Stage 8: Calculating profit

Learning intentions:

- To calculate profit
- To solve multi-step problems

Stage overview:

This stage could be completed after or during a block of teaching on written addition and subtraction methods. It allows the children to apply their learning to solve real-life problems and gives those who may be disenchanted by Maths an engaging purpose for learning.

Materials needed:

- Internet access
- Marketing strategy sheet

Presentation notes:

Slide 2: Talking time	- Ask the children to think about and discuss the factors that businesses need to take into consideration when deciding on a price for their product.
Slide 3: Calculating cost per unit	- Ask the children to look at their recipe to find out the number of portions of your product that they can make. - Explain that we will use this information to work out the cost per unit. The cost per unit is how much each portion will cost to make. - Explain that to calculate the cost per unit, they must divide the total cost by the number of portions that can be made.
Slide 4: Breakeven	- Explain that if we sell all of our products for the cost per unit (how much it cost to make them) then we will have made enough money to cover our costs; this is called our breakeven point. Selling our products at this price means we will neither gain nor lose money. - Ask the children to explain what they understand about the meaning of the term 'profit'.
Slide 5: Calculating profit	- Share the simple definition of profit (profit is how much money you have made from selling your products after you have taken away the total cost of buying their ingredients). - Use the power point to work through some simple examples of calculating profit.

Slide 6: Selling price	- Ask the children to research the prices that their competitors are charging for their products to give them an idea of how much they could charge. - Emphasise that as business owners, they must ensure that they charge enough to make a profit but not too much, otherwise their customers may choose to buy their competitors' products instead.
Slide 7: Calculating profit per unit	- Ask children to think about how they might calculate the amount of profit they will make on each portion of their product if they sell each portion at their chosen selling price. - To calculate this, ask them to subtract their cost per unit from their chosen selling price per unit - Use the power point to work through some simple examples of calculating profit per unit.
Slide 8: Calculating total expected profit	- Ask children to think about how they might calculate the total amount of profit they will make if they sell all portions of their product at their chosen selling price. - Use the power point to work through some simple examples of calculating profit per unit. - Extend the children to think about how much profit they would make if they sold 10 portions, 100 portions, 50 portions etc. What methods could they use to work this out? - If they decided to run a 'Buy one get one free' promotion, how will this affect their breakeven point and profit?
Slide 9: Running an ethical business	- Using the power point, lead a discussion on the importance of, as business owners, ensuring their suppliers e.g. farmers are paid a fair price. - This could be extended into a class debate to encourage the children to think deeply about this issue.

Links to the National Curriculum:

Maths	Addition & Subtraction	- Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) - Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
	Multiplication & Division	- Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers - Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context - Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 - Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign - Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
	Measurement	- Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling