

Y6 Maths Activity Grid

Year 6 maths skills checklist:

- ✓ Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.
- ✓ Perform mental calculations, including with mixed operations and large numbers.
- ✓ Use knowledge of the order of operations to carry out calculations involving the four operations.
- ✓ Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
- ✓ Identify common factors, common multiples and prime numbers.
- ✓ Perform mental calculations, including mixed numbers and large numbers.
- ✓ Compare and order fractions, including fractions > 1 . Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
- ✓ Recall and use equivalences between simple fractions, decimals and percentages, including different contexts.
- ✓ Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm^3 and m^3 , and extending to other units such as mm^3 and km^3 .
- ✓ Convert between miles & km.
- ✓ Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places.
- ✓ Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
- ✓ Draw 2D shapes using given dimensions & angles.
- ✓ Use negative numbers in context and calculate intervals across zero.
- ✓ Use knowledge of the order of operations to carry out calculations involving the four operations.
- ✓ Multiply multi-digit numbers up to 4-digits by a 2-digit whole number using the formal written method of long multiplication.
- ✓ Divide numbers up to 4-digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.
- ✓ Divide numbers up to 4-digits by a 2-digit number using the formal written method of short division, where appropriate, interpreting remainders according to the context.
- ✓ Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
- ✓ Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.
- ✓ Solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison.
- ✓ Solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate.
- ✓ Recognise when it is possible to use the formulae for area & volume of shapes.
- ✓ Describe positions on the full coordinate grid, all four quadrants
- ✓ Draw and translate simple shapes on the coordinate plane and reflect them in the axes
- ✓ Recognise, describe and build simple 3D shapes, including making nets.
- ✓ Interpret and construct: pie charts; line graphs and use these to solve problems.
- ✓ Round any whole number to the required degree of accuracy.
- ✓ Solve addition & subtraction multi-step problems in contexts, deciding which operations & methods to use & why.
- ✓ Multiply simple pairs of proper fractions, writing the answer in the simplest form.
- ✓ Divide proper fractions by whole numbers.
- ✓ Associate a fraction with division to calculate decimal fraction equivalents, for simple fractions.
- ✓ Express missing number problems algebraically and use simple formulae.
- ✓ Find pairs of numbers that satisfy number sentences with two unknowns.
- ✓ Recognise that shapes with the same areas can have different perimeters and vice versa.
- ✓ Calculate the area of parallelograms and triangles.
- ✓ Recognise when it is possible to use formulae for area & volume of shapes.
- ✓ Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
- ✓ Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
- ✓ Calculate and interpret the mean as an average.

Choose an activity from below and complete it on squared paper if possible. Remember to add the date.

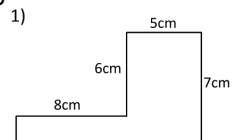
Timetables

Look at a TV guide.
Write some time questions about start times, end times and show durations.
Answer the questions.



Area and Perimeter

Draw some rectilinear shapes. Find the perimeter and area of each one drawn.
E.g.



Area = ____ square cm (cm^2)

Perimeter = ____ m

Target Number

Choose numbers from 1 to 9 and set a three digit and four-digit target number. Add, subtract, multiply and divide the numbers to reach your target number.



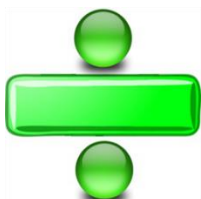
Money

Play shops at home and make different amounts using different coins and record what you bought in your book and what coins you used to pay.
Can you work out change from notes?



Division

Are the following numbers divisible by 2, 3, 4, 5, 6, 8 and 10?
624 972 435
900 1161



Data Collection

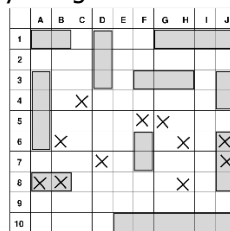
Find some measurements e.g. rainfall in Darlington. Create a line graph, bar chart or table to show the measurements. Label the axis and give it a title.

<https://www.accuweather.com/en/gb/darlington/dl1-1/hourly-weather-forecast/3275345683>

Challenge: Write some questions based on the data.

Co-ordinates

Create a battleships board game using a four co-ordinate grid. Think about making the ships different lengths. Play the game.



Number Talk

Show the pattern of triangular numbers. Explain how it is generated.



Numbers in Words

Can you write some numbers between 0-10,000,000 in words and spell them correctly?



Challenge: Choose 5 numbers you have written in words and order them, largest first.

Shape Challenge

Take a piece of paper and fold it until it is as small as you can make it. Open it up and label all the different shapes you can see.



Challenge: If you have a protractor, measure the angles.

Roman Numerals

Write the date each day in Roman numerals.

I = 1 C = 100
V = 5 D = 500
X = 10 M = 1000
L = 50

Challenge: Make up some addition and subtraction number sentences involving Roman numerals.

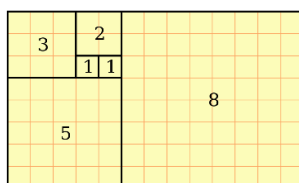
Measure

Find the area of 3 rooms in your house. Measure the space and calculate the area.



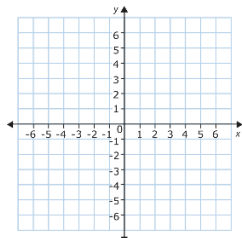
Research

Search online for anything you can find on the Fibonacci sequence. Produce a poster to share with the class that explains this.



Co-ordinates

Draw a 4 quadrant co-ordinate grid then draw squares, rectangles and triangles and translate them.



Challenge: Reflect some shapes too.

Time

Using a clock online or in the house, practise telling the time to the nearest minute from both analogue and digital clocks.

Record both matching times in your book e.g. 3.27pm and 15:27.



Problem Solving

Log into <https://nrich.maths.org/8113> Play the games and solve the problems.

Challenge: Ask an adult to quick-fire 10 times tables questions to you and give you 3 seconds to answer each correctly.



Four Operations

- Complete 5 long division number sentences.
- Complete 5 long multiplication number sentences. Can you show each one in a different way?
- Using fractions, complete 5 addition and 5 subtraction number sentences. Choose the most efficient method to show the working out.

Challenge: Create your own addition and subtraction number sentences using numbers between 1,000 and 5,000,000. Use two methods to work these out. Draw something to prove it.

More maths activities can be accessed through the following websites:

http://www.bbc.co.uk/schools/websites/4_11/site/numeracy.shtml

<https://www.topmarks.co.uk/maths-games/7-11-years>

<https://mathsframe.co.uk/en/resources/category/22/most-popular>

<https://www.oxfordowl.co.uk/for-home/kids-activities/fun-maths-games-and-activities/#maths-7-9>

<https://www.bbc.co.uk/bitesize/subjects/z6vg9j6>

Don't forget about Times Tables Rockstars! Challenge yourself to learn all the tables fluently and beat your highest score!