MATHS learning springboards

Budgeting / enterprise projects

Grow your own plants - and raise money for school Aim: Apply maths skills to a 'real life' business.

Plant propagation (see Science Learning springboard s) is a relatively easy enterprise project. The most popular plants to sell at fundraising fairs are salads and herbs. Salads can be grown from seed on a windowsill, and herbs can be grown from cuttings.



Set up a simple spreadsheet to work out the cost of resources used (compost, pots, seeds etc) and to calculate the profits to be made by selling the produce at a range of prices.

• Writing a recipe cards adds a literacy dimension to the project.

Insect maths and 6x 8x tables

Make your own insects and use them for maths problems

Aim: Reinforce knowledge of the 6x and 8x tables and understanding of the number of legs of spiders and insects.

Ivy can be used to make simple 8-legged spiders and 6-legged beetles – (see also Pappus Playful Springboards - Ivy.)

These can then be used for insect maths:

- $3 \times \text{spiders} = 24$
- $2 \times \text{beetles} = 12$

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2 spiders + 3 beetles = how manylegs?

Ivy insects can also be used for algebraic equations, (with additional loose parts).



Co-ordinates and position

Using co-ordinates to map features in the school grounds

Aim: Test mapping skills in a real-world context and give directions.

Superimpose a grid onto an A4 or A3 plan or aerial view of the school grounds. Mark the **x** and **y** axes on the grid, and choose a numbering convention, for example ABC/123. Print sufficient for groups or pairs to work together. Groups should plot and name a number of trees, shrubs or habitats on their plan – use the Pappus ID sheets to help identify species.

Each pair or group then sets tasks for other groups, such as:

- Go to A6; what tree can you find there?
- At what co-ordinates can you find an Ash tree?
- Blindfold a partner and give directions to a specific tree. Use positional language directions such as: left, right, forwards, turn, stop.

Estimating and using a calculator

How old are your trees?

Aim: Use calculators to find out the age of trees in the school grounds.

- Measure one metre from the ground, estimate and then measure the circumference of each tree, in centimetres, at that point.
- On average, every 2.5cm of girth on a tree equates to 1 year of growth. • Using a calculator, divide the circumference by 2.5cm to give an approximate age for each tree – record these onto a plan of the grounds.
- Create an appropriate chart to show the ages of the trees in your grounds.

Where the tree species is known, use the following growth rates:

- Oak and Beech: 1 year = 1.88cm
- Pine and Spruce: 1 year = 3.13cm
- Sycamore: 1 year = 2.75 cm





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