

At-Home Investigation

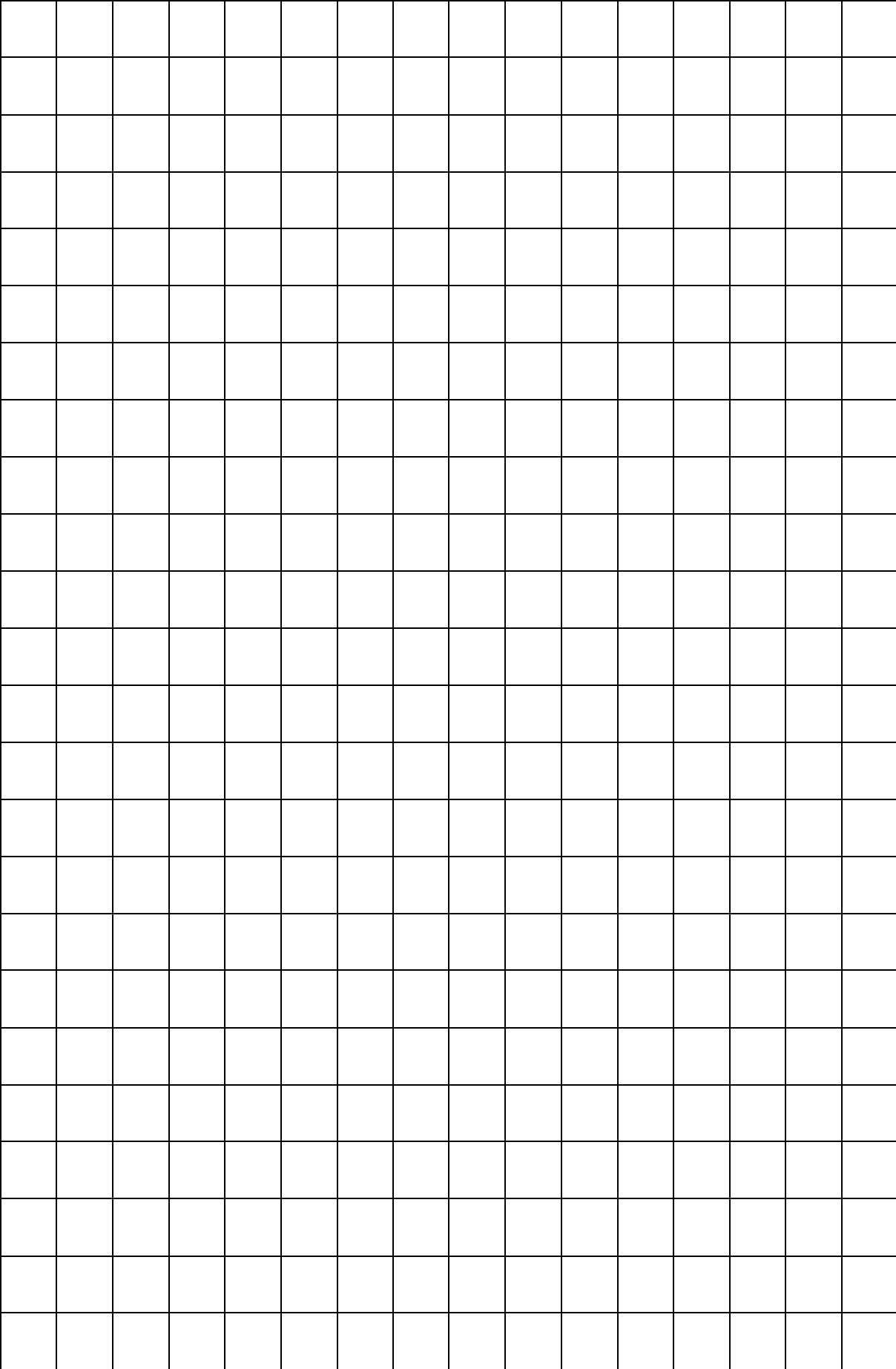
Sharing out money.

You have \$24 to share between people in as many ways as you can. How could it be done?

Make sure that you show how many people are sharing the money and how much each one would receive. Write a number sentence with multiplication for each one.

How can you be sure that you have found all the ways to share the money?





Work out remaining division facts

This activity focuses on the division facts for 3s, 6s, 7s, 8s and 9s. Answer the following questions as quickly as you can.

Draw or make a model of the following facts to work out the answers if you are stuck. Think of them either as being shared equally among that many people, or as making that many groups, e.g. $9 \div 3$ means share 9 between 3 people. It could also mean make 3 equal groups out of 9. Remember that these are related to the multiplication facts, so if you get stuck think about them.

$3 \div 3 =$

$18 \div 3 =$

$6 \div 3 =$

$15 \div 3 =$

$12 \div 3 =$

$21 \div 3 =$

$24 \div 3 =$

$27 \div 3 =$

$9 \div 3 =$

$54 \div 6 =$

$30 \div 6 =$

$12 \div 6 =$

$18 \div 6 =$

$24 \div 6 =$

$6 \div 6 =$

$36 \div 6 =$

$42 \div 6 =$

$48 \div 6 =$

$7 \div 7 =$

$49 \div 7 =$

$14 \div 7 =$

$21 \div 7 =$

$63 \div 7 =$

$35 \div 7 =$

$42 \div 7 =$

$28 \div 7 =$

$56 \div 7 =$

$56 \div 8 =$

$64 \div 8 =$

$16 \div 8 =$

$24 \div 8 =$

$32 \div 8 =$

$72 \div 8 =$

$8 \div 8 =$

$48 \div 8 =$

$40 \div 8 =$

$45 \div 9 =$

$63 \div 9 =$

$72 \div 9 =$

$18 \div 9 =$

$27 \div 9 =$

$36 \div 9 =$

$81 \div 9 =$

$9 \div 9 =$

$54 \div 9 =$

What patterns have I found?

What strategies can I use to help me remember the answers?

D22. Dividing and arrays

Dividing is a way of organising. It asks 'How many' rows, or columns, or groups you can make from a collection of objects. Work through the following problems to try to work out how dividing works and how it is similar to multiplying.

Organising muffins:

Rohan has made some muffins. He wants to organise them into rows with three muffins in each row. Draw how he could arrange them.



Draw Rohan's muffins when organised into rows of 3:

$$12 \div 3 = 4$$

$$12 \div 4 = 3$$

Organising shoes:

Laura has the following shoes in her cupboard. She wants to know how many pairs of shoes she has. Draw lines to show the pairs of shoes and work out how many pairs she has.



$$10 \div 2 = 5$$

$$10 \div 5 = 2$$

What do you think dividing means? How is it similar to multiplying?

Draw a picture and write a story about this number sentence: $15 \div 3 =$

Multiplication practice grids:

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

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

Division practice grids:
Find all the missing numbers!

	2	3	4	5	10
2			8		
				15	
4					
			20		
		18			
7				35	
					80
	18				
			40		

2			10		
3	12				
4					8
5				50	
6		18			
7					
8					
9					
10					

D23. Dividing number sentences and stories

Try to answer the following dividing questions. You can draw pictures or use numbers to work them out. A story is given to explain each number sentence.

Questions:

$18 \div 3 =$ There were 18 students in a class. Their desks were in three rows. How many desks were in each row?



$6 \div 3 =$ Kevin had 6 rolls of film to use over 3 days. How many should he use each day?

$30 \div 6 =$ There were 30 students who were divided up into 6 teams. How many were there in each team?

$18 \div 6 =$ 18 students went on an excursion to the zoo. They were led through the koala enclosure in groups of 6. How many groups went through the koala enclosure?

$21 \div 7 =$ 21 soldiers stood in rows on parade. Each row had 7 soldiers in it. How many rows were there?

What do you think dividing means? How is it similar to multiplying?

Interleaved practice

Number:

1. Complete the following number sequence:

102, 105, 108, _____, _____, _____, 120, _____, _____

2. Find the answer and show how you worked it out.

$$245 - \boxed{} = 97$$

3. What number has 16 ones, 4 tens and 12 hundreds?
4. Toothbrushes can be bought in packs of 3. How many toothbrushes will you have if you buy 5 packs? Show how you worked out your answer.
5. Split 18 counters into 3 groups, so that 2 of the groups have the same number. How many ways can that be done?

Measurement/Geometry:

6. Find a rectangular prism (box, like for cereal). How many faces does it have? What do you notice about the faces, edges and vertices (corners)?
7. What will the date be on Tuesday next week? How many days are there until Tuesday of next week?
8. Draw a clock on the back of this sheet.

Chance/Data:

9. Roll a dice 50 times and record how many times each number comes up. Use the table below to record your results.

Number	1	2	3	4	5	6
Number of times rolled						

D26. Identify situations requiring \times or \div

The situations below are either multiplication or division. Decide on the operation needed but don't solve the questions. Explain why you chose that operation, and write a number sentence for the question.

1. There are five people. Each person needs 3 drinks. How many drinks would be required?
2. Our total bill at the cafe arrived. It was \$35. We were sharing it between 7 people. How much did each person have to pay?
3. Ice skating costs \$8 every week. How much will it cost for 12 weeks?
4. A packet of pens costs \$10. There are 5 pens in the pack. How much is it per pen?
5. 30 students needed to be organised into 5 groups. How many students would be in each group?

BACKWARDS QUESTION:

Write the operation and number sentences for this:

I had 6 people coming to visit. Each person would need 2 drinks. I bought 3 bottles of drink. Each bottle holds 4 drinks. Do I have enough?