Year 7
Mathematics

Chesterfield High School

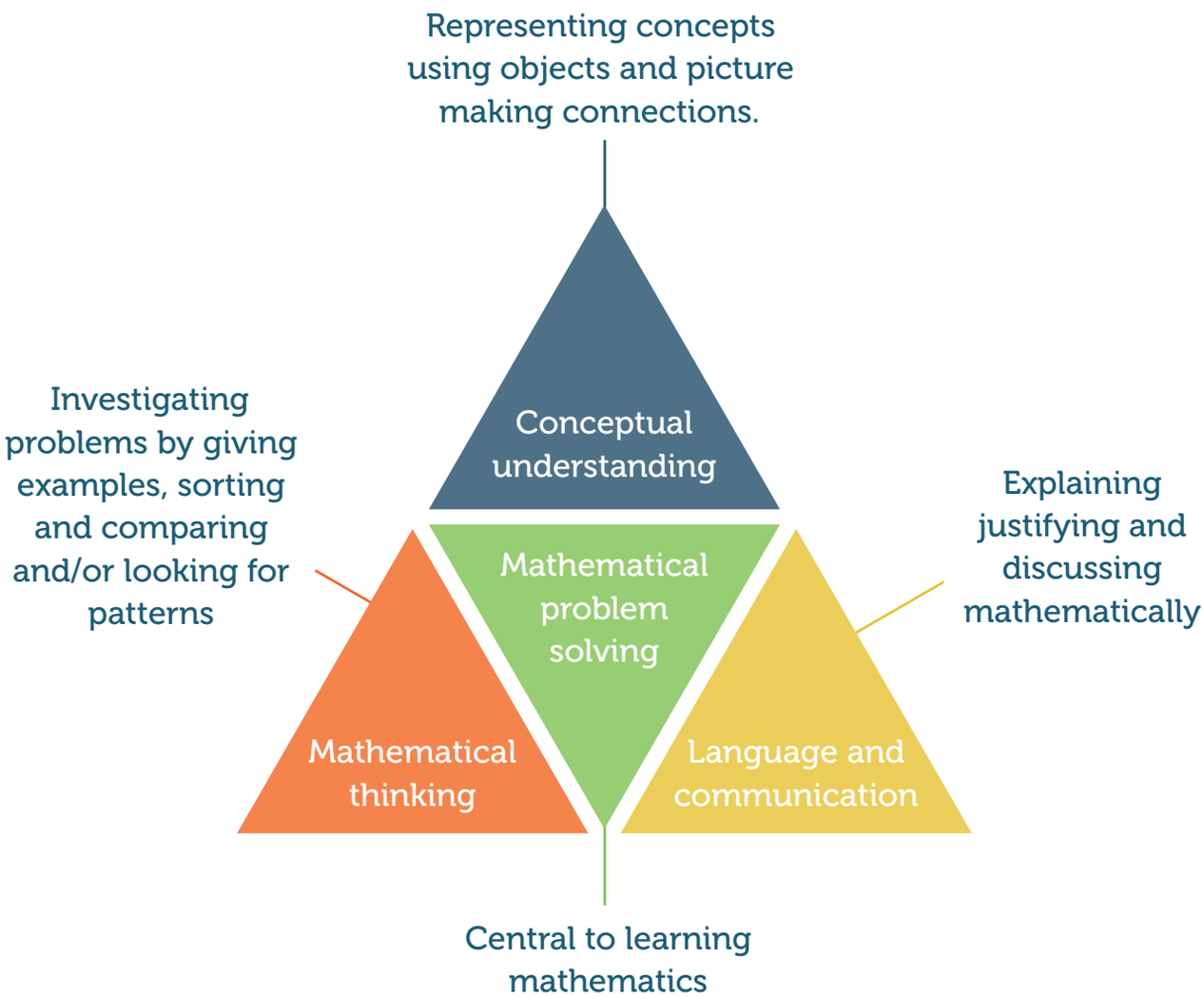
Year 7 **Mathematics** lessons at Chesterfield

Mathematics Mastery's Vision is;

'For every child to enjoy and succeed in mathematics, regardless of background.'

The programme that Chesterfield High School is involved with has been inspired by internationally recognised practice, particularly drawing on evidence from Singapore and Shanghai. 530 schools are subscribed nationally.

Mathematics Mastery is based on the following core principles:



Students will be using a Concrete-Pictorial-Abstract (C+P+A) approach.

Concrete
DOING

At the concrete level, tangible objects are used to approach and solve problems. This is a 'hands on' component using real objects and it is the foundation for conceptual understanding.

Bead strings

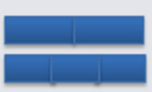
Dienes blocks

Fraction towers

Cuisenaire rods

Multilink cubes

Bar models



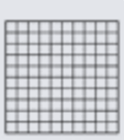
Pattern blocks

Pictorial
SEEING

At the pictorial level, representations are used to approach and solve problems. These can include drawings (e.g., circles to represent coins, tally marks, number lines), diagrams, charts, and graphs. These are visual representations of the concrete manipulatives.

Geoboards

100 grids



Number lines

Shapes

Abstract
SYMBOLIC

At the abstract level, symbolic representations are used to approach and solve problems. These representations can include numbers or letters.

Mathematics lesson will include:

- Talk tasks
- Discussing and justifying
- Making conjectures / generalisations

Curricular Principles:

- Fewer topics in greater depth
- Mastery for all pupils
- Number sense and place value come first
- Problem solving is central

How can you support your child?

- Growth mind-set
- Reasoning
- Making links
- Multiple representations
- Challenge through depth

Arithmetic Practice over the holidays

Arithmetic skills and fluency are key areas our students need to practice and feel confident with. We ask that you take some time over the summer to practice these skills and keep them fresh ready for September:

1. Draw lines to join up pairs or numbers that add up to make 10.

7	**5**	**10**	**3**	**5**	**0**
8	**4**	**1**	**2**	**6**	**9**

2. Complete each equation to make 10. The first one has been done for you.

6 + 4 = 10

5 + _____ = 10

_____ + 8 = 10

0 + _____ = 10

10 = _____ + 2

10 = 7 + _____

_____ + 1 = 10

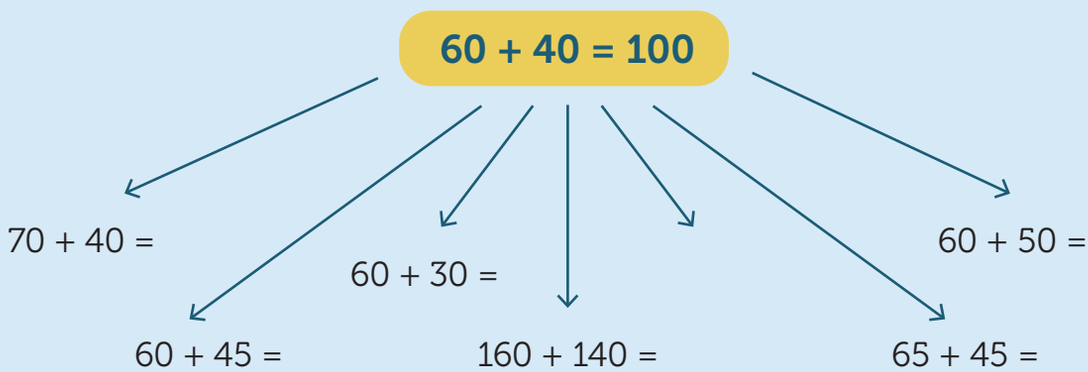
3. How many more pennies will Karl need to put in each pot in order to make 10p?

4. Write down as many equations as you can to make 20.

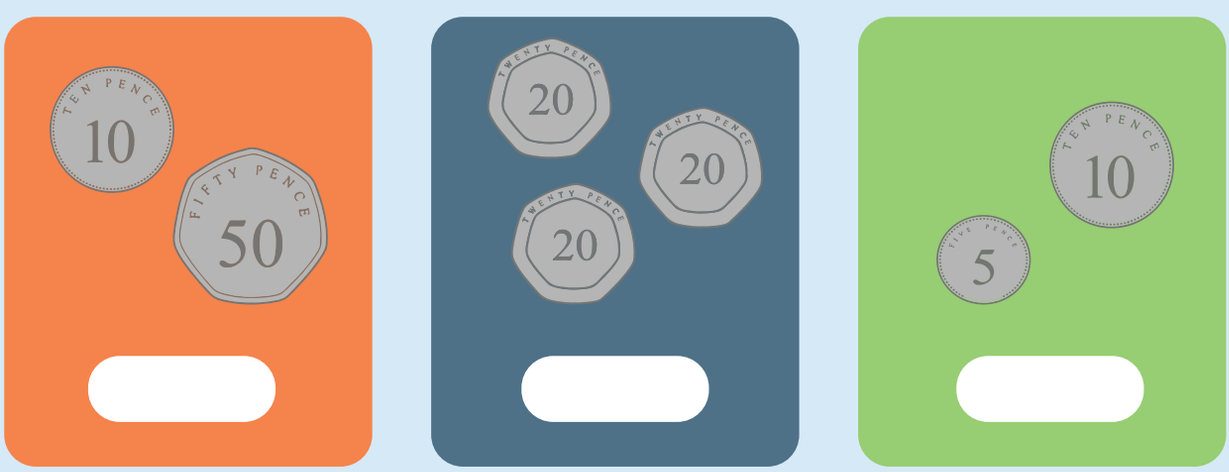
5. Fill in the gaps in these equations.

____ + 80 = 100	100 = ____ + 20	____ + 10 = 100
____ = 70 + 30	100 = ____ + 40	60 + 40 = ____
____ + 50 = 100	100 + ____ = 100	90 + ____ = 100

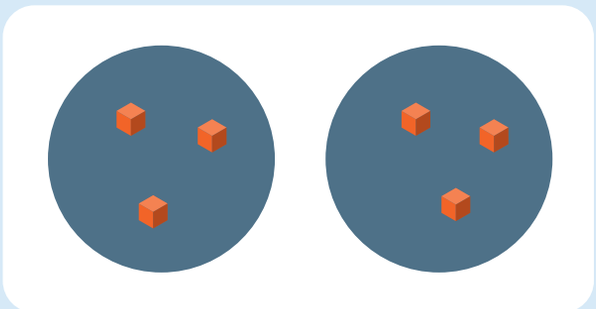
7. Can you come up with any more equations starting from 60 + 40 = 100?

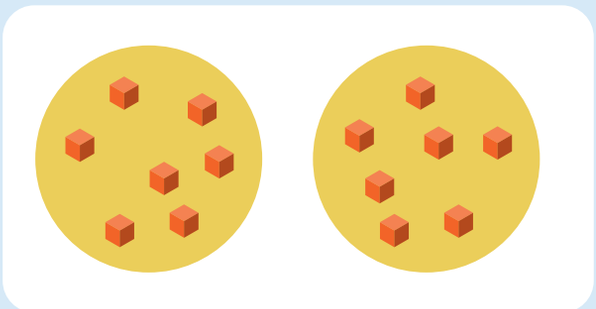


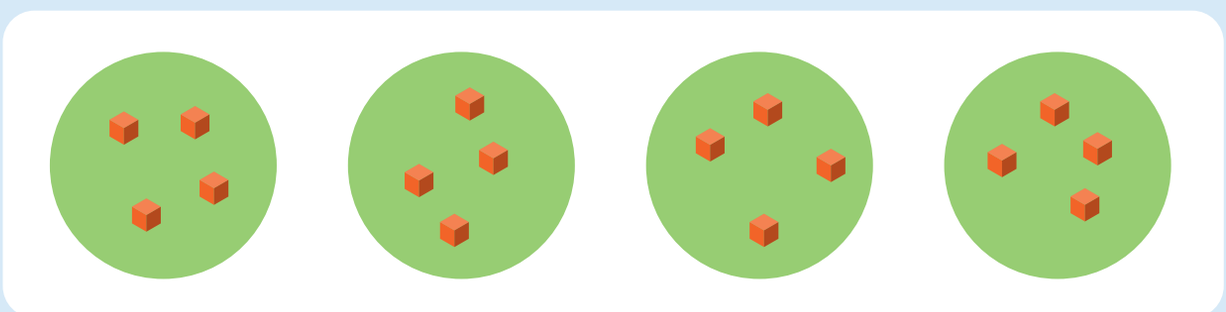
6. How much more money will Lucy need in order to have £1?

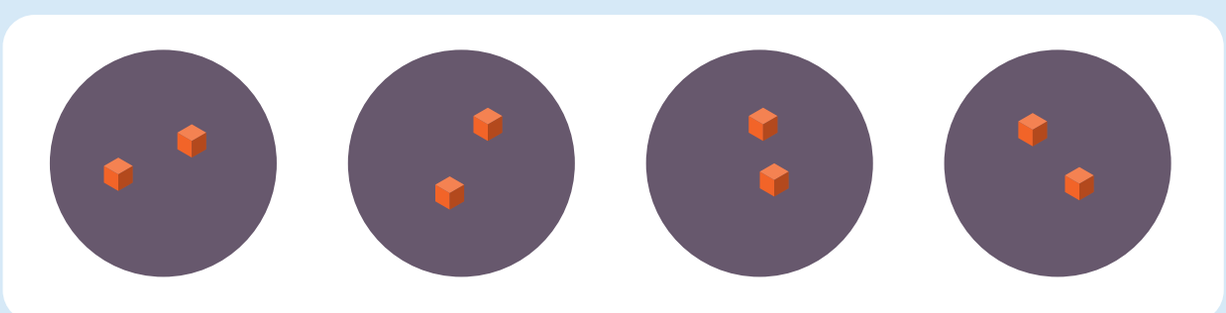


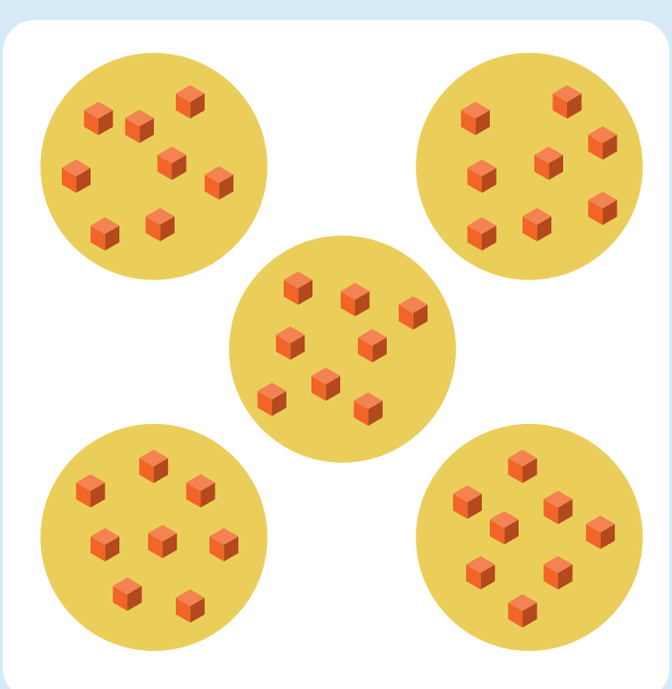
8. Discuss how to calculate the number of cubes in each question below

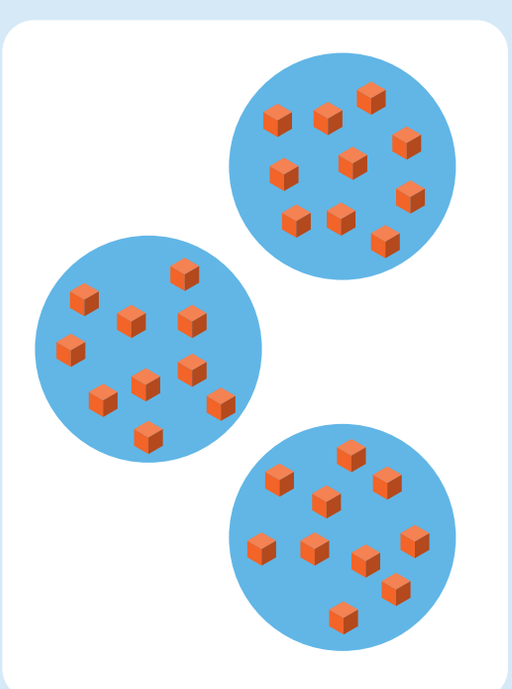






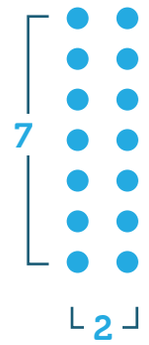






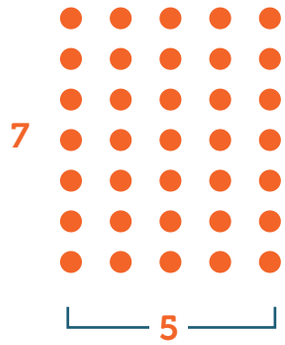
What division calculations can you give using your answers above?

9. Use these arrays to complete the calculations below:



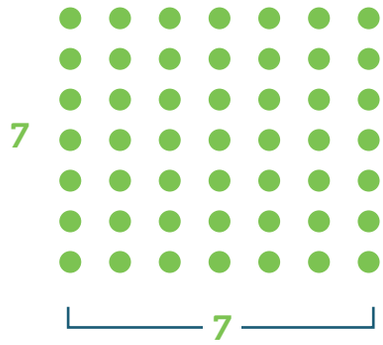
2 x 7 = _____

3 x 7 = _____



5 x 7 = _____

6 x 7 = _____



7 x 7 = _____

8 x 7 = _____

10. Use the given information to answer the questions in each box:

8 x 8 = 64

8 x 7 = _____

8 x 6 = _____

9 x 10 = 90

9 x 9 = _____

9 x 8 = _____

6 x 5 = 30

6 x 6 = _____

6 x 7 = _____

11 x 12 = 132

12 x 12 = _____

13 x 12 = _____

Consider the corresponding division calculations for each of the questions above.

11. Each circle matches to a rectangle above and below it. Draw lines linking the correct rectangles to each ring:

Key words spellings

Please practice the following key word spellings for mathematics. We will be testing these in September: Do you know what they all mean?

convert	multiply
fraction	product
percentage (%)	total
calculate	tenth
difference	hundredth
divide	thousandth
double	factor
halve	integer
estimate	negative
exact	square

Online resources

As a department we also use a lot of online resources in lessons and as part of homework and intervention. Students will receive their own personal login details for these in September. They will include:

www.**mathswatchvle**.co.uk

www.**corbettmaths**.com

www.**doddlelearn**.co.uk

Calculators

This is the official exam calculator that we use in year 11 so the sooner students can acquire their own and get used to using it the better as 2 out of 3 exams are calculator papers:

Casio FX-83GTPLUS Scientific Calculator

Chesterfield High School

Chesterfield Road, Crosby, Liverpool L23 9YB

Tel: 0151 924 6454 | Fax: 0151 931 5089

Email: head@chesterfieldhigh.co.

www.chesterfieldhigh.org.uk