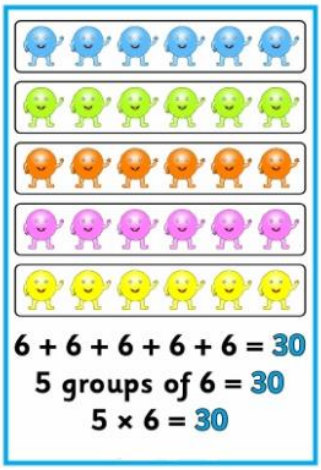
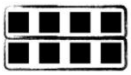
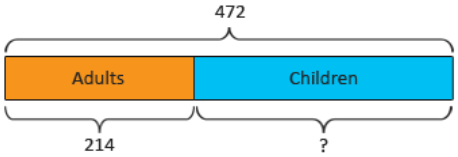
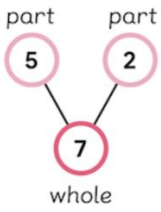
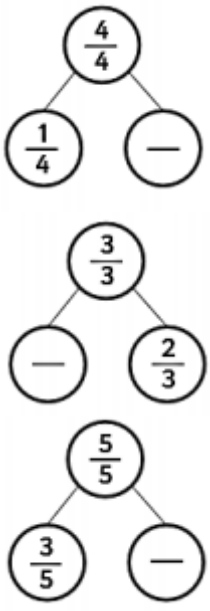
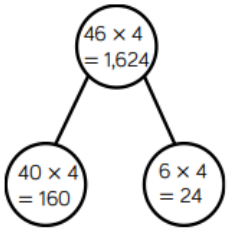
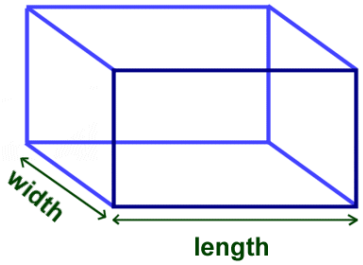
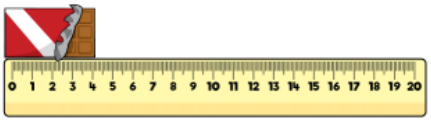
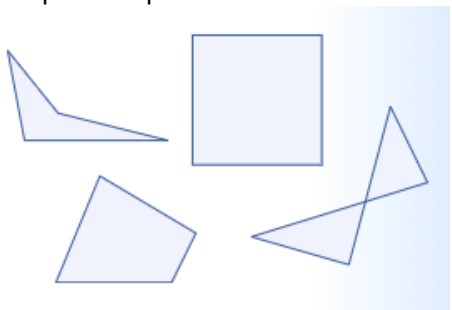
Al Wataniya International School
PO Box 22698
Doha, Qatar
T: (+974) 4017-4930
info@awisdoha.com
www.awisdoha.com

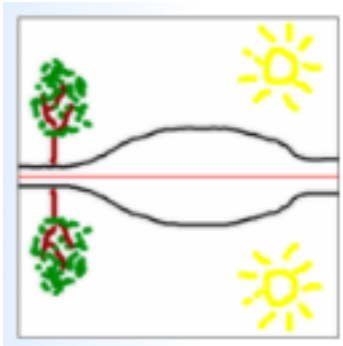
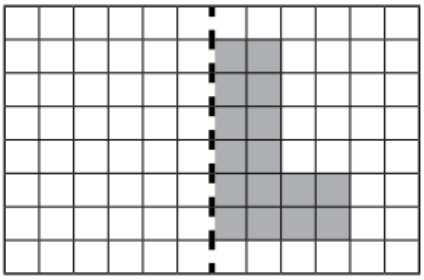
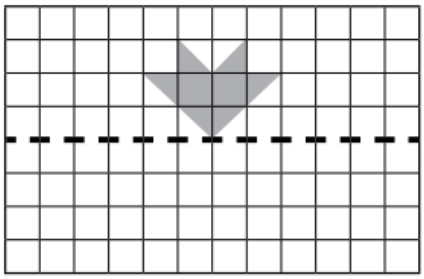
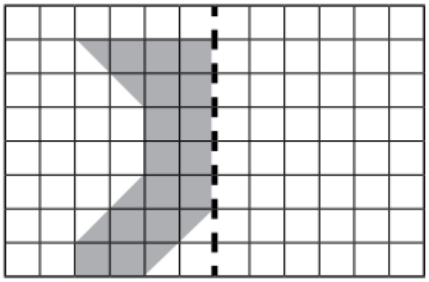
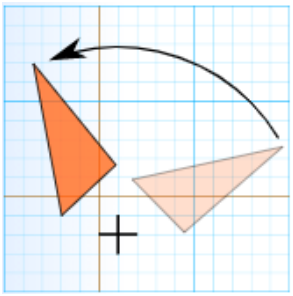
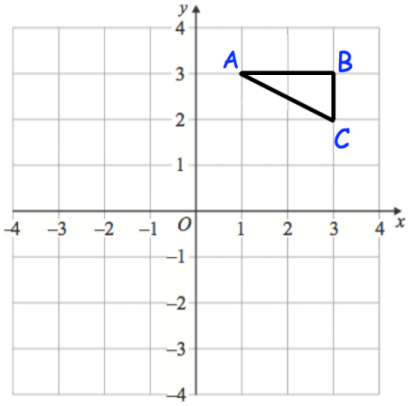
المدرسة الوطنية الدولية
صندوق بريد 22698
الدوحة - قطر
هاتف 40174930
info@awisdoha.com
www.awisdoha.com

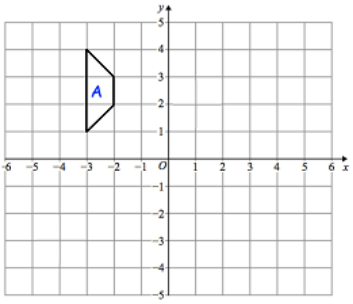
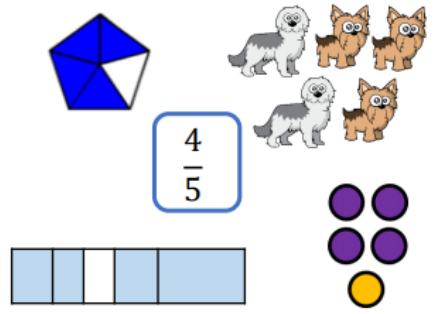
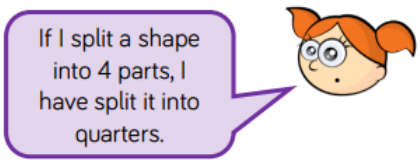
Power Maths Key Vocabulary
Year 4 – Block B

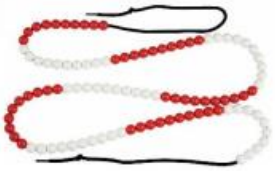
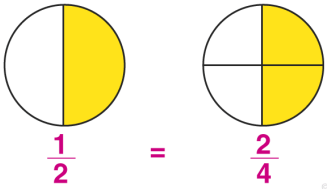
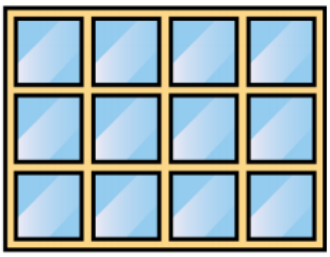
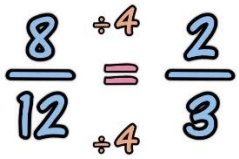
Key Vocabulary	Explanation of Terms	Example Question(s)
multiply	To multiply means to add equal groups. When we multiply, the number of things in the group increases. The basic idea of multiplying is repeated addition: 5 multiplied by 3 is the same as 5 + 5 + 5.  	Sally shoots an arrow 48m. Flame shoots her arrow three times as far. How far did Flame's arrow go? (48 x 3 = 144m) How many days in 26 weeks? (7 x 26 = 182) A pencil costs 74p. How much do 3 pencils cost? (74 x 3 = 222 = £2.22) A baseball team has 9 players. In a tournament there are 24 teams. How many players are there in total? (9 x 24 = 216)
divide	To divide is to separate or be separated into equal parts. Division is the act or process of dividing anything. 8 ÷ 2 = 4 8 divided into 2 groups gives a result of 4 per group 	Sara saves her pocket money for 9 weeks, she saves £81. How much pocket money does she get each week? (81 ÷ 9 = 9) A builder needs 7,600 bricks to build a wall. There are 500 bricks in a load. How many loads must the builder buy? (7,600 ÷ 500 = 15.2 = 16 loads) Noah buys a pack of 24 cans of cola for £6.00. What is the cost of each can? (6.00 ÷ 24 = 0.25 = 25p)

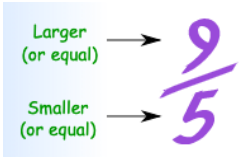
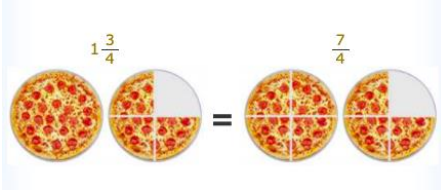
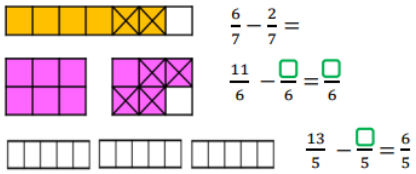
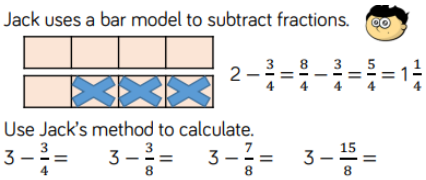
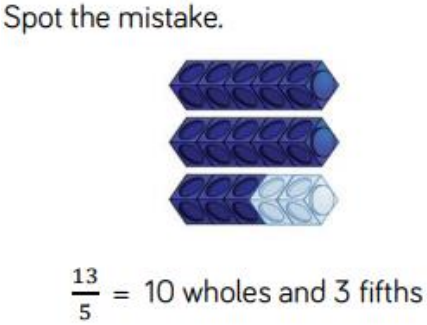
		There are 28 children. They win a school competition for £140. How much do they each get? (140 ÷ 28 = 5)
bar model	A bar model is a pictorial representation of a problem or concept where bars or boxes are used to represent the known and unknown quantities.  Bar models are most often used to solve number problems with the four operations – addition, subtraction, multiplication and division.	Draw a bar model to help you answer each question. Mrs Foster has two children, Joe and Rachel. They start with the same amount of money. She gives Rachel the following extra coins.  Rachel nows has 60 pence. How much money does Joe have? (25p) A TV show lasts 35 minutes. A film lasts I hour 2I minutes. How much longer does the film last than the TV show? (46 minutes)
part whole model	A part whole model is a concept illustrating how numbers can be split into parts. Children using this model will see the relationship between the whole number and the component parts, this helps learners make the connections between addition and subtraction.  	Complete the part whole models. 

		Ron is calculating 46 multiplied by 4 using the part-whole model.   Can you explain Ron's mistake?
length **width**	Length measures how far it is from one end to another, or from one point to another. The length of an object is the greatest of the two or three dimensions of an object. Width is similar to length; the distance from side to side. This is the shorter side while the length is the longer side. 	Tommy thinks that this chocolate bar is 4 cm long. Is he correct?  Which unit would you use to measure the length of a bath? (metres) Which unit of measure would you use to measure to width of your pencil? (millimetres) The length of an equilateral triangle is 4.5m. What would the perimeter of the triangle be? (4.5 x 3 = 13.5m)
quadrilateral	A quadrilateral is a 2D shape made up of 4 straight sides. A square is an example of a quadrilateral. 	Identify the properties of this quadrilateral:  Name:_____ Pairs of equal length sides:_____ Pairs of parallel sides:_____ Number of right angles:_____

		Draw a quadrilateral with these properties: • two pairs of equal length sides • no right angles • not a parallelogram What could your quadrilateral be?
reflection	A reflection is known as a flip. A reflection is a mirror image of the shape. An image will reflect through a line, known as the line of reflection. 	Draw the shapes in their new positions after being reflected over the mirror line.   
rotation	A rotation is a circular movement around 1 point. Rotation has a central point that stays fixed and everything else moves around that point in a circle.  A 'full rotation' is 360°	Rotate triangle ABC 90° clockwise about centre (0, 0)  Rotate trapezium A 90° anti-clockwise about the origin.

		
place value **tenths** **hundredths**	A number can have many digits and each digit has a special place and value. Starting from the right the first digit will be at ones place and the second digit at tens place. The first digit to the right of the decimal point is the tenths digit. The second digit to the right of the decimal point is the hundredths digit. 	Danka wants to make the number 8.4 on a place value chart. **a)** How many counters will she need to use? **b)** Prove it. There are 9 counters on the left of the decimal point and 2 less counters than this on the right the decimal point. What is the number? (9.7) Is the statement below true? $\frac{5}{100}$ is greater than $\frac{5}{10}$. I know this because 100 is greater than 10. (no)
fraction **numerator** **denominator**	A fraction is a part of a whole number, and a way to split up a number into equal parts. $\frac{3}{4}$ ← Numerator Denominator The numerator is the top number of a fraction. The denominator is the bottom number of a fraction.	Which representations of $\frac{4}{5}$ are incorrect?  Explain how you know. Alex says,  Explain your answer.

		Mo is told that this bead string represents one whole.  He thinks that each individual bead represents one tenth. Do you agree with Mo? Explain your answer.
equivalent	Equivalent signifies that 2 things are equal.  $\frac{1}{2}$ = $\frac{2}{4}$	How many equivalent fractions can you see in this picture?  Eva says,  I know that $\frac{3}{4}$ is equivalent to $\frac{3}{8}$ because the numerators are the same. Is Eva correct? Explain why. (Eva is not correct. When the numerators are the same, the larger the denominator, the smaller the fraction.)
simplify	To simplify (or reduce) a fraction means to make it as simple as possible.  $\frac{8}{12} \overset{\div 4}{=} \frac{2}{3}$ We can do this by dividing the denominator and numerator by the same number.	Fully simplify the following fractions: a. $\frac{8}{32}$ b. $\frac{7}{21}$ c. $\frac{9}{15}$ d. $\frac{8}{12}$ e. $\frac{15}{45}$ f. $\frac{5}{50}$ g. $\frac{27}{63}$ h. $\frac{44}{132}$ (1/4, 1/3. 3/5, 2/3, 1/3, 1/10, 3/7, 1/3)

improper fraction	An improper fraction is a fraction where the numerator (the top number) is greater than or equal to the denominator (the bottom number).  We refer to it as being 'top-heavy'.	Can you write 1 and ¾ as an improper fraction?  (7/4) Use the bar models to subtract the fractions.  (4/7) (4/6 = 7/6) (7/5)
mixed number	A whole number and a fraction combined into one is called a mixed number.  	  (13/5 = 2 wholes and 3 fifths)
fraction of an amount	A fraction tells you how many parts of a whole there are. When we find a fraction of an amount, we are working out how much that 'part' is worth within the whole. ½ of 40 = 20 We have split 40 in 2 to find the value of a half.	Calculate the following: 1) ½ of 16 (8) 2) ¼ of 20 (5) 3) ⅓ of 12 (4) I threw away 148kg of rubbish, but recycled 1/4 of it. How much rubbish did I recycle? (37kg)

		I spent 40p on a comic, which was 1/3 of my pocket money. How much have I got left? (80p) $\frac{3}{4}$ of 16 apples = ☐ apples $\frac{5}{9}$ of 45 oranges = ☐ oranges $\frac{7}{10}$ of 30 kiwis = ☐ kiwis (12, 25, 21)
greater than (>) **less than (<)**	These symbols can be used to tell us that a number is 'greater than' or 'less than' another number. > greater than < less than When one value is smaller than another we use a "less than" sign (<). Example: 3 < 5 When one value is bigger than another we use a "greater than" sign (>). Example: 9 > 6.	82 < ☐ 99 < ☐ 76 > ☐ 4 > ☐ (83 or more, 100 or more, 75 or less, 3 or less)
decimal	A decimal number can be defined as a number whose whole number part and the fractional part is separated by a decimal point. The dot in a decimal number is called a decimal point. The digits following the decimal point show a value smaller than one. 45.6 = 40 + 5 + $\frac{6}{10}$ Decimal Number	Use greater than or less than symbols to complete the following: 1.11 ◯ 1.12 ◯ 1.13 3.32 ◯ 3.23 ◯ 2.32 4.44 ◯ 4.34 ◯ 4.04 (<,>) (>,<) (>,>) A number with one decimal place rounded to the nearest whole number is 45 What could the number be? (any number between 44.5 and 45.4)