cent piece and a 2-cent piece. How much more would he need to make 12 cents? He would need —— cents.

Copy and finish:

9 is — less than 12
4 is — less than 9
2 is — less than 8
10 is — more than 3
11 is — more than 7

2 fours and 3 are —
2 fives and 2 are —
3 threes and 3 are —
3 twos and 5 are —
4 twos and 4 are —



ORAL WORK

If an inch is divided into 2 equal parts, each of these parts is called $\frac{1}{2}$ of an inch.

If an inch is divided into 4 equal parts, each part is called $\frac{1}{4}$ of an inch.

How many half inches are there in $1\frac{1}{2}$ inches? Count them.

How many half inches are there in $2\frac{1}{2}$ inches? Count them.

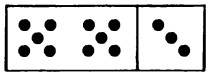
How many fourths of an inch are there in 1 inch? Count them.

How many fourths of an inch are there in $\frac{1}{2}$ of an inch? in $1\frac{1}{2}$ inches?

How many fourths of an inch are there in 2 inches? in $2\frac{1}{2}$ inches? in 3 inches?

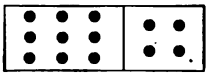
How many half inches are there in 6 fourths of an inch? in 8 fourths of an inch? in 10 fourths of an inch?

13



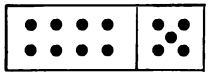
$10+3=$
$3+10=$
$13-3=$
$13-10=$
$13\div10=$

13



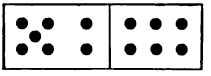
$9+4=$
$4+9=$
$13-4=$
$13-9=$
$13\div9=$

13



$8+5=$
$5+8=$
$13-5=$
$13-8=$
$13\div8=$

13



$7+6=$
$6+7=$
$13-6=$
$13-7=$
$13\div7=$

SLATE WORK

$5+5+3=$	$6+6+1=$	$4+4+4+1=$
$2\times5,+3=$	$2\times6,+1=$	$3\times4,+1=$
$13-5-5=$	$13-6-6=$	$13-4-4-4=$
$13-5=$	$13\div6=$	$13\div4=$

$13=4+\_\_$	$8+\_\_=13$	$2\times5,+\_\_=13$
$13=6+\_\_$	$4+\_\_=13$	$2\times6,+\_\_=13$
$13=8+\_\_$	$2+\_\_=13$	$3\times4,+\_\_=13$
$13=9+\_\_$	$3+\_\_=13$	$5\times2,+\_\_=13$
$13=7+\_\_$	$6+\_\_=13$	$4\times3,+\_\_=13$

SLATE WORK

Copy and find the difference:

8	7	9	11	10	11	12	12	13	13
3	4	6	6	7	8	6	9	10	12

Copy and add:

3	5	2	4	2	6	3	2	8	5
4	3	8	6	5	3	5	7	3	6
2	4	1	3	5	4	4	2	2	2

Copy and finish:

13 ÷ 10 = 1, and 3 left over.
13 ÷ 9 = ——, and —— left over.
13 ÷ 6 = ——, and —— left over.
13 ÷ 4 = ——, and —— left over.
13 ÷ 7 = ——, and —— left over.
13 ÷ 5 = ——, and —— left over.
13 ÷ 8 = ——, and —— left over.
12 ÷ 5 = ——, and —— left over.
12 ÷ 7 = ——, and —— left over.
11 ÷ 3 = ——, and —— left over.
11 ÷ 7 = ——, and —— left over.
11 ÷ 4 = ——, and —— left over.

SLATE WORK

Find the values of:

$3+3+3+3+1$ $\quad$ $2+2+2+2+2+2+1$

$4\times3,+1$ $\quad$ $6\times2,+1$

$13-3-3-3-3$ $\quad$ $13-2-2-2-2-2-2$

$13\div3$ $\quad$ $13\div2$

$2\times5,+\ \_\_ =13$	$2\times3,+\ \_\_ =13$
$4\times2,+\ \_\_ =13$	$9\times1,+\ \_\_ =13$
$3\times3,+\ \_\_ =13$	$5\times2,+\ \_\_ =13$
$4\times3,+\ \_\_ =13$	$4\times2,\ \_\_ ?= 3$
$3\times2,+\ \_\_ =13$	$6\times2,\ \_\_ ?= 7$
$2\times2,+\ \_\_ =13$	$3\times3,\ \_\_ ?= 2$
$5\times1,+\ \_\_ =13$	$4\times3,\ \_\_ ?= 5$
$7\times1,+\ \_\_ =13$	$5\times2,\ \_\_ ?= 3$
$2\times6,+\ \_\_ =13$	$11\times1,\ \_\_ ?= 4$

ORAL WORK

6 and 4 are —	9 less 4 are —	$9\div3=$
3 and 7 are —	12 less 3 are —	$12\div3=$
5 and 5 are —	13 less 4 are —	$12\div4=$
6 and 5 are —	11 less 7 are —	$12\div6=$
4 and 5 are —	11 less 5 are —	$\frac{1}{4}$ of $12=$
7 and 2 are —	13 less 6 are —	$\frac{1}{3}$ of $9=$

ORAL WORK

How many fourths of an orange are there in $\frac{1}{2}$ of an orange? in 1 orange? in 2 oranges?

How many fourths of an orange are there in $1\frac{1}{2}$ oranges?

How many whole oranges equal 4 fourths of an orange? how many equal 8 fourths?

How many days are there in 10 half days?

How many pints are there in 12 half pints?

If 2 oranges are equally divided among 4 boys, what part of an orange will each boy receive? 2 oranges equal —— halves of an orange?

If 4 pies are equally divided among 8 men, what part of a pie will each man get? 4 pies equal —— halves of a pie?

If 2 pears are divided equally among 4 boys, what part of a pear will each boy get? 2 pears equal —— fourths of a pear.

SLATE WORK

2 fives	and — = 12		2 twos	and — = 13	
3 twos	and — = 13		4 threes	and — = 13	
4 twos	and — = 11		6 ones	and — = 13	
3 threes	and — = 11		2 fours	and — = 13	
2 threes	and — = 13		6 twos	and — = 13	

At 2 cents apiece, 5 eggs will cost —— cents.

At 3 cents a pint, 4 pints of milk will cost —— cents.

At 1 cent an inch, a foot of ribbon will cost —— cents.

If $\frac{1}{2}$ a gallon of cream costs 12 cents, 1 quart will cost —— cents.

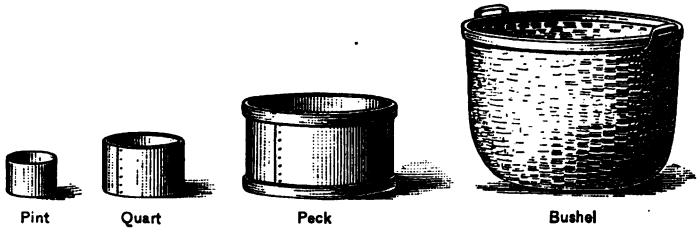
At 2 cents each, $\frac{1}{2}$ a dozen lemons will cost —— cents.

3 feet make a yard. In 2 yards there are —— feet. In 3 yards there are —— feet. In 4 yards there are —— feet.

In 4 yards there are —— halves of a yard.

At 12 cents a quart, a pint of ice cream will cost —— cents.

If a load of coal costs 6 dollars and a yard of silk 3 dollars, they both cost —— dollars.

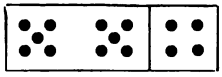


ORAL WORK

2 pints make 1 quart.
8 quarts make 1 peck.
4 pecks make 1 bushel.

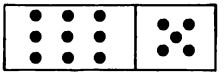
A quart of peas is how many pints?
A peck of potatoes is how many quarts?
How many pecks equal 2 bushels? 3 bushels?
How many pecks equal $\frac{1}{2}$ of a bushel?
What part of a quart is 1 pint?
If a quart of tomatoes is worth 12 cents, how much is a pint worth?
1 peck and 4 quarts are how many quarts?
How many quarts equal $1\frac{1}{2}$ pecks?
How many quarts of beans are there in a peck measure if it is half full?
1 pint is what part of a quart?
1 quart is what part of a peck?

14



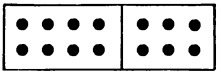
$10+4=$ $14-4=$
$4+10=$ $14-10=$
$14+10=$

14



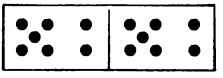
$9+5=$ $14-5=$
$5+9=$ $14-9=$
$14+9=$

14



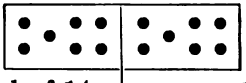
$8+6=$ $14-6=$
$6+8=$ $14-8=$
$14+8=$

14



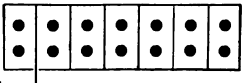
$7+7=$ $14-7=$
$2\times7=$ $14\div7=$

14



$\frac{1}{2}$ of $14=$

14



$\frac{1}{7}$ of $14=$

SLATE WORK

$6+6+2=$	$5+5+4=$	$4+4+4+2=$
$2\times6,+2=$	$2\times5,+4=$	$3\times4,+2=$
$14-6-6=$	$14-5-5=$	$14-4-4-4=$
$14-6-2=$	$14-5-4=$	$14-4-4-2=$
$14\div6=$	$14\div5=$	$14\div4=$

$8+6=$	$6+7=$	$13-8=$	$14\div2=$
$4+10=$	$5+8=$	$12-7=$	$14\div7=$
$5+9=$	$6+4=$	$14-6=$	$12\div6=$
$7+7=$	$2+12=$	$14-7=$	$10\div5=$

SLATE WORK

$14 = 8 + —$	$8 + — = 14$	$2 \times 5, + — = 14$
$13 = 9 + —$	$6 + — = 14$	$3 \times 2, + — = 14$
$14 = 11 + —$	$5 + — = 14$	$4 \times 2, + — = 14$
$13 = 2 + —$	$7 + — = 14$	$6 \times 2, + — = 14$
$14 = 5 + —$	$9 + — = 14$	$3 \times 3, + — = 14$

Copy and add:

3	4	5	2	3	5	7	3
4	2	3	7	8	6	2	4
5	7	6	4	3	3	5	7

Copy and find the difference:

8	9	8	10	11	12	13	14
2	4	3	4	3	7	8	9
12	11	10	13	14	14	13	14
4	7	3	4	6	3	2	5

Copy and finish:

$14 \div 4 =$ ——, and —— left over.
$14 \div 5 =$ ——, and —— left over.
$14 \div 9 =$ ——, and —— left over.
$14 \div 8 =$ ——, and —— left over.
$14 \div 6 =$ ——, and —— left over.

SLATE WORK

3 twos and — = 14		2 twos and — = 14	
2 fives and — = 14		5 twos and — = 14	
3 threes and — = 14		3 fours and — = 14	
4 twos and — = 14		4 threes and — = 14	
2 fours and — = 14		7 ones and — = 14	

$3 \times 2, +4 =$	2 ones $+8 =$	$12 \div 3, +5 =$
$4 \times 2, +3 =$	3 twos $+5 =$	$12 \div 4, +9 =$
$4 \times 1, +6 =$	2 fours $+6 =$	$8 \div 2, +8 =$
$2 \times 4, +5 =$	3 fours $-3 =$	$10 \div 5, +12 =$
$3 \times 3, +4 =$	4 threes $-8 =$	$9 \div 3, +8 =$

ORAL WORK

5 and 8 are —	12 less 5 are —
3 and 7 are —	13 less 7 are —
4 and 8 are —	11 less 3 are —
9 and 2 are —	10 less 6 are —
6 and 7 are —	14 less 5 are —
5 and 9 are —	14 less 3 are —
6 and 8 are —	14 less 11 are —
7 and 6 are —	14 less 9 are —
5 and 7 are —	14 less 7 are —
9 and 4 are —	13 less 8 are —

ORAL WORK

Add at sight:

7	5	7	3	6	8	9	6	4	7
4	4	3	9	7	4	2	5	3	7
3	4	3	9	2	10	11	12	11	10
8	6	5	5	10	3	2	2	3	4

Carl has 12 pigeons. Bert has $\frac{1}{3}$ as many. How many pigeons has Bert?

It takes 12 yards of silk to make Sallie a dress. It takes $\frac{1}{4}$ as much to make a dress for her little sister. How many yards are needed for her sister's dress?

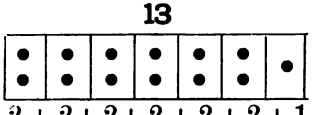
It takes 14 yards of ribbon to trim Maud's dress. It takes only $\frac{1}{7}$ as much for her doll's dress. How many yards are needed for her doll's dress?

How much will 2 quarts of green peas cost at 7 cents a quart?

How many feet are there in 14 half feet?

A girl bought a yard of lace for 7 cents, and a spool of silk for 5 cents. How much did she pay for both?

SLATE WORK



How many 2's are there in 13?

There are six 2's in 13, and 1 remainder.

In the same way show:

How many 5's there are in 12.
How many 3's there are in 11.
How many 4's there are in 13.
How many 3's there are in 12.
How many 6's there are in 14.

Copy and finish:

$2 \times 1 =$	$2 \times 6 =$	$3 \times 4 =$	$5 \times 2 =$
$2 \times 2 =$	$2 \times 7 =$	$4 \times 1 =$	$6 \times 1 =$
$2 \times 3 =$	$3 \times 1 =$	$4 \times 2 =$	$6 \times 2 =$
$2 \times 4 =$	$3 \times 2 =$	$4 \times 3 =$	$7 \times 1 =$
$2 \times 5 =$	$3 \times 3 =$	$5 \times 1 =$	$7 \times 2 =$

$14 \div 2 =$	$\frac{1}{2}$ of $14 =$	$5 + 4, -3 =$
$12 \div 6 =$	$\frac{1}{6}$ of $12 =$	$7 + 5, -6 =$
$8 \div 2 =$	$\frac{1}{2}$ of $8 =$	$8 + 6, -7 =$
$10 \div 5 =$	$\frac{1}{5}$ of $10 =$	$9 + 3, -6 =$
$12 \div 4 =$	$\frac{1}{4}$ of $12 =$	$2 + 10, -5 =$

ORAL WORK

A farmer raised 13 turkeys and sold 8 of them. How many did he keep?

There are 7 days in one week. How many days are there in 2 weeks?

A boy earned 9 cents on Monday and 5 cents on Tuesday, by selling papers. How many cents did he earn in both days?

How many inches are there in 8 fourths of an inch?

How many cakes at 2 cents each can you buy for 12 cents?

How many weeks are there in 3 months?

How many feet make a yard?

How many yards are there in 9 feet?

How many fourths of an apple are there in $1\frac{1}{2}$ apples?

Jennie picked 3 quarts of berries and sold them at 4 cents a quart. How many cents did she get?

A man bought 13 barrels of apples. He kept 6 barrels and sold the rest. How many barrels did he sell?

ORAL WORK

How many halves are there in 2 and 1 half oranges? in $1\frac{1}{2}$ oranges?

How many oranges are there in 5 half oranges?

How many days are there in 5 half days?

How many half days are there in 2 and 1 half days?

How many half bushels are there in 1 and 1 half bushels?

How many months are there in 10 weeks?

How many pints are there in 5 half pints?

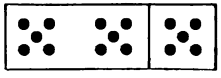
A barrel holds 5 half bushels of apples. How many bushels is that? how many pecks?

A pail holds 5 pints. How many quarts is that?

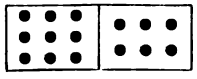
If you draw a straight line one yard long, how many feet long is it?

How many half feet equal a yard? $\frac{1}{2}$ a yard?

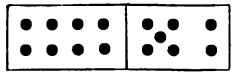
How many feet equal $\frac{1}{2}$ of a yard?

15 

$10 + 5 =$
$5 + 10 =$
$15 - 5 =$
$15 - 10 =$
$15 \div 10 =$

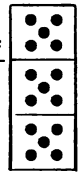
15 

$9 + 6 =$
$6 + 9 =$
$15 - 6 =$
$15 - 9 =$
$15 + 10 =$

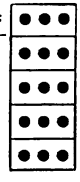
15 

$8 + 7 =$
$7 + 8 =$
$15 - 7 =$
$15 - 8 =$
$15 \div 8 =$

15

$\frac{1}{3}$ of 15 = 

15

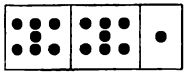
$\frac{1}{5}$ of 15 = 

SLATE WORK

$9+6=$	$15\div5=$	$13+2=$	$15\div3=$
$10+5=$	$15-8=$	$4+11=$	$8-3=$
$7+8=$	$15-4=$	$7+6=$	$12-5=$
$11+4=$	$15-6=$	$8+5=$	$13-7=$
$14+1=$	$15-1=$	$12\div3=$	$15-7=$

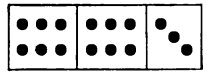
$15=9+$ —	$6+$ — $=15$	$3\times2,+$ — $=15$
$15=7+$ —	$3+$ — $=15$	$3\times4,+$ — $=15$
$15=10+$ —	$4+$ — $=15$	$2\times5,+$ — $=15$
$15=8+$ —	$2+$ — $=15$	$3\times3,+$ — $=15$
$15=5+$ —	$12+$ — $=15$	$2\times2,+$ — $=15$

15



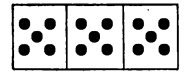
$7+7+1=$
$2\times 7,+1=$
$15-7-7=$
$15-7-1=$
$15\div 7=$

15



$6+6+3=$
$2\times 6,+3=$
$15-6-6=$
$15-6-3=$
$15\div 6=$

15



$5+5+5=$
$3\times 5=$
$15-5-5=$
$15\div 5=$
$\frac{1}{5}$ of $15=$

SLATE WORK

$2\times 6,+\ -\ =15$
$2\times 5,+\ -\ =15$
$2\times 7,+\ -\ =15$
$3\times 4,+\ -\ =15$
$4\times 2,+\ -\ =15$
$3+4+\ -\ =15$
$5+5+\ -\ =15$

$6+7+\ -\ =15$
$2+10+\ -\ =15$
$14\div 2,+\ -\ =15$
$12\div 6,+\ -\ =15$
$9\div 3,+\ -\ =15$
$8\div 2,+\ -\ =15$
$12\div 2,+\ -\ =15$

$12-4+7=$
$13-3-6=$
$14-8+9=$
$11-5+2=$
$15-9+8=$
$12-4+7=$
$13-7+5=$

$5\times 2,-3=$
$7\times 2,-8=$
$2\times 6,-5=$
$3\times 4,-7=$
$3\times 3,-5=$
$2\times 7,-10=$
$6\times 2,-4=$

$15\div 10=$
$15\div 8=$
$15\div 6=$
$15\div 9=$
$15\div 7=$
$15\div 5=$
$15\div 11=$

ORAL WORK

Read at sight:

8 and 7 are —	14 less 8 are —	$14 \div 7 =$
10 and 5 are —	15 less 6 are —	$14 \div 2 =$
3 and 9 are —	13 less 9 are —	$15 \div 5 =$
11 and 4 are —	15 less 8 are —	$15 \div 3 =$
13 and 2 are —	14 less 6 are —	$12 \div 3 =$

Read at sight:

$\frac{1}{2}$ of 4 =	$\frac{1}{3}$ of 6 =	$\frac{1}{5}$ of 10 =	$5 \times 3 =$
$\frac{1}{4}$ of 4 =	$\frac{1}{2}$ of 8 =	$\frac{1}{2}$ of 12 =	$4 \times 2 =$
$\frac{1}{3}$ of 9 =	$\frac{1}{4}$ of 8 =	$2 \times 6 =$	$3 \times 4 =$
$\frac{1}{2}$ of 6 =	$\frac{1}{2}$ of 10 =	$3 \times 3 =$	$3 \times 5 =$

3 twos + — = 15	3 fours + — = 15
4 twos + — = 15	3 threes + — = 15
2 fives + — = 15	2 fours + — = 15

How many 6's are there in 15?

In 15 there are two 6's, and 3 remainder.

How many 4's are there in 13? 4's in 15?

How many 8's are there in 11? 7's in 12?

How many 5's are there in 14? 3's in 14?

How many 7's are there in 15? 12's in 15?

How many 9's are there in 14? 5's in 15?

SLATE WORK

At 5 cents a quart, 3 quarts of nuts will cost —— cents.

Lulu had 5 paper dolls, Mabel 4, and Mary 6. How many paper dolls had they all? They all had —— paper dolls.

Eddie earned 15 cents in two days. The first day he earned 8 cents. How many cents did he earn the second day?

A room is 15 feet long and 12 feet wide. How many yards long and how many yards wide is it?

If I divide $2\frac{1}{2}$ apples equally among 5 boys, what part of an apple will each boy get?

There are 14 doors in my house. 8 of them are downstairs. How many are upstairs?

A woman gave 7 pinks to one little girl and 6 pinks to another. How many pinks did she give away?

How much will 5 pencils cost at 3 cents apiece?

There are 6 cows in one field and 9 in another. How many are there in both fields?

ORAL WORK

Add at sight:

7	3	5	4	5	6	4	13	9	11
6	9	8	6	7	7	10	2	4	4
7	3	10	3	2	14	13	2	5	6
4	6	4	8	12	1	1	11	9	8

Read at sight:

1 and 3 and 4 are —	3 and 4 and 5 are —
2 and 5 and 6 are —	9 and 1 and 4 are —
3 and 8 and 2 are —	8 and 3 and 2 are —
5 and 1 and 8 are —	7 and 4 and 3 are —
7 and 6 and 1 are —	8 and 5 and 2 are —

Name the difference at sight:

7	10	8	9	5	14	12	11	13	15
5	5	5	5	5	5	5	5	5	5
13	10	7	8	14	6	9	15	13	11
6	6	6	6	6	6	6	6	6	6

Add at sight:

5	5	5	5	5	5	5	5	5	5
5	6	4	8	3	9	2	7	1	10

SLATE WORK

Copy and add:

3	7	6	7	2	8	1	2	4	2
1	5	2	4	6	2	3	6	1	3
5	2	3	1	3	4	9	4	2	3
2	3	1	2	3	5	1	3	1	6
7	2	3	1	4	2	4	4	3	4
4	5	2	7	5	1	7	2	7	2
1	4	4	2	1	1	1	3	3	3

Copy and finish:

10−5=	10+ 3=	15−13=	15÷13=
11−6=	7+ 4=	15−11=	15÷11=
12−7=	9+ 5=	15−12=	15÷12=
13−8=	6+ 8=	15−10=	15÷10=
14−9=	3+12=	15−14=	15÷14=

$\frac{1}{5}$ of 15=

$\frac{1}{3}$ of 15=

$\frac{1}{2}$ of 14=

$\frac{1}{7}$ of 14=

2+ 13=

3+ 12=

4+ 11=

5+ 10=

2× — =14

3× — =12

4× — =12

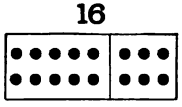
5× — =15

15=6×?,+3

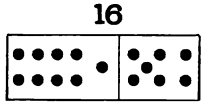
15=3×?,+6

15=2×?,+5

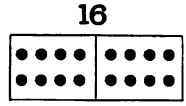
15=4×?,+7



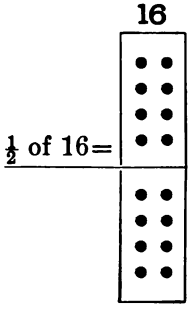
$10 + 6 =$
$6 + 10 =$
$16 - 6 =$
$16 - 10 =$
$16 \div 10 =$

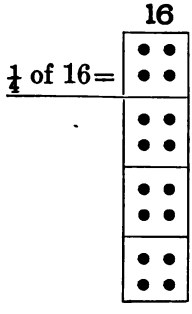


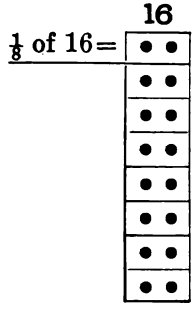
$9 + 7 =$
$7 + 9 =$
$16 - 7 =$
$16 - 9 =$
$16 \div 9 =$



$8 + 8 =$
$2 \times 8 =$
$16 - 8 =$
$16 \div 8 =$
$\frac{1}{8}$ of $16 =$







SLATE WORK

$9 + 7 =$	$16 - 9 =$	$16 \div 2 =$	$\frac{1}{2}$ of $16 =$
$12 + 4 =$	$16 - 6 =$	$16 \div 4 =$	$\frac{1}{4}$ of $16 =$
$13 + 3 =$	$16 - 8 =$	$16 \div 8 =$	$\frac{1}{8}$ of $16 =$
$5 + 11 =$	$16 - 5 =$	$16 \div 10 =$	$\frac{1}{3}$ of $9 =$

$8 + \_\_ = 16$	$\frac{1}{2}$ of $14, + \_\_ = 16$
$5 + \_\_ = 16$	$\frac{1}{7}$ of $14, + \_\_ = 16$
$2 \times 4, + \_\_ = 16$	$\frac{1}{3}$ of $12, + \_\_ = 16$
$3 \times 3, + \_\_ = 16$	$\frac{1}{5}$ of $15, + \_\_ = 16$

ORAL WORK

How many quarts are there in 4 gallons?

How many gallons are there in 12 quarts?

How much will 3 pints of milk cost at 8 cents a quart?

How many eggs must be put with a dozen to make 16 eggs?

$1\frac{1}{4}$ dozen eggs are how many eggs?

At 2 cents for an egg, how much will $\frac{1}{2}$ a dozen cost?

What part of a foot is 6 inches?

What part of a yard is $1\frac{1}{2}$ feet?

John picked $2\frac{1}{2}$ quarts of cherries and James picked $3\frac{1}{2}$ quarts. How many quarts did they both pick?

How many more quarts did James pick than John?

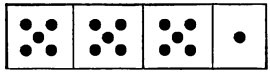
How many oranges must be put with $\frac{1}{2}$ a dozen to make 16 oranges?

9 peaches and $\frac{1}{4}$ of a dozen peaches are how many peaches?

At 5 cents a quart, how many quarts of berries can you get for 15 cents?

SLATE WORK

16



= 3 times 5, + 1.

5 + 5 + 5 + 1

In the same way show:

That 16 = 4 times 4.
That 16 = 5 times 3, + 1.
That 16 = 8 times 2.

Copy and finish:

At 8 cents a quart, $\frac{1}{2}$ a gallon of milk will cost —— cents.

In 15 pints there are —— quarts and —— pint.

There are 7 days in 1 week. In 14 days there are —— weeks.

If a boy worked every week day, except one day, for 2 weeks, he worked —— days.

John gathered 16 water lilies and gave $\frac{1}{2}$ of them to his sister. How many had he left? He had left —— lilies.

At 3 cents a yard, I can get —— yards of tape for 16 cents and have —— cent left.

ORAL WORK

Read at sight:

5 + 6 =	2 × 3 =	3 × 3 =	12 ÷ 6 =
7 + 3 =	3 × 2 =	3 × 4 =	14 ÷ 7 =
6 + 4 =	2 × 4 =	3 × 5 =	9 ÷ 3 =
13 − 7 =	2 × 5 =	2 × 7 =	16 ÷ 8 =
15 − 14 =	2 × 6 =	2 × 8 =	10 ÷ 5 =
$\frac{1}{3}$ of 15 =	$\frac{1}{2}$ of 14 =	8 × ? = 16	14 ÷ ? = 7
$\frac{1}{5}$ of 15 =	3 × ? = 12	7 × ? = 14	15 ÷ ? = 3
$\frac{1}{6}$ of 12 =	4 × ? = 12	12 ÷ ? = 4	16 ÷ ? = 8
$\frac{1}{2}$ of 10 =	6 × ? = 12	10 ÷ ? = 2	16 ÷ ? = 2

4 twos + ? = 11	5 threes + ? = 16
3 threes + ? = 16	7 ones + ? = 16
2 fives + ? = 16	7 twos + ? = 16

SLATE WORK

12 − 5 − ? = 0	15 hens less 8 hens =
14 − 9 − ? = 3	13 ducks less 5 ducks =
9 − 7 + ? = 10	16 sheep less 9 sheep =
13 − 3 + ? = 16	7 hogs and 8 hogs =
16 ÷ 2 + ? = 14	3 caps and 12 caps =
15 ÷ 5 + ? = 14	9 desks and 7 desks =
11 − 4 − ? = 0	2 rulers and 13 rulers =

SLATE WORK

$4+4+4=$	$5+5+5=$	$12-4-4-4=$
$3\times4=$	$3\times5=$	$15-5-5-5=$
$3+3+3=$	$7+7+2=$	$9-3-3-3=$
$3\times3=$	$2\times7,+2=$	$6-2-2-2=$

$4+4+4+4=$	$6+6+4=$
$4\times4=$	$2\times6,+4=$
$4+4+4+3=$	$7+7+4=$
$3\times4,+3=$	$2\times7,+4=$

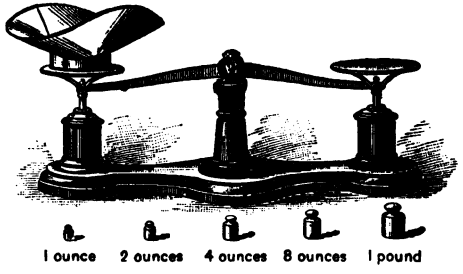
ORAL WORK

Count forward by 2's from 2 to 16.
Count forward by 3's from 3 to 15.
Count forward by 4's from 4 to 16.
Count backward by 2's from 16 to 0.
Count backward by 3's from 15 to 0.
Count backward by 4's from 16 to 0.

Sight exercise:

3, 7, 6, 8, 2, 4, 9, 1, 10, 5, 11.

Add 5 to each number above.
Add 4 to each number above.
Add 6 to each number above.



ORAL WORK

Sugar, coffee, tea, and many other things are bought and sold by the pound.

Name five other things that are bought and sold by the pound.

How many of you have seen the storekeeper weigh sugar?

What else have you seen weighed at the store?

What do you see in the picture?

What is the name of the smallest weight you see in the picture?

What is the name of the largest weight?

It takes 16 *one-ounce* weights to balance the *pound weight.*

How many eight-ounce weights will it take to balance the pound weight?

ORAL WORK

16 ounces make 1 pound. How many ounces are there in $\frac{1}{2}$ of a pound? in $\frac{1}{4}$ of a pound?

If you buy $\frac{1}{2}$ of a pound of tea, how many ounces of tea will you get?

How many four-ounce weights will it take to balance the pound weight?

4 ounces are what part of a pound?

How many 2's are there in 16? 2 ounces are what part of a pound?

How much will 2 pounds of sugar cost at 5 cents a pound? How much will 3 pounds cost?

How much will 1 pound and 8 ounces of beef cost at 8 cents a pound?

At 2 cents an ounce, how much will 8 ounces of ginger cost?

Name four things that are sold by the dozen.

Name four that are sold by the gallon.

Name five that are sold by the bushel.

Name five that are sold by the yard.

16 quarts equal how many pecks?

SLATE WORK

1 foot = — inches	1 bushel = — pecks
1 yard = — feet	1 peck = — quarts
1 gallon = — quarts	1 quart = — pints
1 quart = — pints	1 pound = — ounces
1 pint = — gills	1 month = — weeks
1 dozen = — things	1 week = — days

How much will 16 eggs cost at 12 cents a dozen? They will cost —— cents.

How much will $1\frac{1}{4}$ dozen nutmegs cost at a cent apiece? They will cost —— cents.

At 2 cents apiece, how many bananas can you buy for 16 cents?

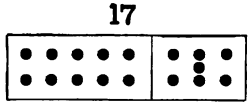
How much will 2 quarts of cider cost at 14 cents a gallon?

John picked $\frac{1}{2}$ a bushel of blackberries. How many pecks did he pick? how many quarts?

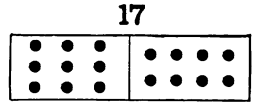
$\frac{1}{2}$ a bushel = —— pecks.

$\frac{1}{2}$ a bushel = —— quarts.

16 quarts equal how many gallons?

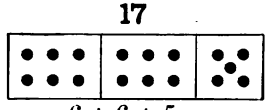


$10 + 7 =$
$7 + 10 =$
$17 - 7 =$
$17 - 10 =$
$17 \div 10 =$



$9 + 8 =$
$8 + 9 =$
$17 - 8 =$
$17 - 9 =$
$17 + 9 =$

SLATE WORK



= 2 times 6, + 5.

In the same way show:

That $17 = 3$ times 5, $+2$.
That $17 = 4$ times 4, $+1$.
That $17 = 5$ times 3, $+2$.
That $17 = 8$ times 2, $+1$.

$17 = 10 + \ —$	$13 + \ — = 17$	$17 - 8 =$
$17 = 8 + \ —$	$15 + \ — = 17$	$17 - 9 =$
$17 = 9 + \ —$	$8 + \ — = 17$	$17 - 7 =$
$17 = 7 + \ —$	$14 + \ — = 17$	$17 - 10 =$
$17 = 11 + \ —$	$16 + \ — = 17$	$17 - 12 =$
$17 = 13 + \ —$	$12 + \ — = 17$	$17 - 11 =$

ORAL WORK

Read at sight:

7+8=	7+ 6=	4+ 9=	7+10=
6+5=	8+ 5=	2+11=	9+ 5=
4+8=	6+ 4=	5+ 7=	10+ 7=
2+9=	7+ 3=	9+ 7=	4+11=
7+3=	8+ 5=	3+13=	2+15=
12+4=	5+11=	6+ 9=	12+ 3=
14+2=	13+ 3=	8+ 6=	11+ 6=
12+5=	3+11=	14+ 3=	8+ 9=

Read at sight:

10−8=	11− 6=	9− 8=	11− 4=
8−7=	10− 5=	9− 7=	11− 5=
9−6=	8− 4=	10− 6=	8− 6=
8−5=	10− 7=	9− 5=	12− 7=
9−4=	8− 8=	10− 4=	11− 8=
12−4=	13− 8=	15− 4=	17− 8=
12−5=	12− 7=	17− 5=	17− 7=
12−6=	14− 6=	13− 6=	16− 6=
13−7=	15− 5=	15− 7=	16− 5=
12−8=	13− 4=	15− 8=	14− 4=

SLATE WORK

$2 \times 3, +?=14$	$16 \div 4, +?=13$
$3 \times 4, +?=16$	$15 \div 5, +?=14$
$4 \times 2, +?=15$	$14 \div 2, +?=17$
$2 \times 6, +?=17$	$12 \div 4, +?=15$
$3 \times 3, +?=17$	$16 \div 8, +?=17$
$17-6-6-5=$	$17-7-7-3=$
$17-5-5-5=$	$17-8-8-1=$

If a boy spent 9 cents and had 8 cents left, he must have had —— cents at first.

There are —— gallons and —— quarts in 17 quarts.

In 17 quarts there are —— pecks and —— quart.

In 17 pecks there are —— bushels and —— peck.

At 8 cents a pound —— pounds of soap can be bought for 16 cents.

At 6 cents a quart 2 quarts and 1 pint of beans will cost —— cents.

There is —— foot and —— inches in 17 inches.

There are —— yards and —— feet in 17 feet.

ORAL WORK

Anna is 12 years old. In how many years will she be 17 years old?

James is 17 years old. His little sister is 8 years old. How old was James when his sister was 6 years old?

3 little girls and 1 little boy went out to gather nuts. The little girls each got 4 quarts, and the little boy 5 quarts. How many quarts did they all get?

There were 11 roses on a bush yesterday. To-day there are 17 on it. How many more roses are there on the bush to-day than yesterday?

8 pairs of gloves are how many gloves?

Nettie has a rope that is 5 yards and 2 feet long. How many feet long is it?

How many pairs of legs have 2 spiders?

A boy picked 9 bushels of apples from one tree, and 8 bushels from another. How many bushels did he pick from both trees?

8 feet were cut from a rope 17 feet long. How many feet were left?

SLATE WORK

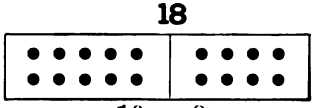
Add:

6	9	8	6	8	7	9	8
7	5	2	4	7	3	1	3
3	3	6	7	2	6	7	6
1	3	4	3	5	3	2	4
4	4	3	3	4	5	4	4
4	2	2	3	3	2	4	3
3	5	1	6	1	3	3	3
5	1	6	2	4	4	3	3

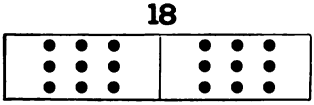
$16 \div 7 = 2$, and 2 remainder

$17 \div 8 =$	$17 \div 5 =$	$12 \div 5 =$
$13 \div 5 =$	$17 \div 9 =$	$16 \div 9 =$
$17 \div 6 =$	$15 \div 4 =$	$13 \div 6 =$

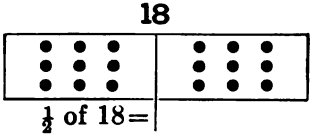
$\frac{1}{6}$ of 12, + 9 = 11	$\frac{1}{2}$ of 14, +10 =
$\frac{1}{4}$ of 16, +13 =	$\frac{1}{4}$ of 12, + 8 =
$\frac{1}{7}$ of 14, +12 =	$\frac{1}{8}$ of 16, +15 =
$\frac{1}{3}$ of 15, +11 =	$\frac{1}{2}$ of 16, + 5 =
$\frac{1}{3}$ of 9, +14 =	$\frac{1}{2}$ of 10, +12 =
$12 \div 4$, + 9 =	4×3, + 5 =
$16 \div 8$, +12 =	2×8, − 8 =
$15 \div 3$, − 3 =	3×5, − 9 =

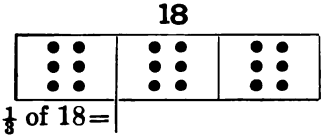


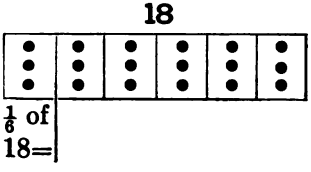
$10 + 8 =$
$8 + 10 =$
$18 - 8 =$
$18 - 10 =$
$18 \div 10 =$

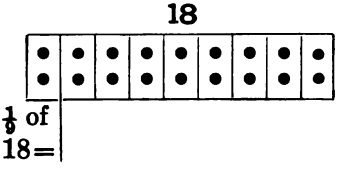


$9 + 9 =$
$2 \times 9 =$
$18 - 9 =$
$18 \div 9 =$
$\frac{1}{9}$ of $18 =$









SLATE WORK

$18 = 10 + \_\_$	$9 + \_\_ = 18$	$18 - 16 =$
$18 = 9 + \_\_$	$13 + \_\_ = 18$	$18 - 15 =$
$18 = 7 + \_\_$	$11 + \_\_ = 18$	$18 - 14 =$
$18 = 6 + \_\_$	$8 + \_\_ = 18$	$18 - 13 =$

$18 \div 10 =$	$13 + 5 =$	$18 \div 6 =$	$\frac{1}{2}$ of $18 =$
$18 \div 7 =$	$11 + 6 =$	$18 \div 2 =$	$\frac{1}{3}$ of $18 =$
$18 \div 8 =$	$14 + 4 =$	$18 \div 3 =$	$\frac{1}{6}$ of $18 =$
$18 \div 5 =$	$15 + 3 =$	$18 \div 9 =$	$\frac{1}{9}$ of $18 =$

ORAL WORK

Read at sight:

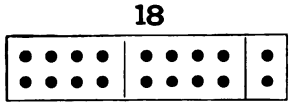
$2\times1=$	$2\times6=$	$3\times2=$	$4\times1=$
$2\times2=$	$2\times7=$	$3\times3=$	$4\times2=$
$2\times3=$	$2\times8=$	$3\times4=$	$4\times3=$
$2\times4=$	$2\times9=$	$3\times5=$	$4\times4=$
$2\times5=$	$3\times1=$	$3\times6=$	$5\times1=$

$5\times2=$	$6\div3=$	$16\div4=$	$\frac{1}{2}$ of $18=$
$5\times3=$	$10\div2=$	$18\div6=$	$\frac{1}{3}$ of $15=$
$6\times1=$	$12\div6=$	$14\div7=$	$\frac{1}{8}$ of $16=$
$6\times2=$	$12\div4=$	$18\div3=$	$\frac{1}{5}$ of $15=$
$6\times3=$	$10\div5=$	$18\div9=$	$\frac{1}{2}$ of $14=$

$9+9=$	$11+7=$	$17-9=$	$17-7=$
$8+10=$	$7+9=$	$18-9=$	$18-7=$
$16+2=$	$6+12=$	$16-9=$	$16-7=$
$3+15=$	$8+7=$	$14-9=$	$14-7=$
$4+14=$	$5+13=$	$15-9=$	$15-7=$

$12-2=$	$10-1=$	$9+1=$	$8+5=$
$13-3=$	$10-2=$	$9+2=$	$8+6=$
$14-4=$	$10-3=$	$9+3=$	$8+7=$
$15-5=$	$10-4=$	$9+4=$	$8+8=$
$16-6=$	$10-5=$	$9+5=$	$8+9=$

SLATE WORK



= 2 times 8, + 2.

In the same way show:

That 18 = 2 times 7, +4.
That 18 = 3 times 6.
That 18 = 3 times 5, +3.
That 18 = 4 times 4, +2.
That 18 = 6 times 3.
That 18 = 9 times 2.

18 ÷ 5 = 3, and 3 remainder	$\frac{1}{2}$ of 18, + 7 = 16
18 ÷ 7 =	$\frac{1}{4}$ of 16, +10 =
18 ÷ 8 =	$\frac{1}{6}$ of 18, +15 =
18 ÷ 4 =	$\frac{1}{9}$ of 18, +14 =
18 ÷ 10 =	$\frac{1}{2}$ of 16, + 9 =
18 ÷ 12 =	$\frac{1}{7}$ of 14, +13 =

Add:

5	2	6	2	8	6	7	3	4
4	7	2	4	3	2	3	8	5
3	4	3	4	3	6	2	3	4
5	3	7	8	4	4	5	4	5

SLATE WORK

$7+7+4=$	$6+6+6=$	$5+5+5+3=$
$2\times7, +4=$	$3\times6=$	$3\times5, +3=$
$18-7-7=$	$18-6-6=$	$18-5-5-5=$
$18\div7=$	$18\div6=$	$18\div5=$

Subtract:

18	18	18	18	18	18	18	18	18
7	9	6	5	10	8	4	11	3
18	18	18	18	18	18	18	18	18
1	12	2	13	15	14	17	16	18

ORAL WORK

Sight exercise:

7, 4, 12, 9, 11, 6, 8, 13, 5, 10, 14

Subtract 2 from each of the above numbers.

Subtract 3 from each of the above numbers.

Subtract 4 from each of the above numbers.

Add 2 to each number above.

Add 3 to each number above.

Add 4 to each number above.

Show by dots on cards how many 3's there are in the following: 6, 9, 12, 15, 18.

SLATE WORK

Show six ways of composing each of the following numbers:

11 = 3+3+3+2, = 3×3, +2, = 4+4+3, = 2×4, +3, = 5+5+1, = 2×5, +1.

13 = 4+4+4+1, = 3×4, +1, = ···+···+···, = ···×···, +···, = ···+···+···, = ···×···, +···.

17 = ···+···+···, = ···×···, +···, = ···+···+···, = ···×···, +···, = ···+···+···, = ···×···, +···.

15 = ···+···+···, = ···×···, +···, = ···+···+···, = ···×···, +···, = ···+···+···, = ···×···.

18 = 9+9, = 2×9, = ···+···+···, = ···×···, +···, = ···+···+···, = ···×···, +···.

Copy and finish:

In 11 there are 3 threes and 2 over; —— fives and —— over.

In 13 there are —— fours and —— over.

In 17 there are —— sevens and —— over.

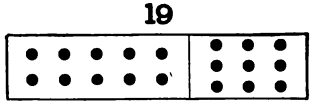
In 18 there are —— eights and —— over.

In 15 there are —— sixes and —— over.

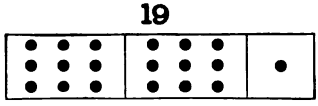
In 14 there are —— sixes and —— over.

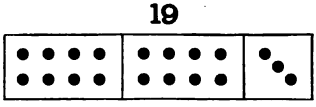
18 is —— more than 10, and —— more than 5.

4 is —— less than 11, and —— less than 16.



10 + 9 = 19 − 9 =
9 + 10 = 19 + 10 =





9 + 9 + 1 = 19 − 9 − 9 = 8 + 8 + 3 = 19 − 8 − 8 =
2 × 9, + 1 = 19 + 9 = 2 × 8, + 3 = 19 + 8 =

SLATE WORK

19 = 10 + —	19 = 16 + —	5 + — = 19
19 = 9 + —	19 = 17 + —	7 + — = 19
19 = 11 + —	19 = 18 + —	6 + — = 19
19 = 12 + —	9 + — = 19	4 + — = 19
19 = 13 + —	8 + — = 19	3 + — = 19
19 = 14 + —	12 + — = 19	10 + — = 19
19 = 15 + —	2 + — = 19	13 + — = 19

19 − 2 =	19 − 8 =	19 − 13 =	19 ÷ 13 =
19 − 5 =	19 − 10 =	19 − 15 =	19 ÷ 11 =
19 − 7 =	19 − 9 =	19 − 16 =	19 ÷ 14 =
19 − 3 =	19 − 12 =	19 − 17 =	19 ÷ 16 =
19 − 6 =	19 − 11 =	19 − 18 =	19 ÷ 18 =

ORAL WORK

Read at sight:

9 and 8 are —	13 and 6 are —
12 and 3 are —	14 and 5 are —
3 and 14 are —	18 less 7 are —
7 and 9 are —	17 less 5 are —
16 and 3 are —	19 less 10 are —
14 and 4 are —	19 less 11 are —
10 and 8 are —	19 less 17 are —
11 and 8 are —	19 less 15 are —

$14 \div 3 = ?$ 14 divided by 3 equals 4, and 2 over.

$16 \div 5 =$	$17 \div 5 =$	$16 \div 11 =$	$19 \div 4 =$
$13 \div 3 =$	$17 \div 7 =$	$16 \div 9 =$	$19 \div 5 =$
$11 \div 4 =$	$17 \div 6 =$	$15 \div 7 =$	$19 \div 6 =$
$14 \div 5 =$	$18 \div 10 =$	$11 \div 3 =$	$19 \div 9 =$
$16 \div 3 =$	$18 \div 5 =$	$18 \div 7 =$	$19 \div 14 =$

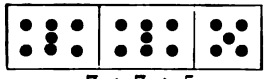
$4 \times 3, +7 = ?$ 4 times 3 = 12; 12 plus * 7 = 19.

$3 \times 2, +10 =$	$7 \times 1, +11 =$	$8 \times 1, +9 =$
$6 \times 2, +3 =$	$4 \times 2, +10 =$	$2 \times 8, +3 =$
$2 \times 4, +9 =$	$5 \times 1, +12 =$	$2 \times 7, +4 =$
$2 \times 5, +7 =$	$3 \times 3, +9 =$	$5 \times 2, +9 =$
$7 \times 2, +5 =$	$3 \times 5, +4 =$	$5 \times 3, +3 =$

* *plus* is the word for + and means *and*.

SLATE WORK

19



= 2 times 7, + 5.

7 + 7 + 5

In the same way show:

That 3 times 6, + 1 = 19.
That 3 times 5, + 4 = 19.
That 4 times 4, + 3 = 19.
That 6 times 3, + 1 = 19.

6+6+6 +1=	19−5−5 −4=
3×6, +1=	19 ÷4=
19−6−6 −6=	4+4+4+4 +3=
19−6−6 −1=	4×4, +3=
19÷6=	19−4−4−4 +4=
5+5+5 +4=	19−4−4−4 −3=
3×5, +4=	19÷3=
19−5−5 −5=	

19 — ? = 12	3×2, +? = 13	18÷2, +? = 16
19 — ? = 10	4×2, +? = 17	16÷4, +? = 16
19 — ? = 8	5×2, +? = 19	18÷6, +? = 17
19 — ? = 11	3×4, +? = 19	18÷9, +? = 19
19 — ? = 13	3×3, +? = 19	16÷2, +? = 19
19 — ? = 15	2×6, +? = 19	14÷7, +? = 16

SLATE WORK

Add:

5	5	5	5	5	5	5	5	5	5
4	1	2	3	4	5	6	7	8	9
3	9	8	7	6	5	4	3	2	1
6	1	2	3	4	3	4	4	3	2

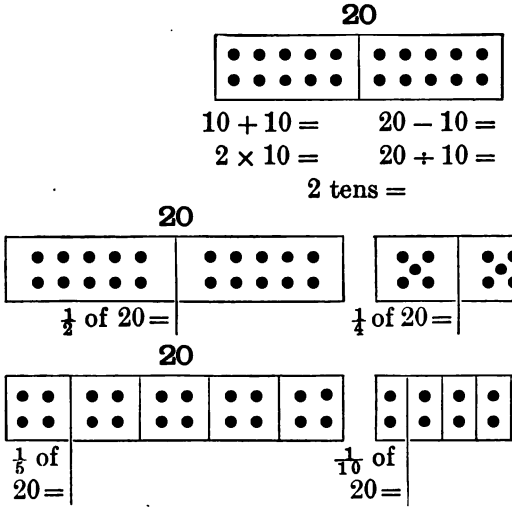
4	2	6	2	4	6	5	9	7	1
4	2	6	2	4	3	4	3	3	2
3	5	3	7	4	6	5	2	7	9
3	5	3	7	7	3	4	5	2	7

Subtract:

19	18	17	16	15	14	13	12	9	8
8	7	6	5	4	3	2	1	8	7

17	13	16	18	12	15	19	14	19	18
12	9	13	9	5	6	12	6	8	7

$3\times4=$	$6\times3=$	$2\times5=$	$5\times?=15$
$5\times3=$	$7\times2=$	$2\times6=$	$19-?=11$
$6\times2=$	$8\times2=$	$4\times4=$	$11+?=17$
$3\times3=$	$2\times7=$	$9\times2=$	$18\div?=6$
$4\times2=$	$3\times5=$	$2\times9=$	$8+?=19$



SLATE WORK

20 = 19 + —	20 = 12 + —	5 + — = 20
20 = 18 + —	20 = 11 + —	20 − 19 =
20 = 17 + —	20 = 10 + —	20 − 18 =
20 = 16 + —	9 + — = 20	20 − 17 =
20 = 15 + —	8 + — = 20	20 − 16 =
20 = 14 + —	7 + — = 20	20 − 15 =
20 = 13 + —	6 + — = 20	20 − 14 =

20 ÷ 2 =	½ of 20 =	12 + 8 =	2 × 8, + 3 =
20 ÷ 4 =	¼ of 20 =	13 + 6 =	4 × 3, + 7 =
20 ÷ 5 =	⅕ of 20 =	14 + 5 =	3 × 3, + 11 =
20 ÷ 10 =	1/10 of 20 =	11 + 8 =	4 × 4, + 4 =

ORAL WORK

Read at sight:

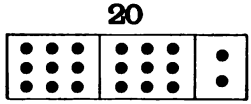
12 and 7 are —	5 and 12 are —
13 and 6 are —	19 and 1 are —
15 and 5 are —	20 less 10 =
14 and 6 are —	20 less 9 =
8 and 11 are —	20 less 8 =
17 and 2 are —	20 less 7 =
16 and 4 are —	20 less 6 =
3 and 17 are —	20 less 5 =

$20 \div 3 = ?$ 20 divided by 3 equals 6, and 2 over.

$20 \div 6 =$	$20 \div 12 =$	$20 \div 19 =$
$20 \div 7 =$	$20 \div 14 =$	$20 \div 17 =$
$20 \div 8 =$	$20 \div 13 =$	$20 \div 20 =$
$20 \div 9 =$	$20 \div 15 =$	$20 \div 5 =$
$20 \div 10 =$	$20 \div 17 =$	$20 \div 4 =$

Count forward by 2's from 2 up to 20.
Count forward by 3's from 3 up to 18.
Count forward by 4's from 4 up to 20.
Count backward by 2's from 20 to 0.
Count backward by 3's from 18 to 0.
Count backward by 4's from 20 to 0.

SLATE WORK



In the same way show:

That 20 = 2 times 8, +4.
That 20 = 2 times 7, +6.
That 20 = 3 times 6, +2.
That 20 = 4 times 5.
That 20 = 5 times 4.

8+8 +2=	7+7 +6=	6+6+6 +2=
2×8,+2=	2×7,+6=	3×6,+2=
20−8 −8=	20−7 −7=	20−6−6 −6=
20−8 −2=	20−7 −6=	20−6−6 −2=
20÷8=	20÷7=	20 ÷6=

14+?=20	5×3,+?=20	20−?=17
12+?=20	2×7,+?=20	20−?=11
7+?=20	6×3,+?=20	20−?= 9
9+?=20	4×4,+?=20	20÷?= 4
16+?=20	3×3,+?=20	20÷?= 5
11+?=20	3×4,+?=20	20÷?= 2
15+?=20	4×2,+?=20	20÷?=10

ORAL WORK

10 cents make 1 dime.

5 cents make a half-dime.

How many five-cent pieces make a dime?

How many two-cent pieces make a dime?

If you have a half-dime and 2 two-cent pieces, how many cents have you?

John has a dime, a half-dime, and a two-cent piece. How much money has he?

Rob has a dime, a half-dime, a two-cent piece, and a cent. How much money has he?

If he buys 8 two-cent stamps, how much money will he have left?

I bought 3 loaves of bread, and gave the baker 2 dimes. He gave me back five cents. What was the cost of each loaf of bread?

I have 2 dimes in two-cent pieces. How many two-cent pieces have I?

At 2 cents each, how many oranges can I buy for 2 dimes?

How many pounds of sugar, at 5 cents a pound, can you buy with a dime, a nickel, a two-cent piece, and 3 cents?

SLATE WORK

If 2 oranges cost 5 cents, how much will 4 oranges cost?

When 2 oranges cost 5 cents, how many oranges can be bought for a dime? How many can be bought for 2 dimes?

If I can get 3 plums for a cent, how many plums can I get for half a dime?

In a schoolroom there are 5 windows, and 4 panes in each window. How many panes are there in the 5 windows?

A boy earned 20 cents and paid $\frac{1}{5}$ of it for a top. How much did he pay for the top?

How many ounces are there in $\frac{1}{4}$ of a pound?

A farmer had 20 sheep in one field and $\frac{1}{4}$ as many in another field. How many more sheep had he in the first field than in the second?

A boy paid 15 cents for a copy book, and $\frac{1}{3}$ as much for a penholder and pens. How much did he pay for all?

How much will 3 eggs cost if $\frac{1}{2}$ a dozen cost 18 cents?

SLATE WORK

If half a dozen eggs cost 5 cents, how many dozen can be bought for 2 dimes?

How many feet long is a yardstick?

How many feet are there in 6 yards?

How many pints are there in a quart? How many quarts are there in a gallon? How many pints are there in a gallon?

How many pecks are there in a bushel? How many are there in 5 bushels?

At $5\frac{1}{2}$ cents a pound, how many pounds of sugar can be bought for 11 cents?

A peck is 8 quarts. What part of a peck is 2 quarts? 4 quarts?

A score is 20. How many 5's make a score?

From 20 chickens 14 were sold. How many were left?

A little boy has 13 cents in his bank. If he puts in a nickel more, how many cents will he then have in his bank?

If a pound of cheese costs 14 cents and a pound of rice 5 cents, how much will both cost?

SLATE WORK

$11-3+?=15$	$18-6-5-?=4$
$4\times3,+?=20$	$\frac{1}{2}$ of $16,+?=15$
$16\div8,+?=19$	$\frac{1}{3}$ of $15,+?=19$
$9+8-?=11$	$\frac{1}{7}$ of $14,+?=20$
$3+6+4+?=18$	$\frac{1}{3}$ of $18,+?=20$
$12-3+9+?=20$	$\frac{1}{4}$ of $20,+?=16$

14	16	11	20	20
$-\ 9$	-12	$-\ 7$	-10	-15

$3\times2=$	$4\times2=$	$2\times4=$	$5\times4=$	$8\times2=$
$3\times3=$	$4\times3=$	$2\times5=$	$6\times2=$	$9\times1=$
$3\times4=$	$4\times4=$	$2\times6=$	$6\times3=$	$9\times2=$
$3\times5=$	$2\times2=$	$5\times2=$	$7\times2=$	$10\times1=$
$3\times6=$	$2\times3=$	$5\times3=$	$8\times1=$	$10\times2=$

$3+16=$	$9+?=20$	$18\div?=2$	$\frac{1}{3}$ of $?=6$
$8+12=$	$13+?=17$	$14\div?=2$	$\frac{1}{5}$ of $?=4$

Add:

3	3	4	5	2	6	7	9	2
4	3	4	5	2	2	1	0	5
3	3	4	3	4	6	7	2	4
4	3	4	3	4	2	3	1	7
3	3	4	3	5	4	2	8	1

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