Y7 Maths –15 minutes

Lesson plan

Curriculum link: Express one quantity as a percentage of another, compare two quantities using percentages.
Learning Objective: To explore job roles linked to percentages as part of the KS3 maths curriculum.
Learning Outcomes: • To understand why knowledge of percentages is necessary for a restaurant owner • To understand how knowledge of percentages can be useful on other job roles
Success Criteria: 1. **Describe** – what does a restaurant owner do? 2. **Understand** – why is knowledge of percentages necessary for a restaurant owner? 3. **Apply** – create a plan to change staffing and the menu based on data including percentages.

Timings	Activity	Details	Resources
3 mins	**Starter** – What do you see?	Starter: 1) Which fact do you find most surprising? 2) What are some of the contributing factors to food waste? Extension: How might this affect existing jobs or lead to new jobs? *1) There are lots of examples students could draw on here – from mass selling techniques by supermarkets, including 'bogof' (buy one get one free) and 3 for 2 offers, as well as the aesthetic standards that people expect in supermarkets.* *2) Other factors that aren't mentioned here and that could be added by the facilitator include – high quantity of perishable foods that are bought by households.*	Slide 3

Y7 Maths –15 minutes

Lesson plan

		3) *This is open for discussion in the classroom. Some ideas to add to the conversation – what kinds of jobs might be affected when thinking about changing our culture around food waste. What industries could be affected – for example, school canteens, food supplies on cruises/planes as well as individual restaurants and restaurant chains. The kind of jobs that this could lead to include: waste management consultant or working in different purpose-led organisations like Winnow or Too Good To Go who have teams of people working to tackle the problem of food waste with restaurants etc.*	
1 min	**Introduction** – What's the problem?	The challenge Sara is a restaurant owner who wants to maximise her profits by: 1) Hiring extra staff for busy periods 2) Tracking food wastage *'Help Sara make changes to staffing and the menu based on data she has collected.'* So, who are the kinds of people who might want to tackle this exact problem in their day to day lives? Introduce the challenge for the students today and the role of a restaurant owner, Sara.	Slides 4
3 mins	**Describe** – what does a restaurant owner do? **Understand** - why is knowledge of percentages necessary for a restaurant owner?	Introduce the role of a restaurant owner. • Students on slide 5 should think through the main responsibilities of a restaurant owner (these should stretch beyond the images provided). • On slide 6, Show the video embedded in the PowerPoint (link here in case it doesn't work) and ask students to write ways that a restaurant owner would use maths.	Slides 5,6 Video

Y7 Maths –15 minutes

Lesson plan

7 mins (roughly 5 mins per slide calculation slide)	**Apply** – create a plan to change staffing and the menu based on data including percentages.	Slide 10 - create a plan to change staffing based on data, facilitator to outline how a restaurant manager would divide up income. Slide 11 – facilitator to explain that they need to work through what the percent (actual) is based on the data been given. 30% of 70000 = 21,000, which means the actual percent is 29%. They should work through all the examples to complete the table. Slide 12 – with the £700 who can they hire? Person A – too expensive Person B – can pay in conditions outline Person C – can pay in minimum conditions outlined For the extension, clarify that on average there are 4.33 weeks in a year. So person B would earn 680/4.33 = 157.04	Slides 7-10
	Independent work to be set	Slide 13 – Students to look independently at the other side of Sara's plan,to reduce waste at her restaurant. Slide 12 – 1) Work out the cost of wasted per month. *Meat – 3000 x 0.1 = 300* *Pasta – 500 x 0.05 = 25* *Vegetables – 1000 x 0.25 = 250* *Fish – 750 x 0.2 = 150* 2) Which ingredient is costing the most in waste? *Meat* 3) Where is most amount of waste happening? *Most amount of waste is happening in vegetables, because a higher percentage is being thrown away* Extension: What would you advise Sara to do based on this complete data set?	Facilitator to email/printed 11-13

		Students could consider how they might limit wastage through freezing goods such as fish, or to substitute meals on the menu that contain ingredients with high waste percentage. Slide 13 – Students need to calculate the change in cost in waste if it switched to a pescatarian menu. *Answer = No she shouldn't change because the cost in waste is much higher in fish in a pescatarian menu (6 x £150 = £900)* *Students could also provide the total cost in waste for the two menus and compare them.*	