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10x Times Tables Unit - Year 3

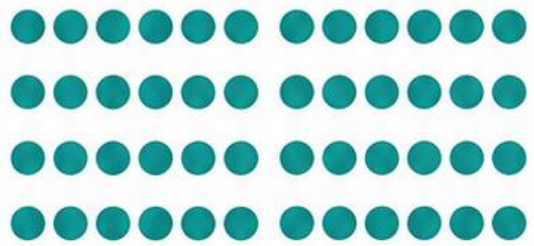
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10s Facts at a Glance

0	$0 \times 10 = 0$
1	$1 \times 10 = 10$
2	$2 \times 10 = 20$
3	$3 \times 10 = 30$
4	$4 \times 10 = 40$
5	$5 \times 10 = 50$
6	$6 \times 10 = 60$
7	$7 \times 10 = 70$
8	$8 \times 10 = 80$
9	$9 \times 10 = 90$
10	$10 \times 10 = 100$
11	$11 \times 10 = 110$
12	$12 \times 10 = 120$

Equal groups of 10



Skip-count by 10

0, 10, 20, 30,
40, 50, 60,
70, 80, 90,
100, 110, 120

Digits shift one place left

2 4



2 4 0

$$24 \times 10 = 240$$

2 tens
becomes
2 hundreds

4 ones
becomes
4 tens

Hundreds	Tens	Ones
2	4	0

A zero holds the empty ones place.



Race to 120



START



RULES

- 2-4 players.
- You need one die and a counter each.
- Roll and move.
- Solve your space aloud.
- Correct: stay.
- Not yet: move back one.
- First to FINISH wins!

TEACHER CHECK - ANSWERS

1. $3 \times 10 = 30$	2. $70 \div 10 = 7$	3. $10 + 10 + 10 + 10 = 40$	4. 5 groups of 10 = 50	5. $\square \times 10 = 90$ $\square = 9$	6. $12 \times 10 = 120$	7. $100 \div 10 = 10$	8. 8 groups of 10 = 80
9. $6 \times 10 = 60$	10. $40 \div 10 = 4$	11. Move ahead 1	12. $10 + 10 + 10 + 10 = 40$	13. 5 groups of 10 = 50	14. Go back 1	15. $90 \div 10 = 9$	16. $7 \times 10 = 70$
17. Move ahead 1	18. 3 groups of 10 = 30	19. $20 \times 10 = 200$	20. Go back 1	21. $60 \div 10 = 6$	22. 9 groups of 10 = 90	23. $4 \times 10 = 40$	24. Move ahead 1

10x Match-Up

Cut apart, shuffle, then match each equation, repeated addition and product.

$$3 \times 10$$

$$10 + 10 + 10$$

$$80$$

$$5 \times 10$$

$$50$$

$$10 + 10 + 10 + 10 + 10$$

$$120$$

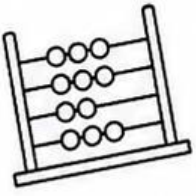
$$8 \times 10$$

$$10 + 10 + 10 + 10$$
$$+ 10 + 10 + 10 + 10$$

$$30$$

$$12 \times 10$$

$$10 + 10 + 10 + 10$$
$$+ 10 + 10 + 10 + 10$$
$$+ 10 + 10 + 10 + 10$$



Count in Tens



Name: _____



A. Complete the sequence.

0, 10, __, 30, __, 50, __, 70, __, 90, __, 110, __

B. Solve.

$$2 \times 10 = \underline{\quad}$$

$$6 \times 10 = \underline{\quad}$$

$$9 \times 10 = \underline{\quad}$$

$$11 \times 10 = \underline{\quad}$$

C. Find the missing number.

$$\underline{\quad} \times 10 = 40$$

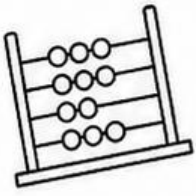
$$\underline{\quad} \times 10 = 100$$

$$70 \div 10 = \underline{\quad}$$

D. Explain the pattern.

What pattern do you notice in multiples of 10?





Count in Tens



Name: ANSWERS



A. Complete the sequence.

0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120

B. Solve.

$$2 \times 10 = \underline{20}$$

$$6 \times 10 = \underline{60}$$

$$9 \times 10 = \underline{90}$$

$$11 \times 10 = \underline{110}$$

C. Find the missing number.

$$\underline{4} \times 10 = 40$$

$$\underline{10} \times 10 = 100$$

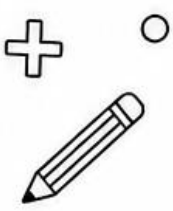
$$70 \div 10 = \underline{7}$$

D. Explain the pattern.

What pattern do you notice in multiples of 10?

The numbers increase by 10 and end in zero.



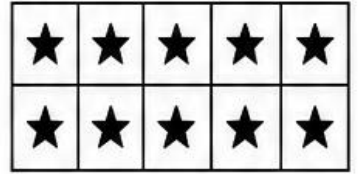
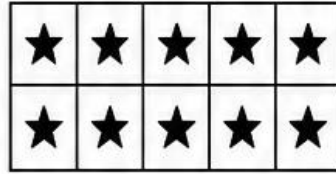
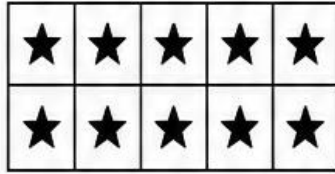
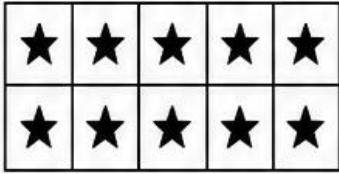


Equal Groups and Arrays



Name: _____

1. Write the repeated addition, multiplication fact and total.

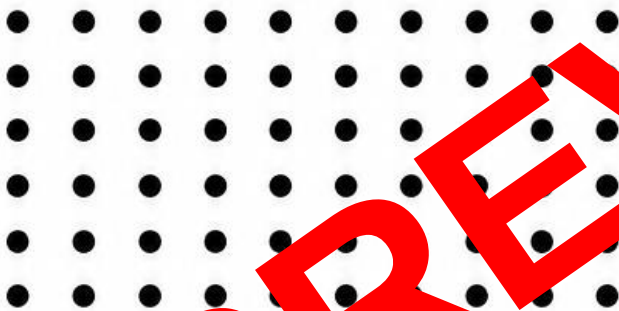


Repeated addition: _____

Multiplication: _____

Total: _____

2. Look at the array. Fill in the blanks.

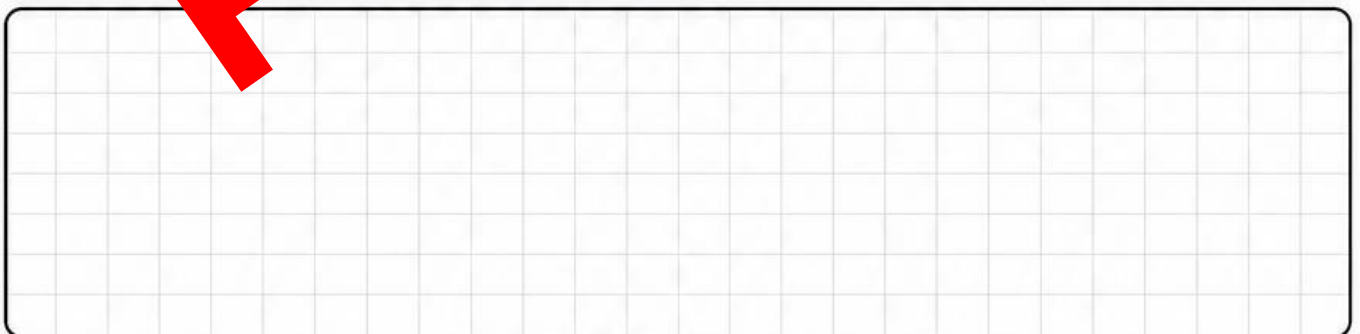


_____ rows

_____ in each row

_____ altogether

3. Draw an array for 3×10 , then solve it.



$$3 \times 10 = \underline{\quad}$$

4. Circle the TWO expressions that equal 80.

$$8 \times 10$$

$$10 + 8$$

$$10 + 10 + 10 + 10 + 10 + 10 + 10 + 10$$

$$80 \div 10$$



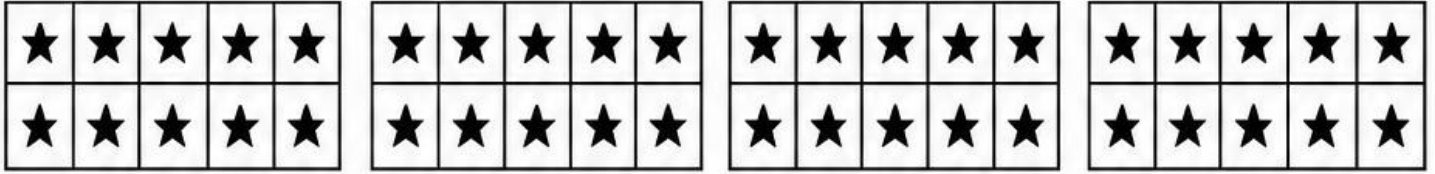


Equal Groups and Arrays



Name: ANSWERS

1. Write the repeated addition, multiplication fact and total.

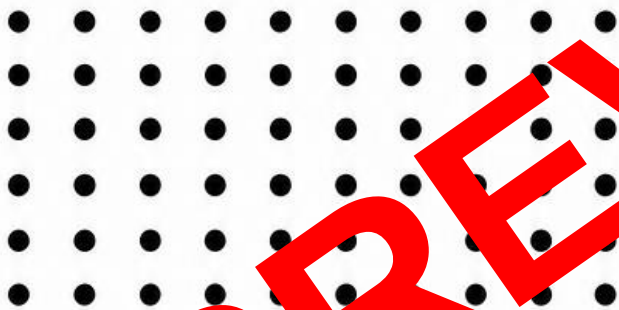


Repeated addition: $10 + 10 + 10 + 10 = 40$

Multiplication: $4 \times 10 = 40$

Total: 40

2. Look at the array. Fill in the blanks.

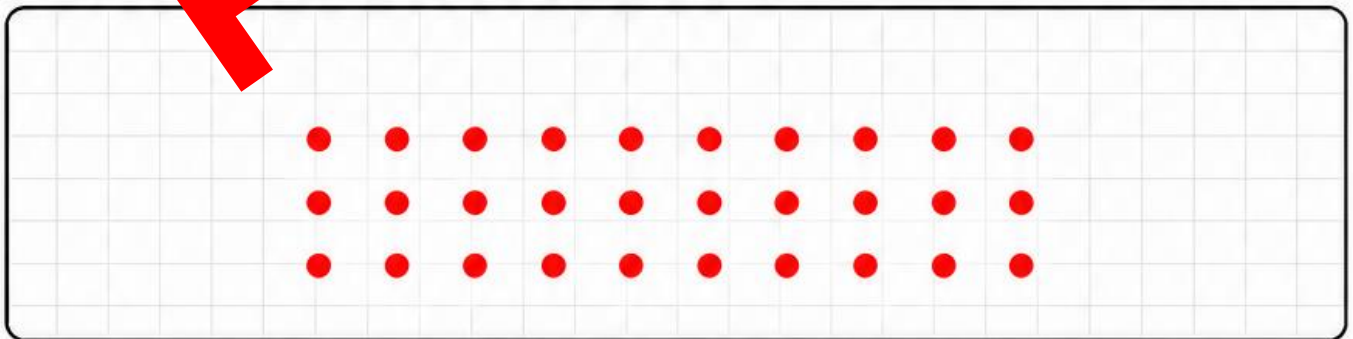


6 rows

10 in each row

60 altogether

3. Draw an array for 3×10 , then solve it.



$$3 \times 10 = \underline{30}$$

4. Circle the TWO expressions that equal 80.

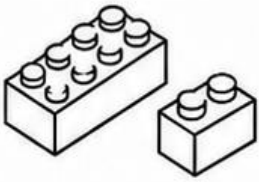
8×10

$10 + 8$

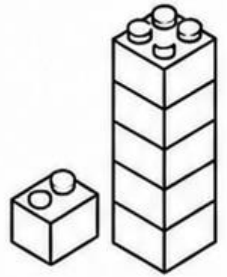
$10 + 10 + 10 + 10 + 10 + 10 + 10 + 10$

$80 \div 10$





Build the 10s Facts



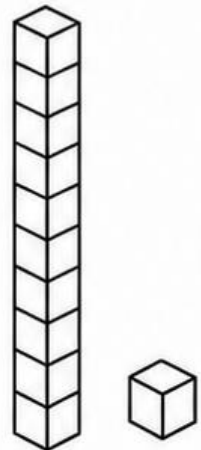
Name: _____

A. Complete the fact table.

Groups of 10	Repeated addition	Multiplication	Product
2			
	$10 + 10 + 10 + 10$		
		$\times 10$	
			120

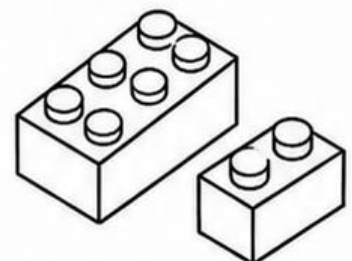
B. Solve the facts.

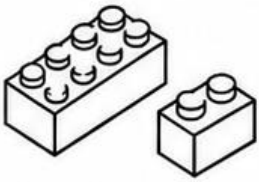
- $1 \times 10 =$ _____
- $3 \times 10 =$ _____
- $5 \times 10 =$ _____
- $10 \times 10 =$ _____
- $12 \times 10 =$ _____



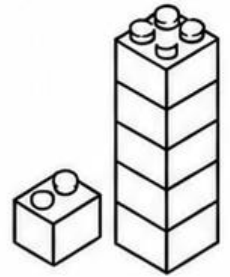
C. Use related division facts.

- $30 \div 10 =$ _____
- $90 \div 10 =$ _____
- $120 \div 10 =$ _____





Build the 10s Facts



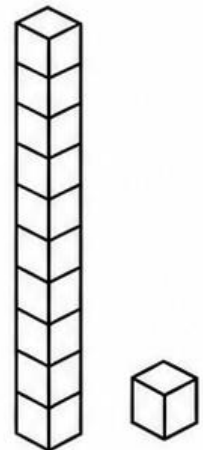
Name: ANSWERS

A. Complete the fact table.

Groups of 10	Repeated addition	Multiplication	Product
2	$10 + 10$	2×10	20
4	$10 + 10 + 10 + 10$	4×10	40
7	$10 + 10 + 10 + 10 + 10 + 10 + 10$	7×10	70
12	$10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10$	12×10	120

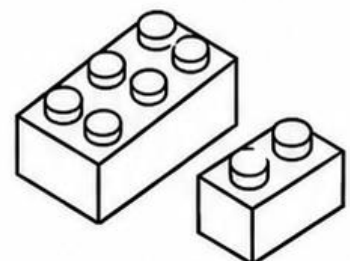
B. Solve the facts.

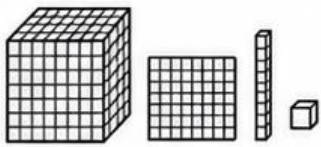
- $1 \times 10 = \underline{10}$
- $3 \times 10 = \underline{30}$
- $5 \times 10 = \underline{50}$
- $10 \times 10 = \underline{100}$
- $12 \times 10 = \underline{120}$



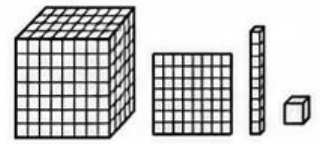
C. Use related division facts.

- $30 \div 10 = \underline{3}$
- $90 \div 10 = \underline{9}$
- $120 \div 10 = \underline{12}$





Place Value Power



Name: _____

When a whole number is multiplied by 10, each digit becomes worth ten times as much and shifts one place left.

A. Show the shift.

1. 6×10

	Thousands	Hundreds	Tens	Ones
Start				6
Draw left-shift arrows here				
Result				

$6 \times 10 =$ _____

2. 24×10

	Thousands	Hundreds	Tens	Ones
Start			2	4
Draw left-shift arrows here				
Result				

$24 \times 10 =$ _____

3. 105×10

	Thousands	Hundreds	Tens	Ones
Start		1	0	5
Draw left-shift arrows here				
Result				

$105 \times 10 =$ _____

B. Solve.

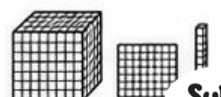
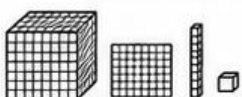
1. $13 \times 10 =$ _____

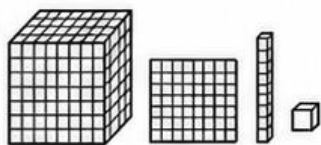
2. $40 \times 10 =$ _____

3. $72 \times 10 =$ _____

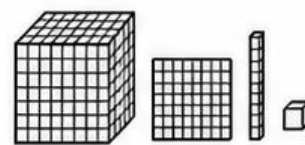
C. Explain.

Why is a zero needed in $24 \times 10 = 240$?





Place Value Power



Name: **ANSWERS**

When a whole number is multiplied by 10, each digit becomes worth ten times as much and shifts one place left.

A. Show the shift.

1. 6×10

	Thousands	Hundreds	Tens	Ones
Start				6
Draw left-shift arrows here				
Result			6	0

$6 \times 10 = \underline{60}$

2. 24×10

	Thousands	Hundreds	Tens	Ones
Start			2	4
Draw left-shift arrows here				
Result		2	4	0

$24 \times 10 = \underline{240}$

3. 105×10

	Thousands	Hundreds	Tens	Ones
Start		1	0	5
Draw left-shift arrows here				
Result	1	0	5	0

$105 \times 10 = \underline{1050}$

B. Solve.

1. $13 \times 10 = \underline{130}$

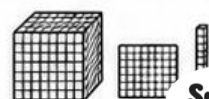
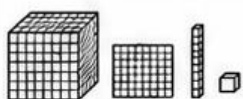
2. $40 \times 10 = \underline{400}$

3. $72 \times 10 = \underline{720}$

C. Explain.

Why is a zero needed in $24 \times 10 = 240$?

The zero holds the empty ones place after the digits shift left.





10x Problem Solvers



Name: _____

Write an equation and solve each problem.

1. There are 6 packs with 10 stickers in each pack. How many stickers are there?



Equation:

Answer:

2. A class plants 9 trays with 10 seedlings in each tray. How many seedlings are there?



Equation:

Answer:

3. Twelve teams collect 10 cans each. How many cans do they collect altogether?



Equation:

Answer:

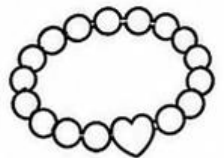
4. Eighty coins are shared into groups of 10. How many groups are made?



Equation:

Answer:

5. Each bracelet needs 10 beads. Ava has 70 beads.
How many bracelets can she make?



Equation:

Answer:

Write a different story problem for $11 \times 10 = 110$.



10x Problem Solvers



Name: ANSWERS

Write an equation and solve each problem.

1. There are 6 packs with 10 stickers in each pack. How many stickers are there?



Equation: $6 \times 10 = 60$

Answer: 60 stickers

2. A class plants 9 trays with 10 seedlings in each tray. How many seedlings are there?



Equation: $9 \times 10 = 90$

Answer: 90 seedlings

3. Twelve teams collect 10 cans each. How many cans do they collect altogether?



Equation: $12 \times 10 = 120$

Answer: 120 cans

4. Eighty coins are shared into groups of 10. How many groups are made?



Equation: $80 \div 10 = 8$

Answer: 8 groups

5. Each bracelet needs 10 beads. Ava has 70 beads.
How many bracelets can she make?



Equation: $70 \div 10 = 7$

Answer: 7 bracelets

Write a different story problem for $11 \times 10 = 110$.

A coach gives 10 drink bottles to each of 11 teams.

How many bottles are given out? 110 bottles.



Ten-Ticket Fair

10x Times Tables Assessment



At the fair, tickets come in strips of 10.

Name: _____

Date: _____

1. Draw and label 4 strips of 10 tickets. How many tickets altogether?

Equation: _____

2. Complete $7 \times 10 = \underline{\quad}$ and write it as repeated addition.

$7 \times 10 = \underline{\quad}$

3. $\underline{\quad} \times 10 = 90$

4. $120 \div 10 = \underline{\quad}$

What does your answer tell you about the fair?

5. Mia buys 6 strips. Noah buys 3 strips. How many tickets does each child have?
What is the difference?

Mia:

Noah:

Difference:

6. **Extension:** The class needs 150 tickets. How many strips of 10 are needed?
Explain how you know.



Ten-Ticket Fair

10x Times Tables Assessment



At the fair, tickets come in strips of 10.

Name: ANSWERS

Date: _____

1. Draw and label 4 strips of 10 tickets. How many tickets altogether?

10 tickets

10 tickets

10 tickets

10 tickets

4 groups of 10 = 40 tickets

Equation: $4 \times 10 = 40$

2. Complete $7 \times 10 =$ _____ and write it as repeated addition.

$7 \times 10 =$ 70

$10 + 10 + 10 + 10 + 10 + 10 + 10 = 70$

3. 9 $\times 10 = 90$

4. $120 \div 10 =$ 12

What does your answer mean at the fair?

It means 12 strips of 10 make 120 tickets.

5. Mia buys 6 strips. Noah buys 3 strips. How many tickets does each child have?
What is the difference?

Mia: 60 tickets

Noah: 30 tickets

Difference: 30 tickets

$$6 \times 10 = 60$$

$$3 \times 10 = 30$$

$$60 - 30 = 30$$

6. **Extension:** The class needs 150 tickets. How many strips of 10 are needed?
Explain how you know.

15 strips are needed because $15 \times 10 = 150$.

Each strip has 10 tickets.



10x Times Tables Unit - Year 3 Rubric



Student: _____ Date: _____

CRITERIA	BEGINNING	DEVELOPING	ACHIEVING	CONFIDENT	EXCEEDING
1 Equal groups and arrays	Needs help to show groups of 10.	Shows some groups or arrays with support.	Accurately shows equal groups and arrays of 10.	Uses more than one representation accurately.	Connects representations and explains equivalence.
2 10-times facts	Recalls few facts and needs support.	Recalls familiar facts with some errors.	Accurately calculates 10-times facts.	Recalls facts fluently, including beyond 10 groups.	Uses facts flexibly to solve unfamiliar examples.
3 Place-value reasoning	Needs help to describe digit value.	Notifies a shift but explanation is incomplete.	Explains that digits shift one place left.	Explains the zero placeholder accurately.	Justifies the pattern using place value.
4 Related division and missing facts	Needs help to connect multiplication and division.	Solves some related facts with support.	Solves related division and missing facts.	Uses fact families accurately and efficiently.	Creates and explains related fact families.
5 Word problems and communication	Needs help to choose an operation.	Solves simple problems with prompts.	Solves 10-times problems and shows working.	Explains a clear, efficient strategy.	Solves multi-step problems and justifies reasoning.

Teacher comment: _____

10x Times Tables

PREVIEW



Learning Intention

We are learning to use equal groups, skip counting and place value to solve $10\times$ facts and related problems.

PREVIEW



Success Criteria

I can ...

- explain a $10\times$ fact as equal groups
- use the counting-by-tens pattern to recall products
- solve a problem and explain my reasoning



Equal Groups of Ten

4×10 means 4 equal groups of 10.

$$10 + 10 + 10 + 10 = 40$$

$$4 \times 10 = 40$$



See It as an Array

An array for 6×10 has 6 rows of 10

6 groups $\times$ 10 in each group = 60

Total array $\times 10 = 60$.



Skip Count in Tens

Count forward in tens:

0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120

Eight jumps of 10 end on 80. $8 \times 10 = 80$.



Build the Facts

$$2 \times 10 = 20$$

$$5 \times 10 = 50$$

$$7 \times 10 = 70$$

$$12 \times 10 = 120$$

What stays the same? What changes as the first factor increases?



Turn and Talk

Use 9×10 .

- Show equal groups.
- Write repeated addition.
- Explain the pattern in the product.

Compare your strategy with a partner.



A Powerful Pattern

Every whole-number multiple of 10 ends in 0.

The tens tell how many groups of 10.

$$2 \times 10 = 20 \quad 11 \times 10 = 110$$



Place Value Power

Multiplying by 10 makes ten times as many.

6 ones become 6 tens. $6 \times 10 = 60$.

12 ones become 12 tens. $12 \times 10 = 120$.



Turn the Fact Around

Ten groups of eight and eight groups of ten have the same total.

$$10 \times 8 = 8 \times 10 = 80$$

This is the commutative property.



Related Division Facts

Multiplication and division undo each other.

$$7 \times 10 = 70$$

$$70 \div 10 = 7$$

$$70 \div 7 = 10$$



Solve a Story Problem

Ten pencils fit in each box. There are 6 boxes.

Number sentence: $6 \times 10 = 60$

Answer: There are 60 pencils altogether.



Reason and Prove

Mia says 9×10 is 90 because 9 groups of ten are 9 tens.

Is Mia correct?

Show another representation that proves your answer.



Spot the Error

Ari wrote $4 \times 10 = 14$.

What might Ari have confused?

Correct the error and explain it with groups, an array or place value.



Independent Practice

1. $3 \times 10 = \underline{\hspace{2cm}}$

2. $10 \times 11 = \underline{\hspace{2cm}}$

3. $\underline{\hspace{2cm}} \times 10 = 80$

4. $120 \div 10 = \underline{\hspace{2cm}}$

5. Explain why 6×1 is not 16.



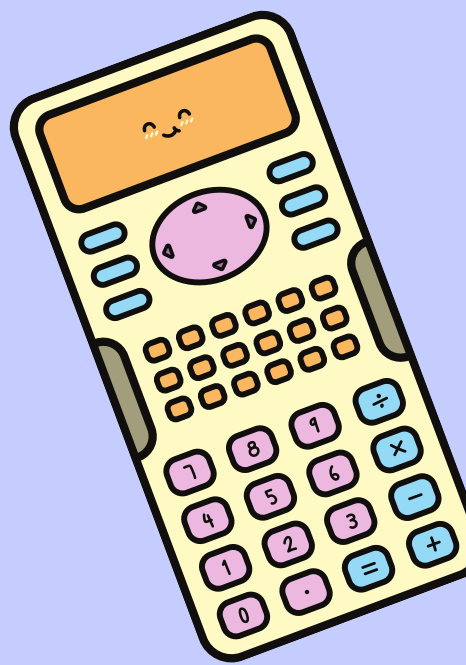
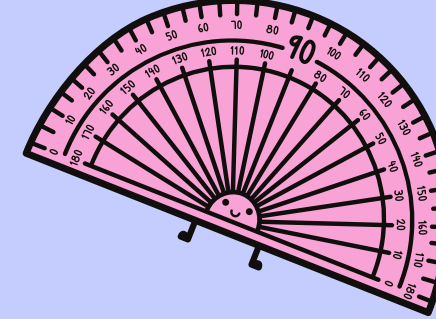
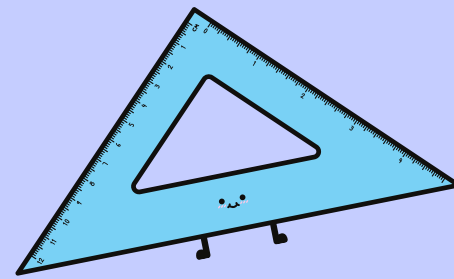
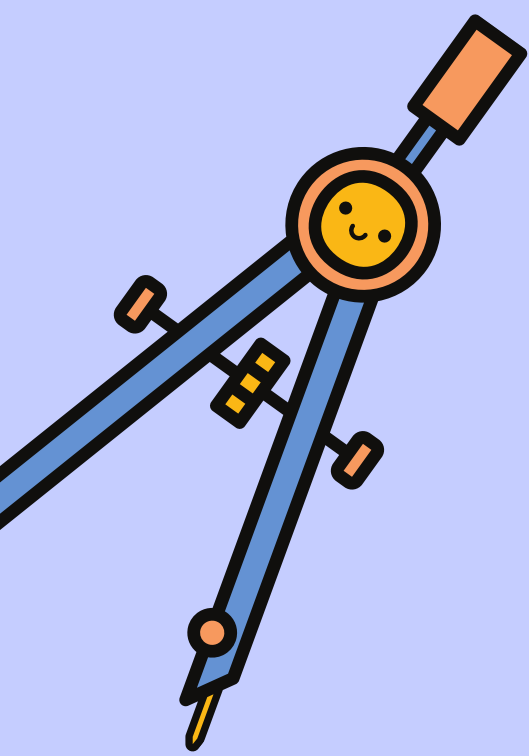
Exit Reflection

Complete the sentence:

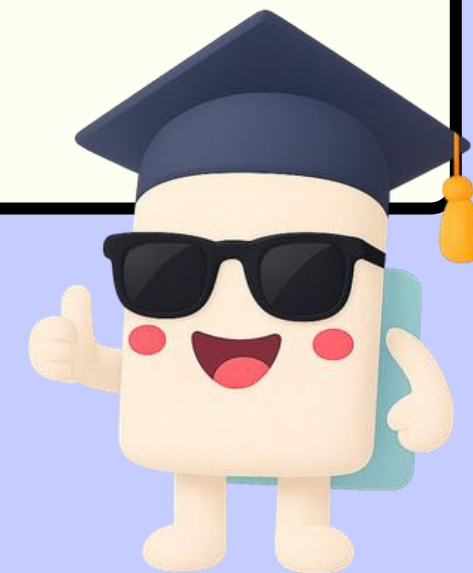
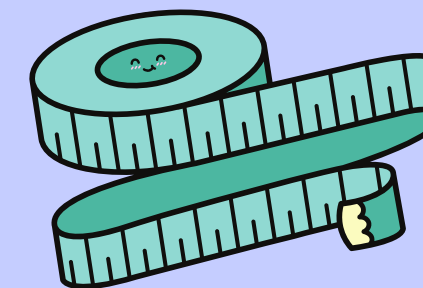
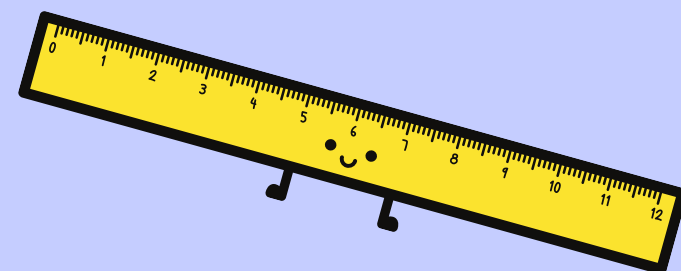
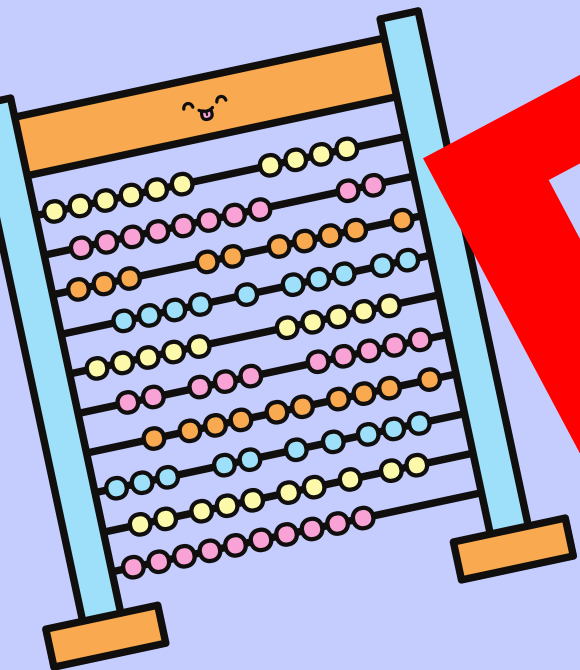
“I know a number is a multiple of 10 when _____”

Then solve 2×10 and explain your strategy.





Well Done!



10x Times Tables Quiz

PREVIEW



Question 1

What is 7×10 ?

A. 17 B. 70 C. 70 D. 7



Answer 1

B. 70

Seven groups of ten is 70

PREVIEW



Question 2

Which repeated addition matches 4×10 ?

A. $4 + 10$

B. $10 + 10 + 10 + 10$

C. $4 + 4 + 4 + 4$

D. $10 + 10 + 10 + 10$



Answer 2

B. $10 + 10 + 10 + 10$

Four equal groups of ten total 40.



Question 3

An array has 6 rows with 10 counters in each row.

How many counters are there altogether?



Answer 3

60 counters

$$6 \times 10 = 60$$

PREVIEW



Question 4

Complete the equation.

$$\underline{\hspace{1cm}} \times 10 = 90$$



Answer 4

9

$$9 \times 10 = 90$$

PREVIEW



Question 5

Which division fact belongs to $8 \times 10 = 80$?

A. $80 \div 10 = 8$

B. $80 \div 8 = 10$

C. $10 \div 8 = 8$

D. $10 \div 80 = 10$



Answer 5

A. $80 \div 10 = 8$

Multiplication and division are inverse operations.



Question 6

True or false?

$$10 \times 12 = 120$$

Explain how you know.



Answer 6

True.

Twelve groups of ten are 12 tens, which is 120.



Question 7

Each packet holds 10 stickers. Mia buys 4 packets, then receives 3 extra stickers.

How many stickers does she have altogether?



Answer 7

53 stickers

$$5 \times 10 = 50$$

$$50 + 3 = 53$$



Question 8

Which statement is always true about a whole number multiple of 10?

- A. It ends in 0.
- B. It is less than 10.
- C. It is odd.
- D. Its digits are the same.



Answer 8

A. It ends in 0.

Whole-number multiples of 10 have 0 in the ones place.



Question 9

Sam says $3 \times 10 = 13$.

What error did Sam make? Write the correct fact.



Answer 9

Sam added 3 and 10 instead of multiplying.

$$3 \times 10 = 30$$



Question 10

Write one multiplication fact and one related division fact for 12 groups of 10.

PREVIEW



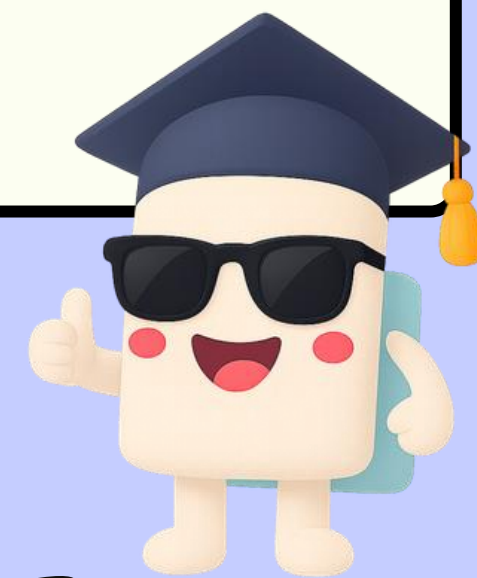
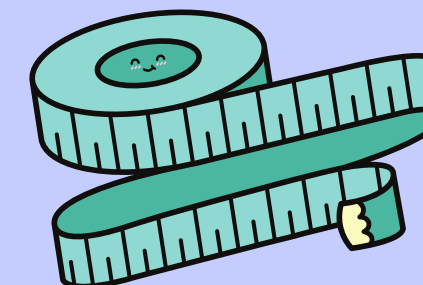
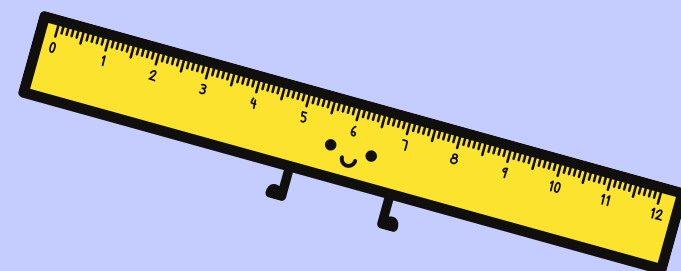
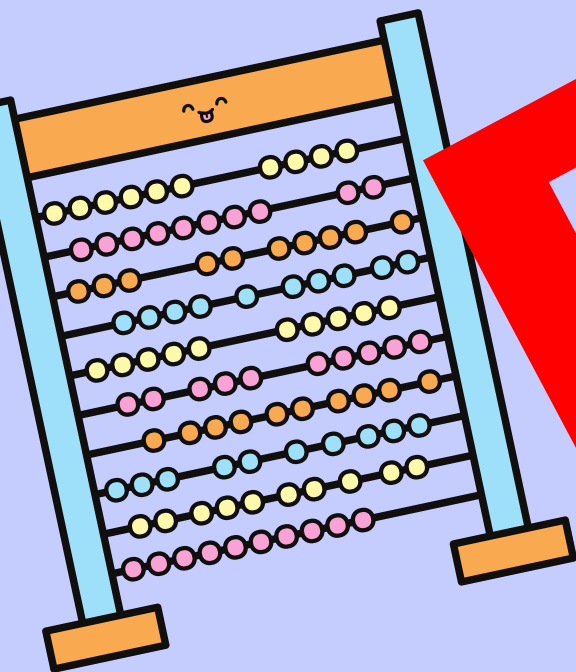
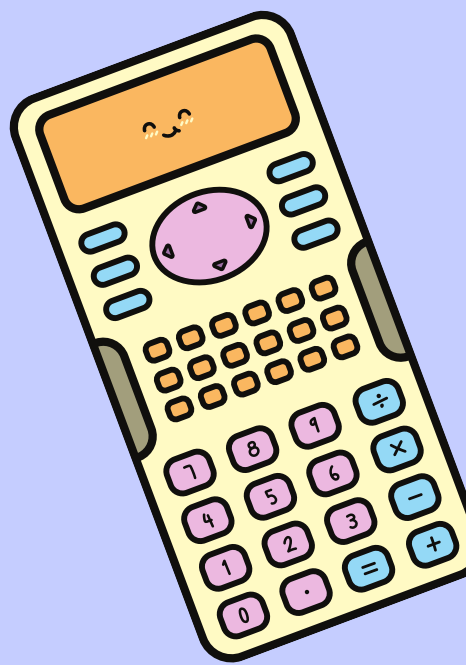
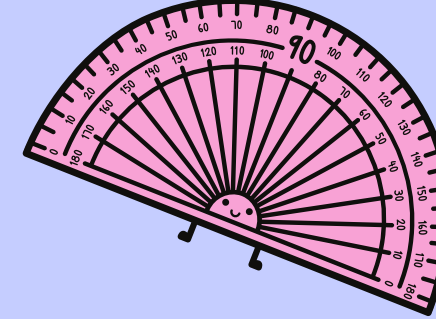
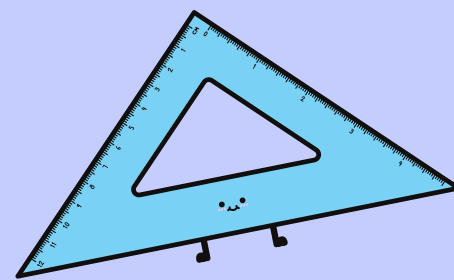
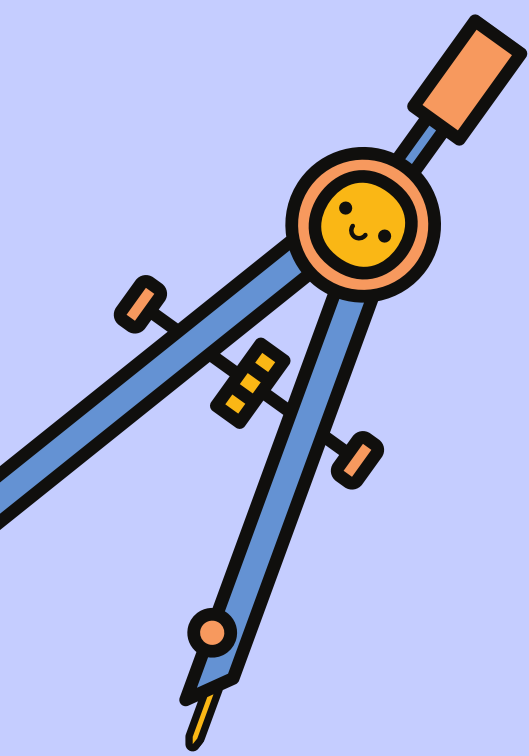
Answer 10

$$12 \times 10 = 120$$

$$120 \div 10 = 12$$

Another related fact is $120 \div 12 = 10$.





Quiz Complete!

PREVIEW