**Activity 1 – Quality measures**

**Quality and Safety Characteristics**

*Overarching Question:* What are the important qualities of food and how do we measure them and set specifications?

1. Think of up to 3 different foods or beverages.
	1. What are their important quality characteristics for safety?
		1. *Free of spoilage and harmful micro-organisms.*
		2. *Fortification – is this safety or quality or both?*
		3. *Level of preservative – dependent on type.*
		4. *Storage conditions – chilled or ambient? Humidity?*
		5. *Moisture content – affect micro-organism growth.*
		6. *Foreign material/debris – glass in wine, needles in strawberries.*
	2. What are their important quality characteristics for consumer acceptance or liking?
		1. *Taste and texture*
		2. *Best before date and quality is still acceptable during that period.*
		3. *Bread – colour, particularly crust. Size e.g. weight of bread.*
		4. *Processed meat – fat, solids and non-fat-solids. These will influence texture as well.*
		5. *Coffee beans – aroma, taste, uniform size and shape. Labelling of beans – provenance.*
		6. *Soft drinks – flavour, colour of soft drink, fizziness.*
		7. *Yoghurt – use by date (safety related too), texture and taste.*
		8. *Wine – flavour, aroma, region of origin, particulate matter presence.*
		9. *Bread – texture – fluffy, stale, crunch.*
		10. *Oranges – colour, flavour, juiciness, presence of black spots, aroma/smell. Size.*
2. How would you measure those characteristics?
	1. *Moisture content. 2 options – use of a moisture analyser. Drying product and measuring difference in weight.*
	2. *Colour – Visual – Munsell colour dictionary. Colourimeter – measure things like RGB (red, green, blue), L\*a\*b\* (lightness, red/green, blue/yellow)*
	3. *Size/Shape. Vernier Calipers. Take photos of items laid out with a ruler. Then use image analysis software to take measurements. Tape measure – circumference for round objects. Group items into small, medium and large. CHE2820 – identify the main shape – oblong, sphere, disk. Then from that identify the key measures. For sphere – diameter is the key characteristic. Disk – diameter and the thickness. Oblong – length, width, height/thickness.*



1. Can you draw up a brief specification table for these characteristics? Use Excel if you like!
	1. *Either pick out one of your food/beverage examples OR use a chocolate chip biscuit as your basis. Marie Biscuit example here for reference. A future activity will focus on statistical analysis of these characteristics within a packet.*

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