2. DIVISION

Pineapples are tropical fruits. Pineapples regenerate! You can plant a pineapple by cutting off the top of a pineapple and planting it in soil.
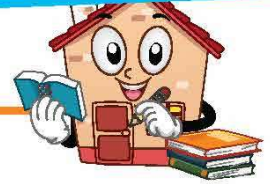
Making a 500 g bottle of pineapple jam requires 2 pineapples. If there are 2582 pineapples, how many bottles of jam can be made? We will learn this in this chapter.

Pineapples have greater health benefits. It boosts immunity. Children who eat pineapples have a significantly lower risk of contracting viral and bacterial infections.

HOME–SCHOOL CONNECT

To my parents, in this new chapter I will learn:

Learning goals

- Division by equal sharing, equal grouping and repeated subtraction
- Properties of division
- Division of a 4-digit by 1, 2 and 3-digit numbers
- Division of a 5-digit by 1 and 2-digit numbers
- Division by 10, 100, 1000
- Word problems on division

Maths Vocabulary

Dividend

The number which is divided is called the dividend.

Divisor

The number which divides any given number is called the divisor.

Quotient

The answer obtained by dividing one number with another number is called a quotient

Remainder

Remainder means a number which is left over. The number which cannot be divided further is called a remainder.

```
              1   9   ——→ Quotient
        6 ) 1  1   4   ——→ Dividend
Divisor ←       6
            ————————
             5   4
             5   4
            ————————
                 0   ——→ Remainder
```

Home – Activity

Encourage your child to find 4-digit and 5-digit numbers from a newspaper, book, etc. Ask them to divide the number using a 1 or 2-digit number of your choice.

Division by equal sharing, equal grouping and repeated subtraction

Tomatoes were harvested in the home garden.
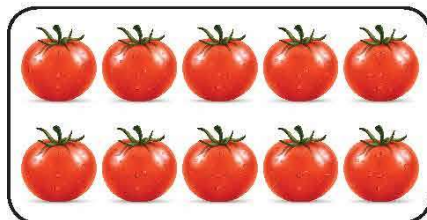
There were 30 tomatoes.

The family wanted it to be divided equally among their three neighbors.
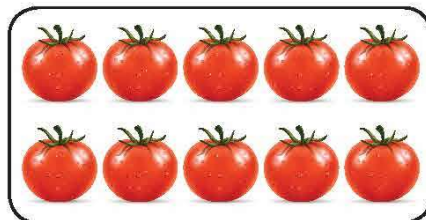
How many ways can it be divided equally?
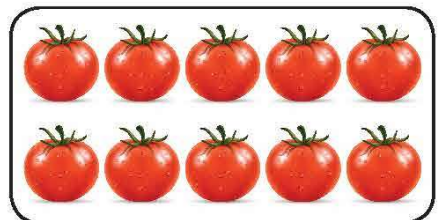
Division by equal sharing

The tomatoes need to be divided among 3 families. How many tomatoes will each family get?
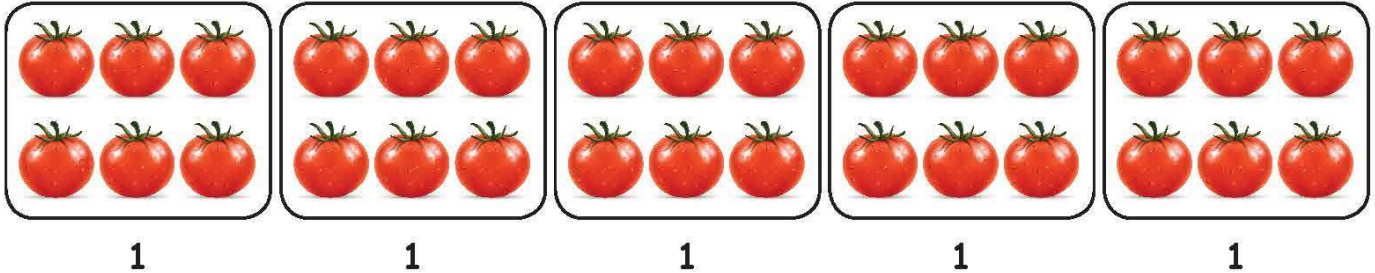
| 10 | 10 | 10 |

Hence, each family will get 10 tomatoes.
This is equal sharing.

Division by equal grouping

If each family gets 6 tomatoes, how many families can the tomatoes be given to?
Let's represent the families as:

| 1 | 1 | 1 | 1 | 1 |

The 30 tomatoes can be divided into 5 groups such that each group has 6 tomatoes.
Hence, they can be given to 5 families.
This is called equal grouping.

Division by repeated subtraction

Tara is packing the 30 tomatoes such that each pack has 6 tomatoes.
30 tomatoes – 6 tomatoes = 24 tomatoes $\longrightarrow$ after 1st pack
24 tomatoes – 6 tomatoes = 18 tomatoes $\longrightarrow$ after 2nd pack
18 tomatoes – 6 tomatoes = 12 tomatoes $\longrightarrow$ after 3rd pack
12 tomatoes – 6 tomatoes = 6 tomatoes $\longrightarrow$ after 4th pack
6 tomatoes – 6 tomatoes = 0 tomatoes $\longrightarrow$ after 5th pack
6 is subtracted from 30 five times. There are 5 packs.

The 30 tomatoes can be divided into 5 groups such that each group has 6 tomatoes.
Hence, they can be given to 5 families.
This is called equal grouping.

Let's see another example:

24 cupcakes are divided equally in 4 boxes.
The number of boxes will be:

| 6 cupcakes | 6 cupcakes | 6 cupcakes | 6 cupcakes |

We write this as 24 ÷ 4.

$$
\begin{array}{r}
6 \quad \longrightarrow \text{ Number of cupcakes in each box} \\
\text{Number of boxes} \longleftarrow 4{\overline{)24}} \longrightarrow \text{Total number of cupcakes} \\
-24 \\
\hline
00
\end{array}
$$

Example: Divide 132 ÷ 11

$$
\begin{array}{r}
1 \\
11{\overline{)132}} \\
-11 \downarrow \\
\hline
022
\end{array}
$$

Consider the first two digits of the dividend.
Divide 13 by 11. 11 × 1 = 11
Write 1 above 3.
Subtract 11 from 13 to get 2<11.
Bring down the 2.

$$
\begin{array}{r}
12 \\
11{\overline{)132}} \\
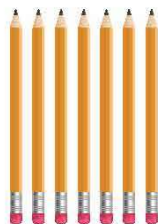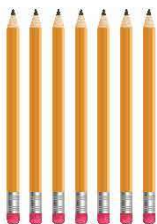-11 \downarrow \\
\hline
022 \\
-22 \\
\hline
00
\end{array}
$$

Divide 22 by 11. 11 × 2 = 22
Write 2 above 2.
Subtract 22 from 22 to get 0.

Therefore, 132 divided by 11 = 12.

Krish and Keerthi are siblings. Their school is reopening.
Their mother bought pencils for them.
There were 15 pencils.
Krish and Keerthi wanted to share equally.

we get 7 pencils each

1 pencil is left out

In division, the number which is left out is called the **remainder**.

Krish gets 7 pencils   Keerthi gets 7 pencils   1 pencil is left out

In long division

$$
\begin{array}{r}
7 \quad \longrightarrow \text{ Pencils each person gets} \\
\text{2 kids} \longleftarrow 2{\overline{)15}} \longrightarrow \text{Total number of pencils} \\
-14 \\
\hline
1 \longrightarrow \text{ Left over pencil}
\end{array}
$$

CHECK WHAT YOU KNOW

> Division of 1, 2 and 3-digit numbers by 1-digit number
> Division of 2 and 3-digit number by 2-digit number

1. Divide the following:

a.	6 ÷ 3	b.	8 ÷ 2	c.	7 ÷ 3	d.	4 ÷ 2	e.	5 ÷ 1
f.	54 ÷ 6	g.	29 ÷ 3	h.	26 ÷ 2	i.	98 ÷ 7	j.	27 ÷ 8
k.	675 ÷ 3	l.	944 ÷ 2	m.	516 ÷ 7	n.	668 ÷ 8	o.	975 ÷ 5
p.	93 ÷ 33	q.	45 ÷ 15	r.	78 ÷ 39	s.	88 ÷ 44	t.	82 ÷ 41
u.	586 ÷ 45	v.	561 ÷ 51	w.	739 ÷ 82	x.	418 ÷ 38	y.	897 ÷ 69

2. Solve the following

a. The grade 4 students of a school went to an ice cream factory. The class had 36 students. At the factory, students were divided into 6 equal groups. How many students were in each group?

b. The theatre in the planetarium runs 155 shows in 31 days. There are equal number of shows each day. Find the number of shows in a day.

c. Rituja has a piece of cloth that is 56 cm long. She wants to divide it into 2 equal pieces. What is the length of each piece?

d. During dance competition, 42 students performed in 6 equal groups. How many students were there in each group?

e. On Diwali, Raksha arranged the diyas in 12 equal rows. There were 48 diyas in total. How many diyas were there in each row?

Properties of division

Raju is a sweet seller.
Raju arranged 6 Mysore paks on 6 plates. How many Mysore paks will there be on 1 plate?

$6 \div 6 = 1$

There is 1 Mysore pak on 1 plate.

When a number is divided by itself, the quotient is 1.

Note: 0 cannot be divided by 0.

Raju arranged 12 laddoos on 1 plate. How many laddoos are there on the plate?

$12 \div 1 = 12$

There are 12 laddoos on the plate.

When a number is divided by 1, the quotient is the number itself.

Raju arranged 0 sweets on 2 plates. How many sweets are there on each plate?

$0 \div 2 = 0$

There are 0 sweets on the plates.

When 0 is divided by any number, the quotient is 0.

Note: For a multiplication fact, there are 2 division facts.
For the multiplication fact, $12 \times 6 = 72$, the corresponding division facts are
$72 \div 6 = 12$ and $72 \div 12 = 6$

CLASSWORK 1

✅ **Check**

0 ÷ 98 = 0	756 ÷ 756 = 1	564 ÷ 1 = 564	0 ÷ 675 = 0

1. Use the properties of division to solve the following:

a.	0 ÷ 15	b.	78 ÷ 78	c.	293 ÷ 293	d.	193 ÷ 1	e.	0 ÷ 986
f.	738 ÷ 1	g.	0 ÷ 235	h.	897 ÷ 1	i.	0 ÷ 681	j.	706 ÷ 1

2. Fill in the blanks:

a. 837 ÷ ____ = 837	b. ____ ÷ 678 = 0	c. 786 ÷ 1 = ____
d. _____ ÷ 467 = 0	e. _____ ÷ 536 = 1	f. _____ ÷ 1 = 675
g. 786 ÷ _____ = 1	h. 564 ÷ 564 = ____	i. ____ ÷ 1 = 234
j. _____ ÷ 167 = 0	k. 128 ÷ 128 = _____	l. 0 ÷ 500 = _____

HOMEWORK 1

1. Use the properties of division to solve the following:

a.	76 ÷ 76	b.	0 ÷ 46	c.	768 ÷ 1	d.	298 ÷ 298	e.	0 ÷ 154
f.	876 ÷ 1	g.	0 ÷ 298	h.	675 ÷ 1	i.	876 ÷ 876	j.	0 ÷ 675

2. Fill in the blanks:

a. 786 ÷ ____ = 1	b. _____ ÷ 345 = 1	c. ____ ÷ 1 = 876
d. _____ ÷ 52 = 0	e. _____ ÷ 879 = 0	f. _____ ÷ 234 = 0
g. 598 ÷ _____ = 1	h. _____ ÷ 354 = 0	i. ____ ÷ 1 = 654
j. _____ ÷ 754 = 0	k. _____ ÷ 687 = 1	l. 287 ÷ _____ = 287

Division of a 4-digit number by 1, 2 and 3-digit numbers

Division of a 4-digit number by a 1-digit number

Let's learn how to divide a 4-digit number by a 1-digit number.

Example: Divide 2326 by 2

Step 1

Divide the first digit with the divisor.
$2 \times 1 = 2$
Write 1 above 2.
Subtract
$2 - 2 = 0$
Bring down 3.

```
     1
2) 2326
  -2
   03
```

Step 2

Divide the 3 by 2.
$2 \times 1 = 2$
$2 \times 2 = 4 > 3$
Write 1 above 3.
Subtract
$3 - 2 = 1$
$1 < 2$
Bring down 2.

```
     11
2) 2326
  -2
   03
  - 2
   12
```

Step 3

Divide 12 by 2.
$2 \times 6 = 12$
Write 6 above 2.
Subtract
$12 - 12 = 0$
Bring down 6.

```
     116
2) 2326
  -2
   03
  - 2
   12
  -12
   006
```

Step 4

Divide 6 by 2.
$2 \times 3 = 6$.
Write 3 above 6.
Subtract
$6 - 6 = 0$

```
     1163
2) 2326
  -2
   03
  - 2
   12
  - 12
   006
  -  6
     0
```

Verification: Dividend = divisor × quotient + remainder
Divisor = 2 , quotient = 1163, remainder = 0
Dividend = 2 × 1163 + 0 = 2326

VM *Use the 05 building block template from the kit to perform division.*

CLASSWORK 2

✅ **Check**

Divide 5963 ÷ 8

```
        745
   8) 5963
     - 56
       036
      - 32
        43
      - 40
        03
```

Verification:
Divisor = 8 , quotient = 745, remainder = 3
Dividend = 8 × 745 + 3 = 5963

Divide 7645 ÷ 5

```
       1529
   5) 7645
    - 5
      26
    - 25
      14
    -10
      045
    - 45
      00
```

Verification:
Divisor = 5, quotient = 1529, remainder = 0
Dividend = 5 × 1529 + 0 = 7645

Divide the following and verify the answer:

a. 3642 ÷ 2	b. 1756 ÷ 5	c. 7465 ÷ 2	d. 9283 ÷ 6	e. 8967 ÷ 6
f. 5986 ÷ 4	g. 8943 ÷ 3	h. 3679 ÷ 2	i. 6893 ÷ 8	j. 1933 ÷ 4

HOMEWORK 2

Divide the following and verify the answer:

a. 9473 ÷ 5	b. 2467 ÷ 3	c. 6532 ÷ 2	d. 4728 ÷ 7	e. 7865 ÷ 5
f. 8373 ÷ 3	g. 8458 ÷ 2	h. 2735 ÷ 5	i. 7854 ÷ 4	j. 9865 ÷ 5

Division of a 4-digit by a 2-digit number

Step 1

Divide the first two digits with the divisor.

$28 \times 2 = 56$

Write 2 above 3.

Subtract

$63 - 56 = 7$

$7 > 3$

Bring down 3.

$$28 \overline{)\, 6337} \quad \begin{array}{r} 2 \\ \end{array}$$
$$- \underline{56}$$
$$073$$

Step 2

Divide 73 by 28.

$28 \times 2 = 56$

Write 2 above 3.

Subtract $73 - 56 = 17$

$17 < 28$

Bring down 7.

$$28 \overline{)\, 6337} \quad \begin{array}{r} 22 \\ \end{array}$$
$$- \underline{56}$$
$$073$$
$$- \underline{56}$$
$$177$$

Step 3

Divide 177 by 28.

$28 \times 6 = 168$

Write 6 above 7.

Subtract $177 - 168 = 9$

$$28 \overline{)\, 6337} \quad \begin{array}{r} 226 \\ \end{array}$$
$$- \underline{56}$$
$$073$$
$$- \underline{56}$$
$$177$$
$$- \underline{168}$$
$$9$$

Verification: Dividend = divisor x quotient + remainder

Divisor = 28 , quotient = 226, remainder = 9, dividend = 28 x 226 + 9 = 6337

CLASSWORK 3

✔ **Check**

Divide 1794 ÷ 23

$$23 \overline{)\, 1794} \quad \begin{array}{r} 78 \\ \end{array}$$
$$- \underline{161}$$
$$0184$$
$$- \underline{184}$$
$$000$$

Verification:

Divisor = 23 , quotient = 78, remainder = 0

Dividend = 23 x 78 + 0 = 1794

Divide 9831 ÷ 54

$$54 \overline{)\, 9831} \quad \begin{array}{r} 182 \\ \end{array}$$
$$- \underline{54}$$
$$0443$$
$$- \underline{432}$$
$$111$$
$$- \underline{108}$$
$$003$$

Verification:

Divisor = 54, quotient = 9831, remainder = 3

Dividend = 54 x 182 + 3 = 9831

Divide the following and verify the answer:

a. 8544 ÷ 48	b. 7980 ÷ 95	c. 8211 ÷ 23	d. 5037 ÷ 73	e. 9543 ÷ 43
f. 1692 ÷ 75	g. 1692 ÷ 61	h. 7372 ÷ 17	i. 4795 ÷ 21	j. 6734 ÷ 12

Challenge!

Find the missing digits:

```
              □   □   7
    5  1 │ 8  □   1   □
           5  1
           2  9   1
           2  5   5
              3   6   1
              3   □   7
                      □
```

HOMEWORK 3

Divide the following and verify the answer:

a. 6727 ÷ 31	b. 4884 ÷ 22	c. 3735 ÷ 25	d. 8362 ÷ 46	e. 3736 ÷ 29
f. 7535 ÷ 11	g. 7592 ÷ 67	h. 1547 ÷ 13	i. 8265 ÷ 62	j. 5418 ÷ 42

Division of a 4-digit by a 3-digit number

Step 1

Divide the first three digits with the divisor.

$172 \times 2 = 344$

Write 2 above 2.

Subtract

$472 - 344 = 128$

$128 < 172$

Bring down 6.

$$172 \overline{)\ 4726}$$
$$-\ 344$$
$$1286$$

Step 2

Divide the 1286 by 172.

$172 \times 7 = 1204$

Write 7 above 6.

Subtract

$1286 - 1204 = 82$

$$172 \overline{)\ 4726}$$
$$-\ 344$$
$$1286$$
$$-\ 1204$$
$$82$$

Verification: Dividend = divisor x quotient + remainder

Divisor = 172 , quotient = 27, remainder = 82

Dividend = $172 \times 27 + 82 = 4726$

CLASSWORK 4

✓ Check

Divide 1457 ÷ 124

$$124 \overline{)\ 1457}$$
$$-\ 124$$
$$217$$
$$-\ 124$$
$$93$$

Verification:

Divisor = 124 ,

quotient = 11 ,

remainder = 93

Dividend = 124 x 11 + 93 = 1457

Divide 3336 ÷ 556

$$556 \overline{)\ 3336}$$
$$-\ 3336$$
$$0000$$

Verification:

Divisor = 556,

quotient = 6,

remainder = 0

Dividend = 556 x 6 + 0 = 3336

Divide the following and verify the answer:

a. 2868 ÷ 956	b. 1524 ÷ 762	c. 5372 ÷ 183	d. 6282 ÷ 698	e. 7386 ÷ 263
f. 2151 ÷ 665	g. 7362 ÷ 241	h. 4428 ÷ 492	i. 5362 ÷ 191	j. 2736 ÷ 228

HOMEWORK 4

Divide the following and verify the answer:

a. 4424 ÷ 632	b. 1614 ÷ 269	c. 8374 ÷ 127	d. 4748 ÷ 193	e. 3736 ÷ 424
f. 3843 ÷ 193	g. 3252 ÷ 542	h. 6473 ÷ 234	i. 2846 ÷ 226	j. 4826 ÷ 768

Word Problems

Making a 500 g bottle of pineapple jam requires 2 pineapples. If there are 2582 pineapples, how many bottles of jam can be made?
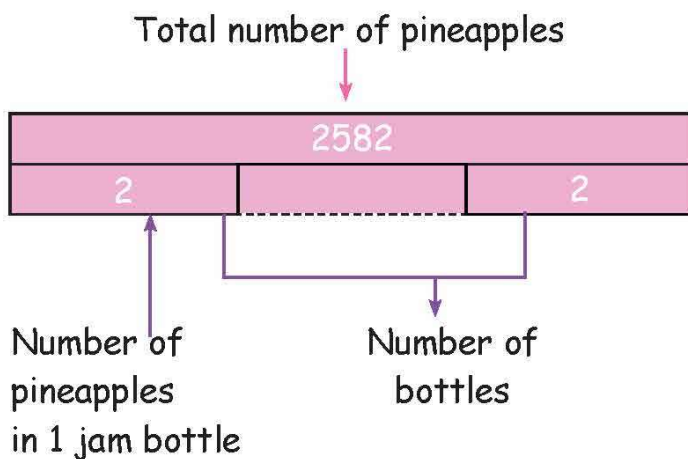
Problem Solving Strategy

1. Given

Number of pineapples required for
1 bottle = 2
Total number of pineapples = 2580

2. To find

The number of bottles of jam which can be made

3. How?

Total number of pineapples

2582		
2		2

Number of pineapples in 1 jam bottle

Number of bottles

4. Solve

Number of bottles of jam = 1291
1 bottle requires 2 pineapples.
Number of pineapples required for 1291 bottles of jam
= 1291 × 2 = 2582

```
        1291
    2 ) 2582
       - 2
        05
       - 4
        18
       - 18
        002
       -   2
          0
```

Therefore, 1291 bottles of pineapple jam can be made from 2582 pineapples.

8952 newspapers were printed in 12 hours. How many newspapers were printed in 1 hour?

Problem Solving Strategy

1. Given

Total number of newspapers = 8952

Time taken to print 8952 newspapers = 12

2. To find

The number of newspapers printed in 1 hour

3. How?

Total number of newspapers

8952											
?	?	?	?	?	?	?	?	?	?	?	?

Number of newspapers printed in 1 hour

4. Solve

Number of newspapers printed in 1 hour = 746

Number of newspapers printed in 12 hours = 746 × 12 = 8952

```
            746
     12) 8952
        - 84
          055
        -  48
          072
        -   72
            00
```

1. Read the given data and answer the questions.

The table given below shows the money collected by selling tickets for a basketball tournament.

Ticket price	Total collection
₹ 7	9555
₹ 15	5535
₹ 10	8450
₹ 76	9576

Answer the following.

a. How many ₹ 7 tickets were sold?

b. Find the number of ₹ 76 tickets sold.

c. How many ₹ 10 tickets were sold?

d. Additionally they sold 24 tickets for ₹ 5664. What is the ticket price?

2. Solve the following.

a. A shop sold 3 grinders on a particular day. If the total money they earned is ₹ 9744, find the cost of each grinder.

b. 2832 people attended a flower show in 6 days. If on each day the same number of people visited, find the number of people that visited on a single day.

c. A school took 1296 children for an exhibition. They were taken by buses, each of which could accommodate 72 children. Find the number of buses which went for the picnic.

d. Tickets worth ₹ 9324 were sold for a children's basketball tournament. If the cost of each ticket is ₹ 74, find the number of tickets sold.

HOMEWORK 5

Solve the following:

a.   A town has 4266 households. Each of them has 1 garbage bin. There are 6 garbage trucks which collect garbage from the households. If each truck collects an equal number of garbage bins, how many does each of them collect?

b.   Neethu wants to buy 4164 paper clips for an upcoming event. If the paper clips come in boxes of 12, how many boxes should she buy?

c.   1176 kg of sugar is distributed equally among 98 families. How many kg of sugar will each family get?

d.   If 9975 kg of rice is packed in 95 sacks, how many kg of rice will each sack contain?

e.   4295 bananas were packed in 5 groups and sent to the zoo for the monkeys. How many bananas are there in each group?

Division of a 5-digit number by a 1-digit number

Example: Divide 34637 by 4

Step 1

Since 3 < 4, 3 cannot be divided by 4. Divide the first two digit with the divisor.
4 × 8 = 32
Write 8 above 4.
Subtract
34 − 32 = 2
2 < 4
Bring down 6.

$$4\overline{)34637}$$
$$\underline{-32}$$
$$026$$

with quotient 8 above

Step 2

Divide 26 by 4.
4 × 6 = 24
Write 6 above 6.
Subtract
26 − 24 = 2
2 < 4
Bring down 3.

$$4\overline{)34637}$$
$$\underline{-32}$$
$$026$$
$$\underline{-24}$$
$$023$$

with quotient 86

Step 3

Divide 23 by 4.
4 × 5 = 20
Write 5 above 3.
Subtract
23 − 20 = 3
3 < 4
Bring down 7.

$$4\overline{)34637}$$
$$\underline{-32}$$
$$026$$
$$\underline{-24}$$
$$023$$
$$\underline{-20}$$
$$37$$

with quotient 865

Step 4

Divide 37 by 4.
4 × 9 = 36.
Write 9 above 7.
Subtract
37 − 36 = 1

$$4\overline{)34637}$$
$$\underline{-32}$$
$$026$$
$$\underline{-24}$$
$$023$$
$$\underline{-20}$$
$$37$$
$$\underline{-36}$$
$$01$$

with quotient 8659

Verification: Dividend = divisor × quotient + remainder
Divisor = 4 , quotient = 8659, remainder = 1,   Dividend = 4 × 8659 + 1 = 34637

CLASSWORK 6

✅ **Check**

Divide 44847 ÷ 9

```
        4983
    9) 44847
      -36
       088
      - 81
        74
      - 72
       0027
      -  27
        00
```

Verification:
Divisor = 9, quotient = 4983, remainder = 0
Dividend = 9 x 4983 + 0 = 44847

Divide 32645 ÷ 4

```
        8161
    4) 32645
      -32
       006
      -  4
        24
      - 24
       005
      -  4
         1
```

Verification:
Divisor = 4, quotient = 8161, remainder = 1
Dividend = 4 x 8161 + 1 = 32645

Divide and verify your answers.

a. 14136 ÷ 6	b. 86913 ÷ 9	c. 39347 ÷ 7	d. 47834 ÷ 2	e. 74738 ÷ 5
f. 63837 ÷ 5	g. 38736 ÷ 6	h. 53723 ÷ 9	i. 37636 ÷ 9	j. 25366 ÷ 4

HOMEWORK 6

Divide and verify your answers.

a. 44992 ÷ 8	b. 31446 ÷ 9	c. 83736 ÷ 7	d. 73628 ÷ 3	e. 68756 ÷ 4
f. 83738 ÷ 4	g. 33888 ÷ 6	h. 93876 ÷ 5	i. 21232 ÷ 8	j. 36453 ÷ 8

Division of a 5-digit number by a 2-digit number

Example: Divide 44368 by 23

Step 1

Divide the first two digits with the divisor.
$23 \times 1 = 23$
Write 1 above 4.
Subtract
$44 - 23 = 21$
$21 < 23$
Bring down 3.

```
        1
  23)  44368
     -  23
        213
```

Step 2

Divide 213 by 23.
$23 \times 9 = 207$
Write 9 above 3.
Subtract
$213 - 207 = 6$
$6 < 23$
Bring down 6.

```
         19
  23)   44368
      -  23
         213
       - 207
            66
```

Step 3

Divide 66 by 23.
$23 \times 2 = 46$
Write 2 above 6.
Subtract
$66 - 46 = 20$
$20 < 23$
Bring down 8.

```
          192
  23)    44368
       -  23
          213
        - 207
             66
           - 46
             208
```

Step 4

Divide 208 by 23.
$23 \times 9 = 207$
Write 9 above 8.
Subtract
$208 - 207 = 1$

```
           1929
  23)     44368
        -  23
           213
         - 207
              66
            - 46
              208
            - 207
                1
```

1 is the remainder.

Verification: Dividend = divisor × quotient + remainder
Divisor = 23 , quotient = 1929, remainder = 1
Dividend = 23 × 1929 + 1 = 44367 + 1 = 44368

CLASSWORK 7

Divide 55235 ÷ 63

```
        845
63) 53235
    - 504
      283
    - 252
      315
    - 315
      000
```

Verification:
Divisor = 63 , quotient
= 845, remainder = 0
Dividend = 63 × 845 + 0
= 53235

Divide 55446 ÷ 13

```
        4265
13) 55446
   - 52
     34
    - 26
      84
    - 78
      66
    - 65
      01
```

Verification:
Divisor = 13, quotient
= 4265, remainder = 1
Dividend = 13 × 4265
+ 1 = 55446

Divide and verify your answers.

a. 35744 ÷ 13	b. 41712 ÷ 12	c. 98765 ÷ 62	d. 49172 ÷ 38	e. 73637 ÷ 34
f. 74846 ÷ 45	g. 36474 ÷ 24	h. 61318 ÷ 46	i. 46432 ÷ 32	j. 53635 ÷ 21

HOMEWORK 7

Divide and verify your answers.

a. 19386 ÷ 23	b. 22829 ÷ 18	c. 83375 ÷ 23	d. 67932 ÷ 54	e. 19226 ÷ 14
f. 91403 ÷ 21	g. 93896 ÷ 22	h. 31389 ÷ 23	i. 82159 ÷ 11	j. 39171 ÷ 21

Word Problems

The largest cruise ship, Symphony of the Seas completed 4 trips. The total number of passengers in the 4 trips was 22,736. There were equal number of passengers in each trip. What was the number of passengers in each trip?
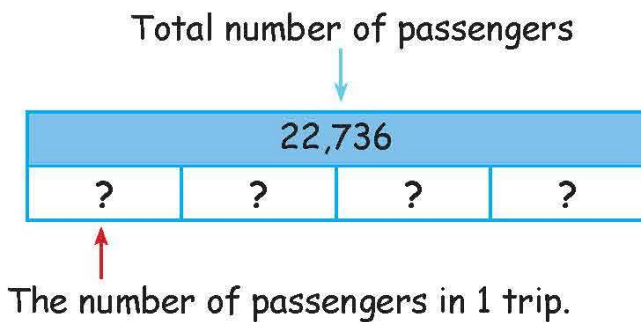
Problem Solving Strategy

1. Given

Number of trips = 4

Total number of passengers = 22,736

2. To find

The number of passengers in 1 trip.

3. How?

Total number of passengers

22,736			
?	?	?	?

The number of passengers in 1 trip.

4. Solve

Number of passengers in 1 trip = 5684

Verification

Number of trips = 4

Total number of passengers = 5684 × 4 = 22736

```
          5684
     4) 22736
        - 20
          027
         - 24
          033
         - 32
           16
         - 16
           00
```
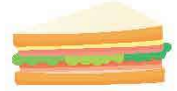
The number of passengers in each trip was 5684.

CLASSWORK 8

Solve the following:

a.   A shop sold 12762 sandwiches in 2 days. How many sandwiches did the shop sell in a day, if they sold equal number of sandwiches on both the days?

b.   A train transported 82635 kg of coal in 5 trips. How many kg of coal did it transport in 1 trip?

c.   A shopkeeper wants to restock notebooks. He has a budget of ₹ 34,775 for notebooks. If each notebook costs ₹ 65, how many notebooks can he buy?

d.   A factory packs 76 cans of processed food in a carton. There are 43168 cans of processed food. How many cartons are required to pack them all?

e.   John sold his two old scooters for ₹ 56900. How much did he get for each scooter if he sold the two for the same price?

HOMEWORK 8

a.   An ice cream factory makes 53568 chocobars in 64 hours. How many chocobars does it make in 1 hour?

b.   Shekhar bought carpet for ₹ 23424. If 1 square metre of carpet cost ₹ 48, how much carpet did he buy?

c.   Rakshitha drove a total of 12,576 m for 3 days. Find the distance she drove on each day, if she drove the same distance each day.

d.   A truck transported total 13,744 logs of wood in 16 days. How many logs of wood did it transport in 1 day?

e.   A bus travelled 83622 m in two trips. How much distance does the bus cover in each trip?

GAME TIME!

MATERIALS REQUIRED:

Papers

Markers

PRE REQUISITE:

Make two sets of number cards as given.

Set 1	Set 2
62844	2
21954	6
57613	17
93815	5
19376	12

HOW TO PLAY:

- Shuffle the number cards in each set.
- Draw one card each from the two sets.
- Divide the numbers. If the numbers divide evenly, the player gets a point.
- The player gets 4 chances of drawing the cards.
- The player who gets the maximum score wins.

Division Special Case

During division, sometimes after bringing down a number, you will get a number which is less than the divisor.

Let's see how to solve such questions.

Example: Divide 4248 by 6

Step 1

Divide the first two numbers with 6.

$6 \times 7 = 42$

Subtract $42 - 42 = 0$

$0 < 6$

Bring down 4.

```
      7
6) 4248
   - 42
     004
```

Step 2

Since $4 < 6$, it cannot be divided by 6.

So, put a 0 above 4.

Bring down the next number, which is 8.

```
      70
6) 4248
   - 42
     0048
```

Step 3

Divide 48 by 6.

$6 \times 8 = 48$

Subtract $48 - 48 = 0$

```
      708
6) 4248
   - 42
     0048
   -   48
        00
```

Division of numbers ending with zeros.

This can also done by dividing the first two digits and putting the remaining zeroes in the quotient. Divide 16 by 4.

```
      400
4) 1600
   - 16
     00
   -  0
      00
   -   0
       0
```

✅ **Check**

Divide 7256 ÷ 8

$$
\begin{array}{r}
907 \\
8)\overline{7256} \\
-72 \\
\overline{0056} \\
-56 \\
\overline{00}
\end{array}
$$

Verification:
Divisor = 8 , quotient = 907, remainder = 0
Dividend = 8 × 907 + 0 = 7256

Divide 7200 ÷ 9

$$
\begin{array}{r}
800 \\
9)\overline{7200} \\
-72 \\
\overline{00} \\
-0 \\
\overline{00} \\
-0 \\
\overline{0}
\end{array}
$$

Verification:
Divisor = 9, quotient = 800, remainder = 0
Dividend = 9 × 800 = 7200

Divide and verify your answers.

a. 8115 ÷ 3	b. 9163 ÷ 7	c. 6378 ÷ 6	d. 5225 ÷ 5	e. 4218 ÷ 3
f. 8148 ÷ 4	g. 9149 ÷ 7	h. 2156 ÷ 7	i. 2464 ÷ 8	j. 4518 ÷ 9
k. 3600 ÷ 6	l. 4200 ÷ 7	m. 7200 ÷ 9	n. 25000 ÷ 5	o. 35000 ÷ 5

Divide and verify your answers.

a. 4554 ÷ 9	b. 5472 ÷ 9	c. 4535 ÷ 5	d. 8172 ÷ 9	e. 2124 ÷ 3
f. 3521 ÷ 7	g. 4229 ÷ 7	h. 5648 ÷ 8	i. 3248 ÷ 8	j. 4256 ÷ 7
k. 12000 ÷ 6	l. 32000 ÷ 8	m. 4900 ÷ 7	n. 45000 ÷ 9	o. 56000 ÷ 8

Division by 10

When any number is divided by 10, the digit in the ones place will be the remainder and the other digits together will be the quotient.

Example: Divide 6487 by 10

```
        648
10) 6487
    - 60
      048
    -  40
        87
      - 80
        07
```

Quotient = 648
Remainder = 7

Division by 100

When any number is divided by 100, the digits in the tens and ones place will be the remainder and the other digits together will be the quotient.

Example: Divide 31516 by 100

```
         315
100) 31516
     - 300
       0151
     -  100
        516
      - 500
         16
```

Quotient = 315
Remainder = 16

Division by 1000

When any number is divided by 1000, the digits in the tens and ones place will be the remainder and the other digits together will be the quotient.

Example: Divide 17359 by 1000

```
          17
1000) 17359
      - 1000
        07359
      - 7000
         359
```

Quotient = 17
Remainder = 359

CLASSWORK 10

✓ **Check**

8372 ÷ 10	8372 ÷ 100
Remainder = digit in the ones place = 2	Remainder = tens place and ones place digit together = 72
Quotient = 837	Quotient = 83

Find the remainder and quotient without using long division:

a. 7363 ÷ 10	b. 8376 ÷ 100	c. 6464 ÷ 1000	d. 37463 ÷ 10	e. 82362 ÷ 1000
f. 73862 ÷ 100	g. 18435 ÷ 10	h. 91545 ÷ 100	i. 73238 ÷ 1000	j. 72837 ÷ 10

HOMEWORK 10

Find the remainder and quotient without using long division:

a. 2528 ÷ 10	b. 7283 ÷ 100	c. 25873 ÷ 1000	d. 93571 ÷ 100	e. 33621 ÷ 1000
f. 83746 ÷ 100	g. 63746 ÷ 1000	h. 73631 ÷ 10	i. 6825 ÷ 100	j. 43745 ÷ 100

Nirmal was part of an NGO. Let's read about the activities done by Nirmal.

Nirmal collected a total of ₹ 19250 from 35 people for feeding stray dogs. Considering everyone gave the same amount of money, how much money did each person give?

The food for one dog costs ₹ 10. How many dogs can be fed from the amount received?

An NGO organised a flood relief drive. Nirmal volunteered for the flood relief. There were 62524 bottles. The bottles needed to be sent to 6 camps. How many bottles would be sent to each camp?

An NGO started raising funds for girls' education. Nirmal paid a sum of ₹ 5500 to the NGO.
The money Nirmal paid was used for the education of 2 girls. How much money did each girl get?

Mental Math

1. Write the quotient and remainder.

a. 3746 ÷ 10 Q = _____ R = _____	b. 8373 ÷ 100 Q = _____ R = _____	c. 47473 ÷ 10 Q = _____ R = _____	d. 3837 ÷ 100 Q = _____ R = _____	e. 63725 ÷ 1000 Q = _____ R = _____
f. 87826 ÷ 100 Q = _____ R = _____	g. 53973 ÷ 1000 Q = _____ R = _____	h. 36375 ÷ 10 Q = _____ R = _____	i. 4982 ÷ 1000 Q = _____ R = _____	j. 7362 ÷ 100 Q = _____ R = _____

2. Divide:

a. 3831 ÷ 1 = _____	b. 7856 ÷ 7856 = _____
c. 0 ÷ 17831 = _____	d. 67488 ÷ 1 = _____
e. 6998 ÷ 6998 = _____	f. 0 ÷ 59879 = _____

Summary

- The number which is divided is called the dividend.

- The number which divides the dividend is called the divisor.

- The number obtained when a dividend gets divided by a divisor is called a quotient.

- The number which cannot be divided further is called a remainder.

- Dividend = divisor × quotient + remainder

- When a number is divided by itself, the quotient is 1.

- When a number is divided by 1, the quotient is the number itself.

- When 0 is divided by any number, the quotient is 0.

Revision

1. Use the properties of division to solve the following.

a. 0 ÷ 834	b. 383 ÷ 383	c. 274 ÷ 1	d. 736 ÷ 736	e. 0 ÷ 837

2. Divide the following.

a. 8478 ÷ 2	b. 3585 ÷ 5	c. 4857 ÷ 8	d. 82764 ÷ 6	e. 38184 ÷ 4

3. Divide the following.

a. 3615 ÷ 81	b. 6675 ÷ 25	c. 6552÷ 77	d. 93350 ÷ 25	e. 11748 ÷ 66

4. Divide the following.

a. 3935 ÷ 787	b. 6373 ÷ 273	c. 2994 ÷ 998	d. 1758 ÷ 879	e. 7353 ÷ 354

5. Without using long division find the remainder and quotient for the following:

a. 6372 ÷ 10	b. 7362 ÷ 100	c. 73372 ÷ 1000	d.73635 ÷ 100	e. 18263 ÷ 100

6.   A table-maker wants to transport 1365 tables to his shop. If one truck can carry 21 tables, how many trucks will be required to transport all the tables?

7. A school enrolled 2565 students. To divide the students into 45 groups and make them sit in classrooms, how many classrooms are required?

1. The dividend when divisor is 15, quotient is 123 and remainder is 1, is:

    a. 1380   b. 138   c.1845   d. 1846

2. The quotient when 4560 is divided by 10 is:

    a. 45   b. 456   c. 4   d. 0

3. The remainder when 62715 is divided by 100 is:

    a. 627   b. 715   c. 15   d. 6271

4. 1512 apples are plucked and sent in 14 trucks. How many apples are there in each truck?

    a. 18   b. 180   c. 108   d. 1

5. Zero is divided into 672 groups. Which of the following is the correct answer?

    a. 1   b. 0   c. 672   d. 10

6. How many pens will be left if 1738 pens are packed in 7 boxes?

    a. 248   b. 3   c. 2   d. 20

7. How many notebooks of 100 sheets can be made using 67800 sheets?

    a. 100   b. 67   c. 678   d. 6780

8. One newspaper delivery boy can deliver 65 newspapers. How many delivery boys are required to deliver 51285 newspapers?

    a. 788   b. 789   c. 65   d. 51285

9. If the cost of 52 Maths textbooks is ₹ 9360, the cost of 1 text book is:

    a. 90   b. 180   c. 170   d. 120

10. A field consists of tulips The plants are grown equally in 17 rows. If there are a total of 1666 plants, the number of plants in each row is equal to:

    a. 98   b. 90   c. 17   d. 89