

Y7 Unit 3 Overview-Number: Calculations and approximations

Test window: 16th March 2020 - 27th March 2020

Target grade for tests:

You will learn about:

- Multiplication and division
- Rounding numbers
- Estimating calculations

You will be able to:

- Recall multiplication and division facts for times tables up to 12×12 .
- Recognise and use factor pairs in mental calculations.
- Multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.
- Multiply two-digit and three-digit numbers by a one-digit number using a written layout.
- Solve problems involving multiplying and adding.
- Round any number to the nearest 10, 100 or 1000.
- Round decimals with one decimal place to the nearest whole number.
- Estimate and use inverse operations to check answers to a calculation.
- Solve number and practical problems that involve all of the above and with increasingly large positive numbers.



Lesson Overview

CALCULATING: MULTIPLICATION AND DIVISION

- Recall and use multiplication facts for the 6 times table
- Recall and use multiplication facts for the 7 times table
- Recall and use multiplication facts for the 9 times table
- Recall and use multiplication facts for the 11 times table
- Recall and use multiplication facts for the 12 times table
- Recall and use division facts for the 6 times table
- Recall and use division facts for the 7 times table
- Recall and use division facts for the 9 times table
- Recall and use division facts for the 11 times table
- Recall and use division facts for the 12 times table
- Use knowledge of factor pairs (commutativity) when multiplying and dividing mentally including multiplying three numbers together
- Know the effect of multiplying by 0 and 1 and dividing by 1
- Multiply a two-digit number by a one-digit number
- Use short multiplication to multiply a two-digit number by a one-digit number
- Use short multiplication to multiply a three-digit number by a one-digit number
- Solve problems involving multiplication or division

CHECKING, APPROXIMATING AND ESTIMATING

- Approximate any number by rounding to the nearest 10, 100 or 1000
- Approximate any number with one decimal place by rounding to the nearest whole number
- Understand checking as the process of working backwards from the answer to ensure that it makes sense
- Understand estimating as the process of finding a rough value of an answer or calculation

Key Words

Refer to <http://studymaths.co.uk/glossary.php> for definitions of the key words

Mental arithmetic
Place value
Multiply, Multiplication, Times, Product
Commutative
Divide, Division
Tenth, Hundredth
Factor, Factor pairs
Short multiplication
Operation
Estimate

Approximate (noun and verb)
Round
Decimal place
Check
Solution
Answer
Estimate (noun and verb)

Notation

The approximately equal symbol (\approx)

Suggested reading or support/ challenge available



Support is available from a Maths teacher in 'MORALE' in M1 daily from 1:30pm -1:45pm

www.mymaths.co.uk
 login: **penryn**
 password: **octagon**

www.hegartymaths.com
 Go to student login at the top... find your school, enter your details and then set up your password...

<https://vle.mathswatch.com/vle/>
 login: school username followed by **@penryn-college**
 password: **Penryn2016**

Use your revision guide
 Use the code in the front of your guide to access your free online revision

www.justmaths.co.uk/online
 login: **PenrynStudent**
 password: **Penryn**

Cross curricular

- SMSC:**
- 1.1 Exploring, understanding and respecting cultural diversity e.g. exploration of different methods of multiplication (Chinese, Russian).
 - 3.1 Developing personal qualities and using social skills (regular paired/ group work communication).
 - 3.2 Participating, cooperating and resolving conflicts (paired/group activities).
 - 4.2 Experiencing fascination, awe and wonder of mathematics.
 - 4.4 Using imagination and creativity in learning.

Literacy:
 Verbal communication of understanding using key words in the correct context. Development of written communication of methods and strategies to problem solve.

- NAC:**
- Science** – Multiplication tables up to 10 X 10 and associated division facts. Short multiplication and division of whole numbers. Estimate and check answers using approximations. Round numbers to the nearest 10, 100 or 1000.
 - Geography** – Multiplication tables up to 10 X 10 and associated division facts. Short multiplication and division of whole numbers.
 - Technology** – Multiplication tables up to 10 X 10 and associated division facts. Short multiplication and division of whole numbers.
 - MFL** – Multiplication tables up to 10 X 10 and associated division facts (Year 8). Short multiplication and division of whole numbers.
 - P.E.** – Multiplication tables up to 10 X 10 and associated division facts. Short multiplication and division of whole numbers. Round numbers to the nearest 10, 100 or 1000.
 - R.E.** – Estimate and check answers using approximations.

Research	Note-making	Group work & discussion	Memorisation	Precision & accuracy	Independence	Reflection