

## Learning Plan 1

YEAR: 10

SUBJECT: Maths (Foundation)

BLWYDDYN: 10

PWNC: Mathemateg (Sylfaenol)

Knowledge focus: perimeter, area and volume; fractions and percentages of amounts; the data cycle



### Skills, knowledge and understanding to be developed in this Learning Plan:

- Calculating volume, area and perimeter
- Application of fractions and percentages in contexts
- Application of the data handling cycle: collecting, representing, interpreting data

### Key terms to be learned in this LP:

square, rectangle, triangle, parallelogram, trapezium, regular, irregular, polygon, perimeter, area, volume, circumference, radius, diameter, increase, decrease, denominator, numerator, interpret, hypothesis, questionnaire, represent

### Week/Wythnos 1, 2 & 3 Learning Objectives:

- Find the perimeter of a square, rectangle, triangle, parallelogram, trapezium and irregular shapes
- Estimate the area of irregular shapes drawn on a square grid by counting squares
- Calculate the area of a square, rectangle and parallelogram using a formula
- Investigate and apply ways to calculate the area of a triangle and trapezium
- Calculate the area and perimeter of composite shapes (including where there are unknown sides)
- Investigate pi and calculate the area and circumference of a circle
- Calculate the perimeter and area of semicircles
- Calculate unknown dimensions for 2-D shapes when given the area.
- Calculate the surface area and volume of cubes and cuboids
- Calculate the missing dimensions when the volume is known
- Solve real life practical problems involving areas, perimeters, surface area and volume

Assessment:  
Perimeter and area of simple shapes, coordinates, basics of algebra

### Objective assessments:

Be able to:

estimate the area of an irregular shape drawn on a square grid

calculate and solve problems with perimeter and area of a square, rectangle, triangle, parallelogram, trapezium, circle, semicircle, composite shapes

calculate surface area, cross-sectional area and volume of cubes and cuboids

### Homework/Gwaith cartref:

Set:

Due:

### Homework/Gwaith cartref:

Set:

Due:

### Homework/Gwaith cartref:

Set:

Due:

### Week/Wythnos 4 & 5 Learning Objectives:

With and/or without a calculator:

- Express one number as a fraction of another in simplest terms
- Express one number as a percentage of another
- Find a fraction of a quantity
- Find a percentage of a quantity
- Calculate fractional increase and fractional decrease within context
- Calculate percentage increase and percentage decrease within context
- Solve real life problems involving percentage and fraction calculations

### Objective assessments:

Be able to:

find a fraction or percentage of a quantity

express one number as a fraction or percentage of another

calculate fractional and percentage changes

### Homework/Gwaith cartref:

Set:

Due:

### Homework/Gwaith cartref:

Set:

Due:

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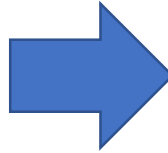
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### Week/Wythnos 6 & 7 Learning Objectives:

- Criticise and design questions for a questionnaire which are fair and unbiased
- Use tallying methods to record discrete (ungrouped) data in a frequency table.
- Select and investigate a simple hypothesis by designing a questionnaire to conduct a survey
- Conduct a survey to collect, sort and classify qualitative (categorical) discrete data.
- Select, construct and interpret appropriate diagrams e.g. pictograms and bar charts of the findings.
- Construct and interpret vertical line diagrams and bar charts for discrete data e.g. dual bar charts
- Interpret pie and line charts used in real life to make comparisons
- Interpret two line graphs to compare the values of a variable at different points in time (e.g. temperature); understanding that intermediate values in a line graph may or may not have meaning.
- Construct pie charts.
- Work with real life scenarios and select appropriate diagrams to represent particular data and justify reasons for choice



### Objective assessments:

Be able to:

understand and use the statistical problem solving process: specify the problem/plan; collect, process and represent data; interpret and discuss results.

### Homework/Gwait h cartref:

Set:

Due:

### Homework/Gwait h cartref:

Set:

Due: