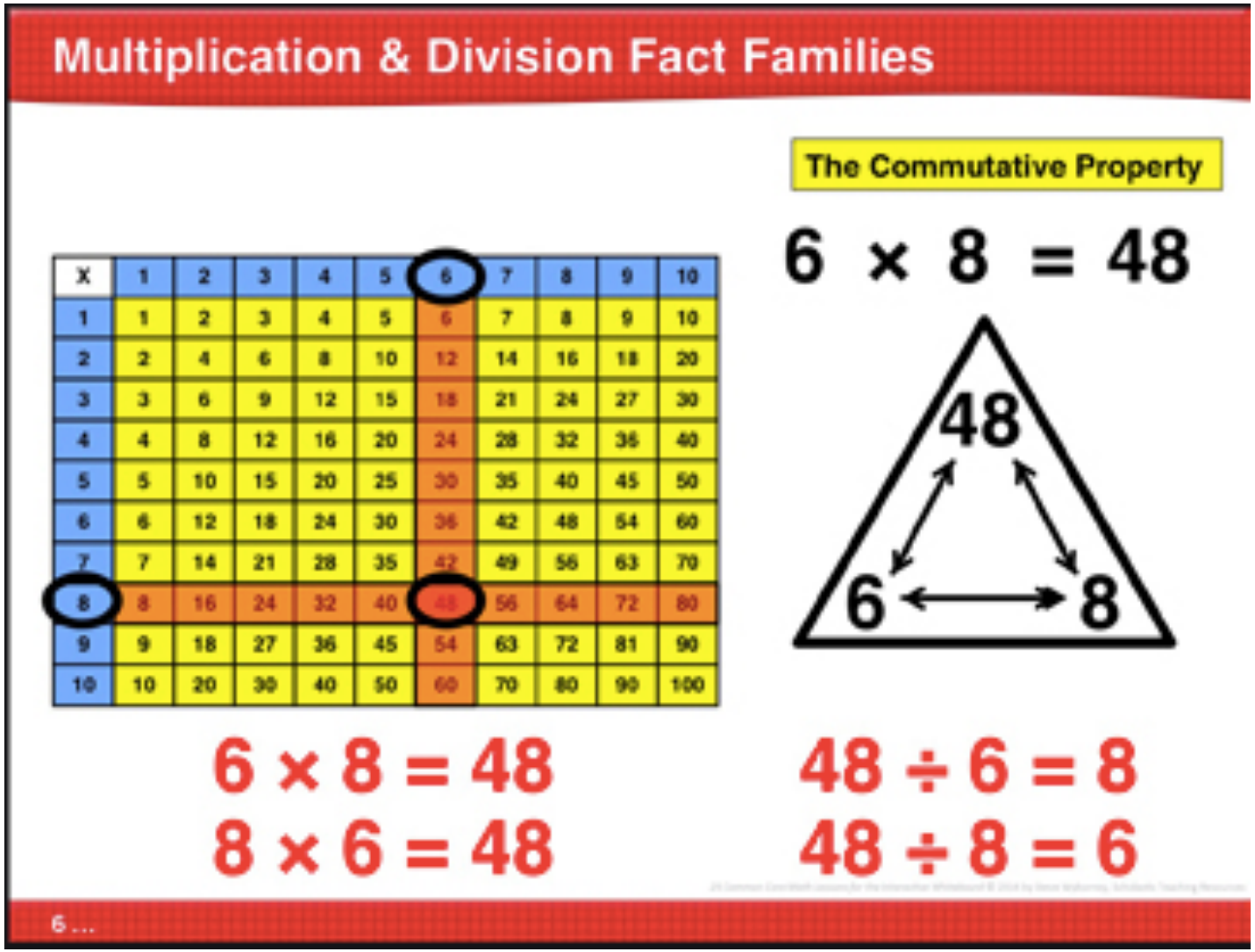
DIVISION STRATEGIES

MENTAL AND WRITTEN

MENTAL DIVISION STRATEGIES – USE MULTIPLICATION FACTS KNOWING YOUR FACT FAMILY IS HELPFUL

WARM UP
FACT FAMILY TRIANGLES



MENTAL DIVISION STRATEGIES – DIVIDE BY 10'S, 100'S AND 1000'S

1 **Divide the following numbers by 10, 100 and 1 000:**

a

T Th	Th	H	T	U	
4	5	0	0	0	
					÷ 10
					÷ 100
					÷ 1 000

b

T Th	Th	H	T	U	
4	3	0	0	0	
					÷ 10
					÷ 100
					÷ 1 000

c

T Th	Th	H	T	U	
8	5	0	0	0	
					÷ 10
					÷ 100
					÷ 1 000

d

T Th	Th	H	T	U	
8	8	0	0	0	
					÷ 10
					÷ 100
					÷ 1 000

When the two numbers seem too large to work with in our heads, we can halve them till we get to a division fact we recognise. Both numbers must be even for this to work.

$$126 \div 14$$

$$(\text{half } 126) \div (\text{half } 14)$$

$$63 \div 7 = 9$$

MENTAL DIVISION STRATEGIES – HALVING STRATEGY

Halve each number to get to a recognisable division fact. The first one has been done for you.

a	112 ÷ 14	56	÷	7	=	8
b	144 ÷ 16		÷		=	
c	96 ÷ 12		÷		=	
d	220 ÷ 4		÷		=	
e	162 ÷ 18		÷		=	

MENTAL DIVISION STRATEGIES – HALVING STRATEGY

Keep halving until you get to a fact you can work with. If you can do it in your head, just fill in the last box. Otherwise, use the lines to help you.

a $216 \div 36 =$ _____ ÷ _____ = _____ ÷ _____ = ☐

b $196 \div 28 =$ _____ ÷ _____ = _____ ÷ _____ = ☐

c $224 \div 32 =$ _____ ÷ _____ = _____ ÷ _____ = ☐

d $168 \div 24 =$ _____ ÷ _____ = _____ ÷ _____ = ☐

MENTAL DIVISION STRATEGIES – HALVING STRATEGY

Mental division strategies – split strategy

Division problems also become easier if you split the number to be divided into recognisable facts.

Look at the problem 144 ÷ 9

Can we divide 144 into 2 multiples of 9?

We can divide it into 54 and 90. These are both easily divided by 9. Then we add the two answers together.

144 ÷ 9

90 ÷ 9 + 54 ÷ 9

10 + 6 = 16

1 **Use the split strategy to divide these numbers. Use the clues to guide you:**

a 112 ÷ 8

80 ÷ 8 + 32 ÷ 8

____ + ____ = ☐

b 85 ÷ 5

50 ÷ 5 + ____ ÷ 5

____ + 7 = ☐

c 78 ÷ 6

____ ÷ 6 + 18 ÷ 6

10 + ____ = ☐

d 64 ÷ 4

24 ÷ 4 + ____ ÷ 4

e 91 ÷ 7

21 ÷ 7 + ____ ÷ 7

f 144 ÷ 8

80 ÷ 8 + 64 ÷ 8

MENTAL DIVISION STRATEGIES – HALVING STRATEGY

MENTAL DIVISION STRATEGIES – HALVING STRATEGY

2 **Now try these:**

a $90 \div 6$

$60 \div 6 = \square$

$30 \div 6$

b $105 \div 7$

$70 \div \_\_\_\_ = \square$

$\_\_\_\_ \div \_\_\_\_$

c $72 \div 4$

$\_\_\_\_ \div \_\_\_\_ = \square$

$24 \div \_\_\_\_$

d $144 \div 8$

$\_\_\_\_ \div \_\_\_\_ = \square$

$96 \div \_\_\_\_$