

EDEXCEL

GCE Design and Technology:
Food Technology (A2)

EXEMPLAR MATERIAL 1

UNIT: 6FT04

A2 Food Technology

Coursework Titles:

- Delicious Desktop Lunches, which can be sold from a mobile unit, station platform, office canteen or chiller cabinet.
- Handheld food products for consumers on the move.
- Coffee shop bakes.

Project First Thoughts:

My project is a mix of the three above titles, I intend to market my product at office workers for the 'Desktop Lunch,' but sold from a coffee shop, my product will preferably be hand held to suit a busy working lunch and have disposable recyclable packaging that is suitable to be eaten on the go, but also very tasty and nutritious. Product should not be too difficult or messy to eat while moving. It would be a good idea if the product came in its own packaging,

Research Methods

- I will research Starbucks as a company, investigate their aims as a company, their attitude to the environment and sustainability, how easy their website is to navigate and how readily the nutrition information of their products is available, their identified target consumer or consumer group, and how they tailor their products to the needs of that individual or group.
- I will research existing products, to see potential gaps in the market and what products already exist and to make sure my product 'blends' into a part of a range. I will disassemble two existing products, to investigate ingredients and components for industrial scale production.
- I will also look at the main competitors to my Client, to see what the shop and the products have to compete with, for example the product range and variety, the products environment, the consumer environment and customer satisfaction.
- I will conduct a consumer survey, to investigate popular venues, products and also any possible products that consumers suggest, that they would like on the market or would buy if it was available.



Product Development

Factors that affect a consumer's decision regarding food purchasing and consumption are divided into the following groups;

- > Cultural – this may be custom, religion based, from an individual's opinion, regional normalities or due to myth or belief, for example the Jewish faith eat no pork, Hindus eat no beef, and Rastafarians eat no meat at all.
 - > Economic – anything regarding the money involved, like an individual's income, the price of the product or the tax on that product, whether it is deemed as a luxury item and charged V.A.T on, or other taxable goods like Alcohol and Cigarettes.
 - > Marketing – Who that product is aimed at and why. This relates to advertising, promotion or distribution of that particular product. For example, you would not aim children's character shaped spaghetti at young professionals.
 - > Physiological – This is the area I will mainly be dealing with, as this related to hereditary disease, allergy, intolerance or even simply that an individual may or may not like the taste of a product, dictating as to whether the product is purchased.
 - > Political – This is regarding E.U legislation or Policy from the Food Standards Agency, regarding conditions the food was made in, the quality of the contents and ingredients or the attire and conditions of the staff.
 - > Psychographics – This is another area I will be dealing with, this is concerned with the consumer's self-concept, lifestyle, values and attitudes, for example, whether quantity or quality is more important and buying food items on a budget. A social conscience aspect also applies, like buying 'Fairtrade' or organic products over the standard range and the effect of doing so.
 - > Social – An individual's class, social reference groups (who they target themselves at) and household size, for example, in a family of 5 or 6, the extra money spent on an organic chicken could have paid for one portion tomorrow's dinner instead.
 - > Technical – The specific practicalities of a product, like its processing or preparation method, or its cooking and storing options.
- I will also have to deal with the seasonality, perishability, the portability, and sustainability of the product I design and manufacture. These are the final importance's that effect consumer and manufacturer buying.

The Importance of a healthy diet and its consequences.

A healthy diet is important at any age, so as not to eat too little or too much calorifically, but also too little or too much of each food group. This is still important to have an equally healthy diet within the restraints of a physiological dietary requirement. Just as Vegetarians have meat substitutes like Textured Vegetable Protein (or TVP) and Quorn to get protein into their diet, the Wheat alternatives for people with Celiac Disease are other starchy carbohydrates, like Rice and Potato 'flour' to replicate certain meals nutritionally (as well as taste, appearance and texturally) in a Gluten free environment.

More information about Celiac disease.

Celiac (or Coeliac) Disease is a genetically predisposed autoimmune gastrointestinal disease. While the disease is caused by a reaction to wheat proteins, it is not the same as wheat allergy. It can set on at anytime during a person's life, or have been present since birth. An allergic reaction occurs to one of the gluten proteins in wheat when it is being digested, causing the nutrient absorbing Villi in the stomach to change shape, swell or 'blunt'. Symptoms range from stomach cramping and chronic diarrhoea to lack of energy, fatigue, anaemia and dermatitis. Failure to thrive has also been recorded in cases involving very young children or infants.

More and more people are being diagnosed with Celiac disease in recent years, due to better screening programs, better patient – GP relationships and the increase of specialism and the prosperity of the NHS system. As consumer demand grows, Gluten free items have appeared in many places that serve or sell food (for example, My local chip-shop has also noticed the rise in prevalence, and offers 'Gluten Free Tuesdays' as part of their menu) as well as in Supermarkets, from ready meals, biscuits and bread, to gluten free flour and Pastry Mixes, whereas this might have been considered as exclusive shopping a few years ago, and confined to health food shops and other such places. I have even heard that once Gluten Free flour was only available on prescription!

Gap Analysis

I have recognised this as a potential gap in the market, as an increasing consumer demand, it is not fully catered for or tailored to as an alternative in every Retailer of foodstuffs, there has been some response by manufacturers and retailers, and amongst these some are better than others. I understand the difficulties with getting a larger chain to introduce a gluten free range, which is why, from my research I have found smaller shops, bakeries and cafe's to be better at catering for this market. Within the larger chain stores, Prêt à Manger have a range of Wheat Free/Gluten Free products, both savoury and sweet. They are quite a good example, to follow or to compete with. They have a range of 'No Bread Sandwiches' turning popular sandwich fillings into salads. Subway also have this initiative, with their 'Make your sub a salad' having the ingredients entirely of the consumer's choice, in a salad bowl instead of between two pieces of bread.

Design Brief

I aim to create a healthy and nutritious Gluten free product, to be served as part of a Gluten free range. I aim to not just use recipes that are coincidentally gluten free, but to specifically tailor my menu to Gluten Free restraints. My product should also be very tasty, not bland or unappealing, to the eye or to the nose. It would also be great if I could make a product where you were not able to tell was Gluten Free, so not just specifically for the Gluten Free market, to be potentially eaten by any customer in that particular shop or branch.

Psychographics

I like to sit in Starbucks to eat or drink as it is a nice environment to be in whether working or socialising.



TEENAGERS/STUDENTS

"I would choose Starbucks over any other place as long as someone else is there as long as possible."

"I like food they offer."

"I would choose to visit Starbucks during lunch, as I can buy a good cup of coffee, and sit in comfort answering a few e-mails. using the free wireless Starbucks offers."



OFFICE AND CITYWORKERS

"It is also a relaxed atmosphere to take 5 minutes when I need it."

"I like their range of cakes, chocolates and treats! All washed down with a nice coffee, and somewhere to rest your feet!"



SHOPPERS

"I choose Starbucks as most of its food and drinks can be taken out, and are easy to eat on the go."



COUPLES WITH OLDER CHILDREN / NO CHILDREN

"I want to feel like I am making a difference when I buy 'fair-trade' Starbucks like items like coffee and chocolate."

"I am also more concerned about the quality and nutrition of the food rather than the quantity. I have to watch my cholesterol!"



Client and Chain Research

Size and type of business:

'Starbucks coffee company is the leading retailer, roaster and brand of speciality coffee in the world, with more than 15,000 retail locations in North America, Latin America, Europe, the Middle East and the Pacific Rim – wherever there is a demand for great coffee.' Starbucks offer good quality coffee, sweet snacks, with a nice environment, "The layout and atmosphere of Starbucks stores are specifically designed to be cosy and intimate, the combination of sofas armchairs, coffee tables and chairs, bars and stools and meeting room tables means there is something for everyone" There are often services like free Wi-Fi, to encourage customers to spend more time in the shop, rather than buy and take out. They sell Organic, Fairtrade, Ethically sourced and Quality Assured Coffee and Ingredients, amongst other products like Chocolate bars.

Other shops targeted at similar consumers:

For the younger consumer group, of teenagers/students and city shoppers, the main concerns are the atmosphere, attitude and appearance of the shop, environment and staff. Many would consider seeking employment at Starbucks whilst during education, for example whilst at college or university. This keeps the age of the staff down, which personally I think is one of the reasons why it is popular with this age group. Other shops I would place with Starbucks are places like Hollister, Ted Baker, Jack Wills, Republic, Oasis, Topshop / Topman, Henleys, Selfridges, Jane Norman, USC, Abercrombie and Fitch, G-Star, Bank and River Island, for the atmosphere and attitude of shoppers and staff.

For office or city workers and couples with older children or no children, the concern is more quality, Fairtrade credentials, and not necessarily the layout of the store and its atmosphere. Comparable shops, are Next, John Lewis, Molton Brown, Debenhams, Marks and Spencer, Waitrose, Bayliss and Harding, Harrods, Duchy, Fortnum and Mason amongst others.

Starbucks' current Product Range:

Starbucks currently offer a large product range, but not a wide range of products. The majority of products seem to be cakes, muffins and sweet pastries, or bread based savoury products, like baguettes, sandwiches and Panini's.

Food Technology; ~~Disassembly~~ – Disassembly of two products

Product 1: STARBUCKS - Tuna with minted pea and potato salad (Wheat and Gluten free.) 290g / £3.40

Fresh garden salad, with tuna chunks, minted peas, boiled new potatoes and red onion, with oil and vinegar dressing.



I chose this product, as it appealed to me personally, I thought it looked nice. It was very tasty, my only criticism is that the portion was quite small. From this, I would make my products slightly larger.

Ingredients/Component function;

Peas – 96.2g / 34.7% - Colour, Vitamin C, Iron, Dietary Fibre,

Tomato – 31.1g / 11.5% - Vitamin C, Colour, Juicy Texture

Lettuce – 19.0g / 6.85% - Flavour, Bulking ingredient

Runner beans – 2.5g / 0.91% - Vitamin C, Dietary Fibre

Potato – 89.1g / 32.14% - Carbohydrate, texture, 'cheap' bulking ingredient

Tuna -27.2g / 9.81% – Protein, flavour, texture

Onion – 11.3g / 4.07% - Flavour, crunchy texture

Dressing – 6.7g / 2.41% - Taste, mouthfeel, Fat for coating consistency

Organoleptics;

Taste – 5/5

Texture - 4/5

Smell – 4/5

Appearance – 3/5



Product 2: PRET A MANGER – 'The No-Bread Sandwich' falafel. Wheat and Gluten Free.

A mixed leaves salad, with Mozzarella cheese, boiled and spiced carrot, with falafel spheres, accompanied by a mayonnaise dressing.



I chose this product, as I thought it was a clever idea, as a 'no-bread' sandwich.

I personally preferred the taste of the other product.

In my own products, I shall consider the idea of making popular foods (like sandwich) wheat & gluten free.

Ingredients/Component function:

Lettuce - 67g / 27.8% - Bulking ingredient, texture, complimentary taste

Falafel - 26.4g / 12.3% - Main flavour, carbohydrate, protein

Dressing 21.1g / 9.8% - Coating consistency, flavour

Carrot - 29.8g / 13.9% - Vitamin C, Vitamin A, Dietary fibre

Cucumber - 23.8g / 11.4% - Complimentary flavour,

Mozzarella - 19.1g / 8.9% - Protein, flavour, fat

Organoleptics:

Taste - 4/5

Texture - 3/5

Smell - 5/5

Appearance 4/5





Food Technology; [redacted] - Competitor Analysis

My client's main competitor is Prêt à Manger, as it is offers premium quality fresh food, as well as a selection of hot drinks, placing its pitch very similar to that of Starbucks Coffee. Other competitors could be shops like Costa coffee, Cafe Nero and Coffee Republic. Other quicker, slightly lower cost high street competitors are shops like Gregg's, Cooplands, Real Cornish Pasty Company, local bakeries and sandwich shops, E.g. Curtis in Retford.

They compete on the High Street for quickness, for example a consumer might buy hot drink from Costa, and if there is a Gregg's or another sandwich shop close they might go in there for a savoury snack to accompany their hot drink. This could be seen as the slightly cheaper and quicker alternative to waiting in a busy coffee shop like Starbucks, Cafe Nero or Coffee Republic.

The Prêt à Manger offer many more fresh products, made in store on that day. They offer a wider and more varied range of products, and less of a 'set menu' of choice. They have a better online setup, displaying product information and nutritional information, for a wider range of products. One of the weaker points of the Starbucks website is that it only displays the nutritional analysis of its 'stock' products. For example I couldn't find the ingredients or breakdown for the product I chose to disassemble on the website.

Although Starbucks is probably the more popular, better known of the two companies, they both have different things to offer the consumer as Starbucks is more of a 'chain' store, with more set menu items and 'bestseller'-type products.



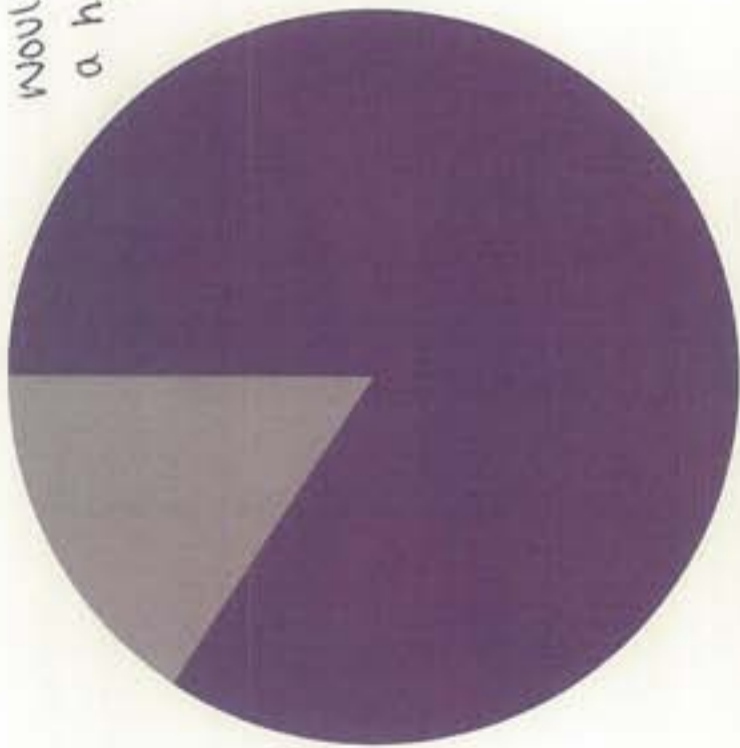
Food Technology; [REDACTED] - Consumer Survey

- 1) Would you go to a high street coffee shop? Y/N
- 2) Which Coffee company would you prefer to visit for a drink? Starbucks / Prêt à Manger / Other; Please specify.....
- 3) Which company would you more associate with Starbucks?
- 4) Would you rather visit another chain baker for example, Greggs, Cooplands or Subway? Y/N
- 5) Which would you prefer to eat at? Starbucks / Prêt à Manger / Costa / Greggs / Cooplands / Subway
- 6) Which is your preferred meal or type of meal from the above shops?
- 7) Is there anything else you would like to see available on the menu? Please Specify.....

- 8) What is more important to you? Quality / Price
- 9) What is your preferred Portion size? Meal / Snack / Light Bite / Finger Food
- 10) How much is ideal to pay for a; Meal / Snack / Light Bite / Finger Food?
- 11) Which products do you mainly buy? Hot Food / Cold Food
- 12) Which -based product would you prefer? Meat-based / Salad-based / Vegetable-based / Pastry-based / Cheese-based / Pasta-based
- 13) What is your favourite genre of food? English / Italian / French / Greek / Indian / Chinese / Thai / Other; Please specify.....
- 14) Anything you would like to add?

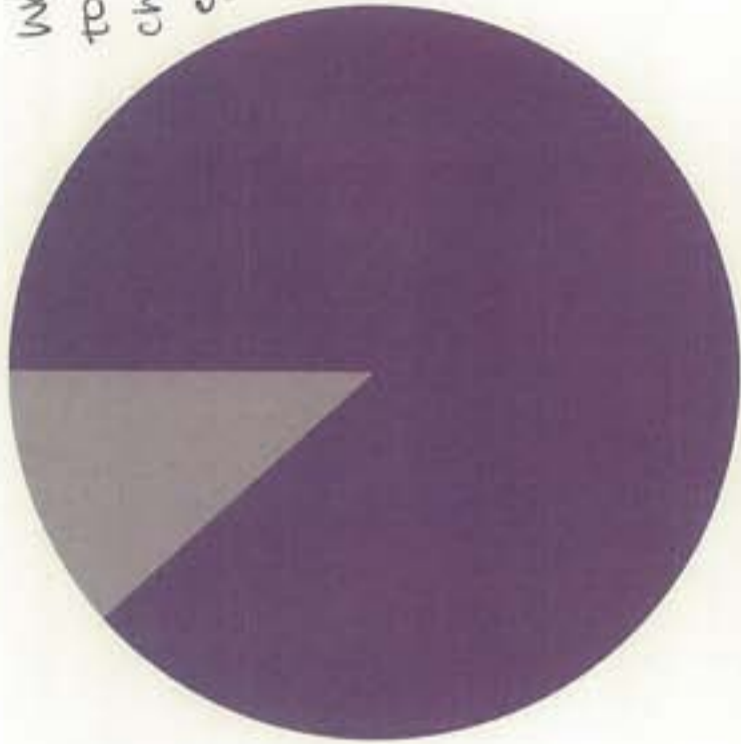
would you go to a high street coffee shop?

■ Yes
■ No



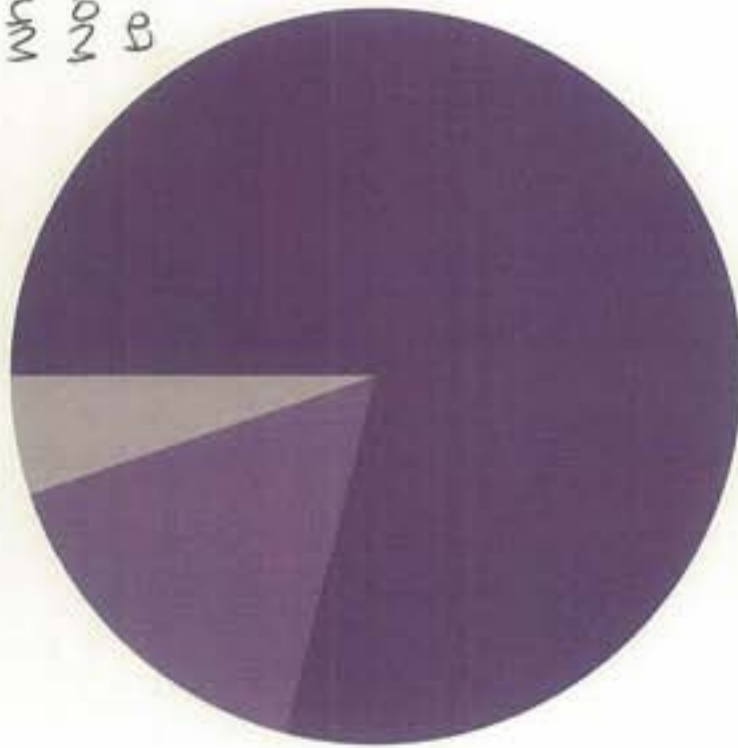
would you prefer to visit another chain/local bakeries eg. Greggs, Curtis or Cooplands?

■ Yes
■ No



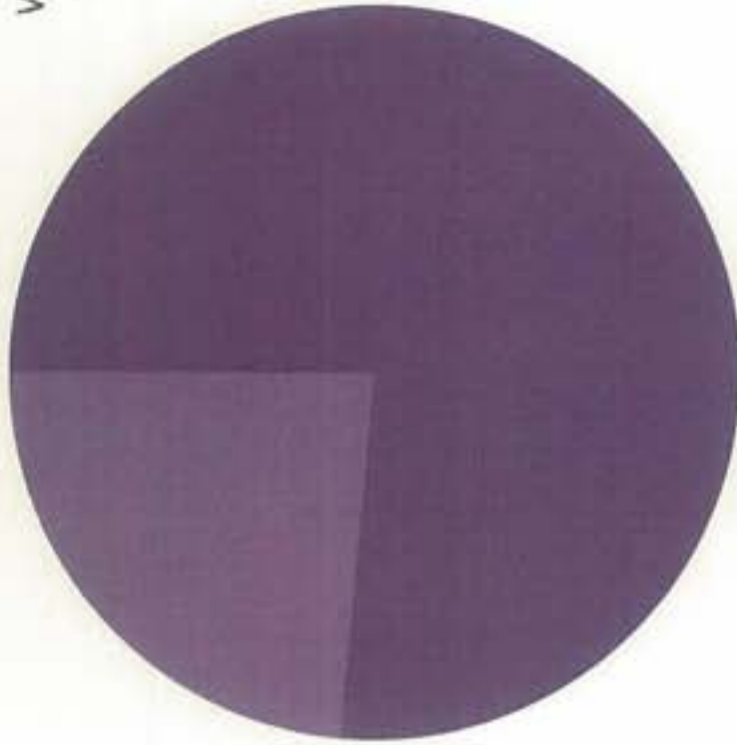
which company would you prefer to visit for a drink?

■ Starbucks
■ Costa
■ Pret



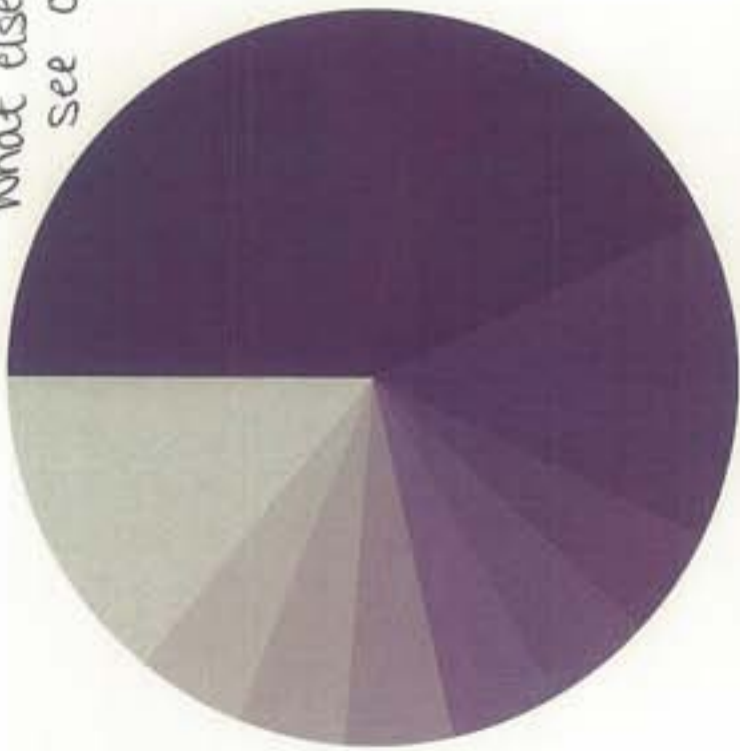
which would you prefer to eat at?

■ Subway
■ Greggs
■ Cooplands



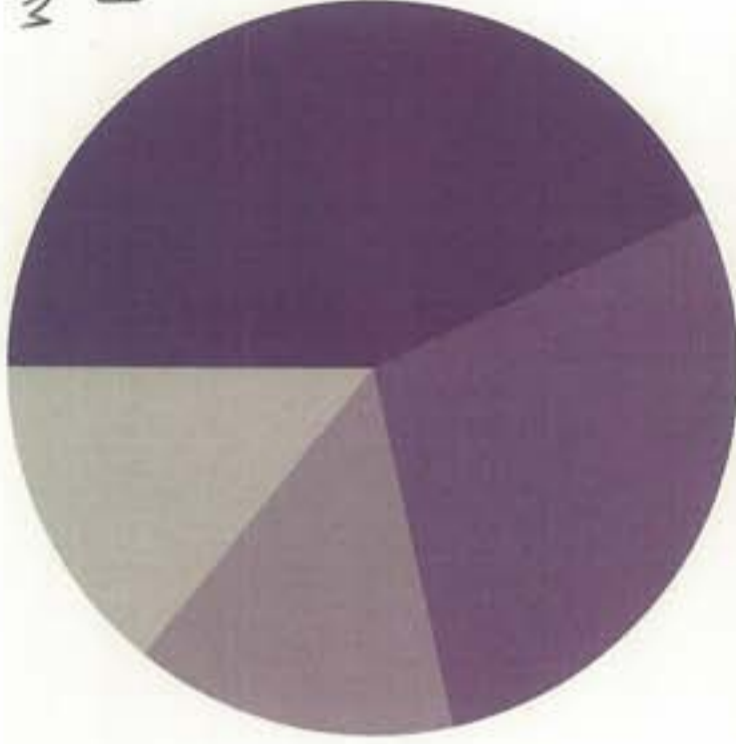
What else would you like to see on their menu?

- Sandwich
- Sweets/Puddings
- Crisps
- Sausage Roll
- Fairtrade Items
- Souvla
- All Day Breakfast
- Chocolate
- Soup



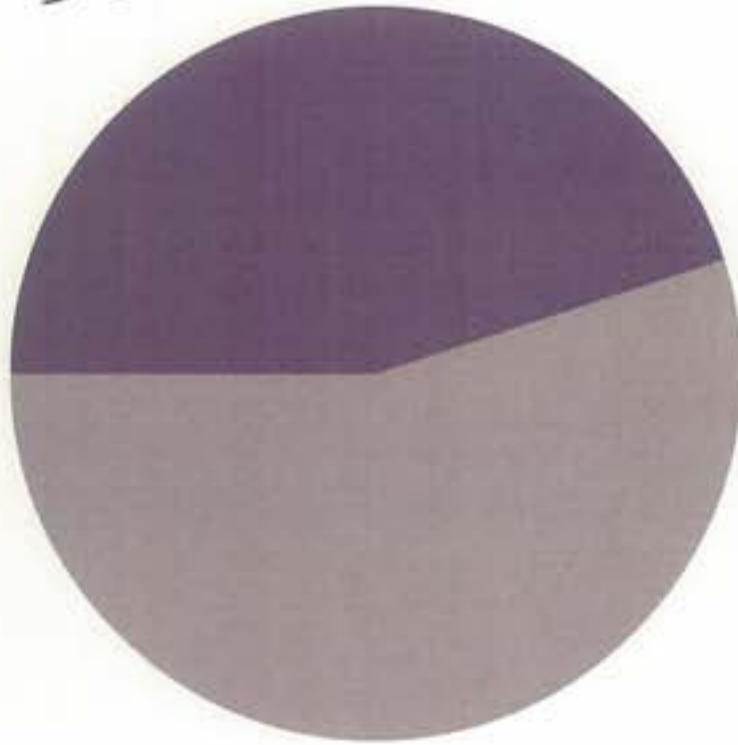
Which 'is your preferred portion size?

- Meal
- Snack
- Lite Bite
- Finger Food



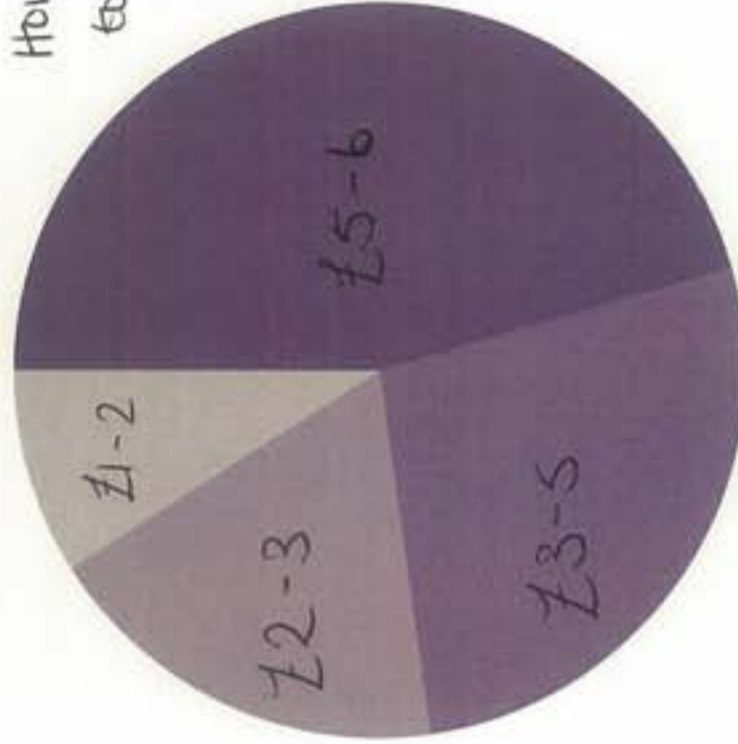
What is more important to you?

- Quality
- Price

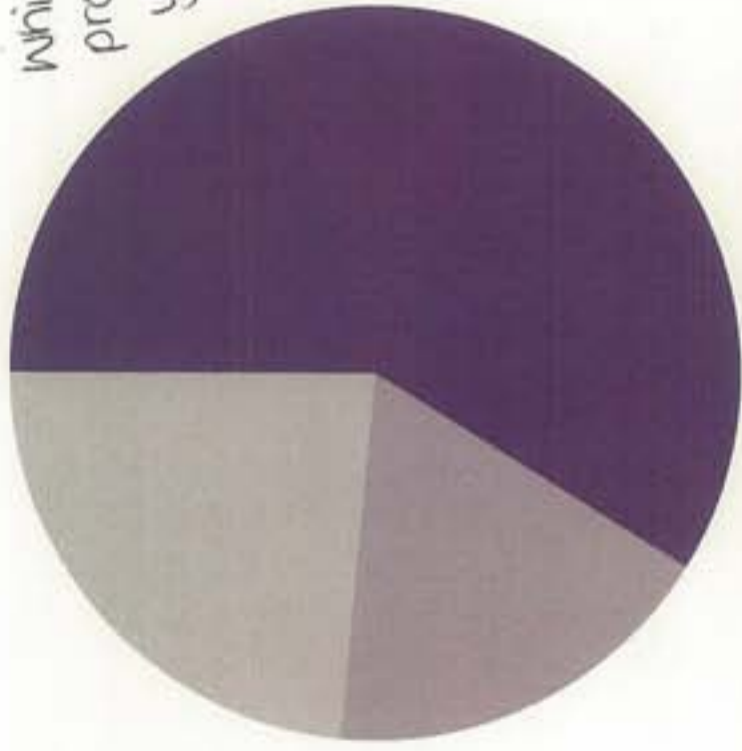


How much is ideal to pay for...?

- Meal
- Snack
- Lite Bite
- Finger Food

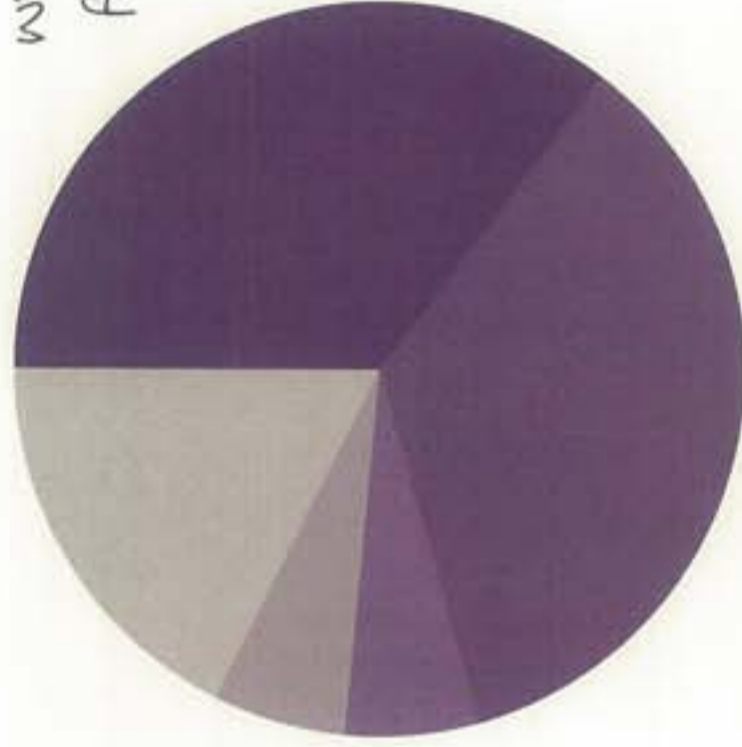


Which -based product would you prefer?



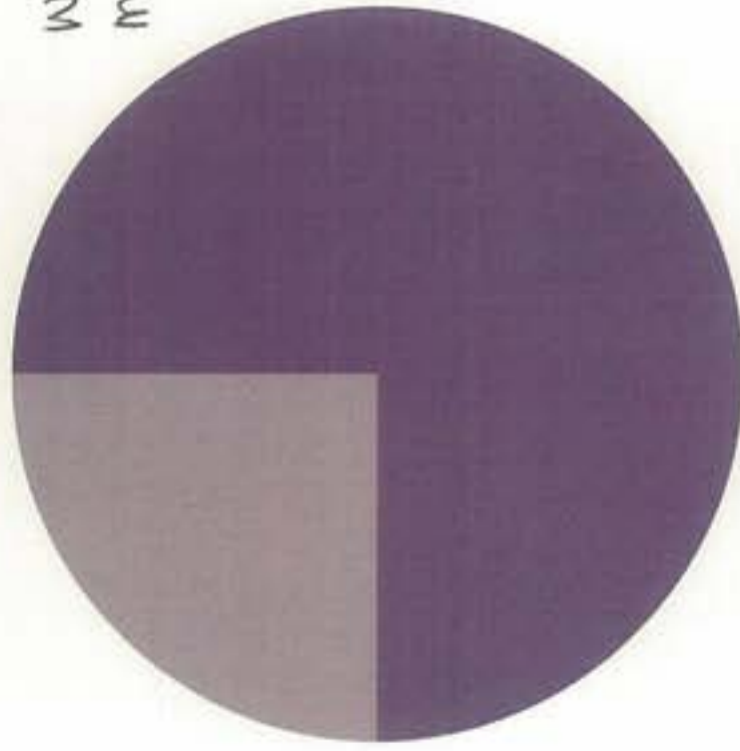
- Meat
- Salad
- Veg
- Pastry
- Cheese

What is your favourite food genre?



- English
- Italian
- French
- Greek
- Indian

What do you mainly buy?



- Hot Food
- Cold Food

From my consumer survey, I have learned that students, (my age group, from my college) are more concerned with price than quality. Hot food was most popular, as was meat based. I will carry this forward when designing and making my own products



Food Technology, Page 6 – Summary/Evaluation of Research

From my research I have found that;

- >At Starbucks, there is little available for a Coeliac/Gluten free diet, less so than that for vegetarian or vegan, and Prêt á Manger provided more options and a more variety of options like puddings/sweet things like cakes.
- >Prêt á Manger had a greater variety of freshly made products; Starbucks were not made in store, pre-made and pre-packaged then delivered.
- >Starbucks had more 'stock' products 'off the shelf' like a set menu or product list, whereas Prêt á Manger had different products in every store, and a different selection again for stores in airports.
- >I have found that consumers find the most popular store other than Starbucks to be Subway. They serve tea and coffee, not to the same quality or standard, but I also found that Price was more important than Quality to those I surveyed.
- >Soup was a popular option as a menu addition, along with Sandwiches/Baguettes and 'posh crisps' Things like Kettle Chips, Tyrell's ect.
- >Environmentally friendly items were viewed as a popular menu change, like Fair-trade coffee and chocolate, Free range/organic eggs used in all products, minimal packaging, and sustainable or recycled paper/plastic to be used, Rod-and-line caught Skipjack tuna were among some other ideas.
- >The preferred portion size is Meal/Snack, so between 250g and 450g for £3-6. Lite bites and finger food were often said to be sourced elsewhere.
- >Hot food is a more popular choice than cold food, consistently no matter the time of year.
- >Meat based was the most popular choice followed by pastry based.

Point	Link	Reason	Testing
Must be realistic, technical and measurable.	From my original design brief.	Must be realistic as it must be possible to make in a factory or smaller shop kitchen.	Measurable against this criteria, and my original design brief.
Must cost between £3 - £5.	This was the most popular price range from my consumer survey.	It is a reasonable price to pay for high quality ingredients.	Cost of ingredients / portions * 55%
My product must weigh between 250g – 400g. This places it at a snack or small meal.	Snack or small meal was the main portion size group.	Midday meals are often smaller than a Dinner - time type portion.	Weighing the ingredients before and after cooking.
My product should be freshly made and last for up to a day.	This was proposed in my first design brief.	Fresh food is often of higher quality standard than pre bought.	Timed when made and then disposed of if not sold.
My product will be gluten free, of a snack or light meal portion size.	There were hardly any gluten free products available from Starbucks.	Gluten free or Celiac has been recognised as quite a major dietary requirement by many places, from supermarkets to my local chip shop.	Use gluten free products where possible, and when not possible, adapt the recipe to avoid gluten containing products.
My product will be pastry or salad/vegetable or meat based.	These were the common options when surveyed.	Can produce a wide range of products from these criteria.	Use those ingredients, and conduct a blind test survey to see if the flavours are obvious.
My product may be vegetarian or contain meat.	People who have a gluten free diet may or may not be vegetarian as well.	It has no link to their choice of being gluten free.	Vary the protein product used, for example meat or TVP etc.
If to be served warm, after purchasing, my product should be able to be reheated ONCE by oven or microwave.	This came out as a popular option on my consumer survey.	Product needs to be safe for reheating, by only being cooked once previously.	After baking, store and measure the temperature of the cooler cabinet to keep fresh but safe.

~~Design~~ - Design Idea 1: Tuna Pasta Salad.

Skipjack tuna, with lettuce, rocket, watercress, red onion and Oil and Vinegar Dressing.

Although this idea was rather simple, it is long lasting, quick and easy to make in store, is a fresh and healthy lunch that can be eaten on the go.

ASSEMBLY DIAGRAM AND METHOD OF MAKING: Method: I put the pasta on to boil, meanwhile washing the leaves and chopping the onion. I added a small amount of black pepper to the tuna flakes, and added them to the bowl of leaves. When the pasta was soft all the way through, I put two spoonfuls into a container and added the tossed tuna and salad on top, adding a small amount of oil and vinegar dressing to serve.



RECIPE AND FUNCTION OF INGREDIENTS:

1 can of tuna, 1 red onion, 250g of Gluten free Fusilli pasta, 50g mixed leaves, 100g rocket and watercress. Dressing to taste.

COSTING PER PRODUCT: onion: 36p tuna: 78p pasta: £3.49 for 500g, so £1.74 for 250g, mixed leaves: £1 rocket & watercress: £1

Total = £4.88 ÷ 4 = £1.22 per portion to make, add 55% for model selling price = £1.89

EVALUATION AGAINST SPECIFICATION:

My product meets my specification on the following points:

My product contains gluten free organic pasta, satisfying my sustainability criteria.

My product is realistic, although not very technical, and was measurable against my design brief and set specification.

My product has a selling price of 1.89, making it cheaper than my brief.

My product weighed 144g. This is slightly lighter than my brief dictates, it was salad based so very light. Still, this places in the snack or small meal category.

My product is freshly made, and should last still at high quality for up to a day.

My product was salad based, and contains fish, which makes it suitable for some vegetarians.

SENSORY ANALYSIS & 3RD PARTY COMMENTS: Averages; Taste 5/5 Texture 4.4/5 Appearance 4.4/5 Aroma 4.2/5

Some comments were: "lovely gorgeous flavour" "strong onion-y taste and smell, made it fiery! Which was very delicious" "the pasta was cooked very nicely, still slightly chewy" "some sweetcorn or red pepper would go well, and add some colour" "maybe more pasta?"

POTENTIAL FOR FURTHER DEVELOPMENT:

To increase the selling price of my product in accordance with my design brief, I could use more luxury ingredients and add more components, and use a little more pasta in accordance with my feedback.

SUSTAINABILITY CREDENTIALS:

I used Organic pasta, and dolphin friendly rod-and-line caught skipjack tuna, as blue and yellow-fin tuna are overfished, and on the endangered species list.

Product Name - ~~Recipe~~ Design Idea 3: Broccoli and Cheese Quiche: Broccoli and mild cheddar cheese, with free range eggs and Gluten free pastry.

ASSEMBLY DIAGRAM AND METHOD OF MAKING:

I made the quiche mix with gluten free pastry mix and butter, I then rolled the pastry dough in-between sheets of Clingfilm as it was very short. This helped me to lift it into the baking tray. I then grated the cheese into a dish, and chopped the broccoli into individual florets, and then in half again. I placed a bed of broccoli onto the pastry, and sprinkled the grated cheese on top. I then poured on a mixture of beaten milk and eggs.



RECIPE AND FUNCTION OF INGREDIENTS:

Mrs Crimbles Gluten free pastry mix, ½ a large Broccoli, 2 free range Organic eggs, 200g Cheddar cheese, 125mls Milk, 50g Butter.

COSTING PER PRODUCT: Gluten free pastry mix; £2.19. ½ a large Broccoli; 42p. 2 free range Organic eggs; 40p. 200g Cheddar cheese; 99p. 125mls Milk; 79p Butter; 35p. Total = £5.18 ÷ 4 = £1.29 add 55% for model selling price = £1.99.

EVALUATION AGAINST SPECIFICATION:

My product is realistic, technical, although a quiche is not normally very difficult to make, working with gluten free pastry is very difficult, it took me 3 attempts to get the rolled dough into the baking tray, and it still needed patching up around the edges! My product is measureable against my design brief. My product costs between £1.99 per portion. This is under budget. My product weighs 255g. This places it at a snack or small meal. My product can be easily freshly made and will last nicely cold for up to a day. My product is Gluten Free, and pastry based, and is suitable for vegetarians. My product is equally tasty served hot or cold. If desired to be served warm, my product can be re-heated ONCE by oven or microwave.

SENSORY ANALYSIS & 3RD PARTY COMMENTS: Averages; Texture 4.4/5 Taste 5/5 Appearance 4.2/5 Smell 5/5.

"Was very nice and moist, not dry like quiches sometimes are" "Smelled very appetising" "Good textures, the broccoli was still nicely crisp" "Maybe more varied flavours? Possibly use another type of cheese like stilton" "The pastry was slightly sweet" "It was brilliant, I loved it"

POTENTIAL FOR FURTHER DEVELOPMENT:

Use more ingredients, or more luxury ingredients to put my costs up.

Use a second cheese, perhaps a blue cheese. Add some other ingredients for some more subtle flavours possibly onions and tomatoes.

Use organic milk/cheese to increase the products selling price. Serve with Black pepper on top to garnish. Salt the pastry a little more.

SUSTAINABILITY CREDENTIALS:

I used free range organic eggs in my pastry. I could have used other organic products, for example Organic milk, Butter and Cheese. I feel this is a good area for further development.

~~1~~ – Design Idea 3: Veggie Burgers with Homemade Chips.

Creamy mashed potato, with sweet vegetables, served in a bread bun with homemade chips and salad garnish.

ASSEMBLY DIAGRAM AND METHOD OF MAKING: I peeled the potatoes, and cut some for chips, and some into chunks for boiling for the mash. I put the chips into a baking tray with a splash of oil, and put into the oven. I put the potato chunks into a pan of boiling water, until soft entirely through. I put the sweetcorn and peas into a pan of hot water to heat through. I then chopped the red pepper, and the onion. I put the onion into a pan with some oil to sweat and make them sweeter. The potatoes were cooked, so I drained them and fluffed them, put them back in the hot pan and mashed with the cheese and the cream cheese. I then stirred in the peas, sweetcorn, red pepper and onion. I shaped them and rolled with flour, and put into the oven. I took the chips out and served with the leaves and the bread buns.



RECIPE AND FUNCTION OF INGREDIENTS: 1KG Potatoes, 100g Peas, 100g Sweetcorn, 2 Small Onions, 1 Red Pepper, 250g Cheddar cheese, 125g Cream Cheese, A Handful of mixed leaves, 4 Gluten free bread buns.

COSTING PER PRODUCT: 1KG Potatoes; 0.99p. 100g Peas; £1.62. 100g Sweetcorn; 0.99p. 2 Small Onions; 15p. 1 Red Pepper; 76p. 250g Cheddar cheese; £1.24. 125g Cream Cheese; 41p. A Handful of mixed leaves; £1. 4 Gluten free bread buns; £2.99

EVALUATION AGAINST SPECIFICATION:

My product is realistic, technical and measurable against my design criteria.

My product must cost between £3 – 5.

My product must weigh between 250g – 400g. This places it at a snack or small meal.

My product is freshly made and will last at good quality for up to a day.

My product is Gluten Free, and is of light meal portion size.

My product is vegetable based, and therefore is suitable for vegetarians

After purchasing, product can be re-heated ONCE by oven or microwave.

SENSORY ANALYSIS & 3RD PARTY COMMENTS: Averages; Taste 5/5 Texture 3.8/5 Appearance 4.2/5 Smell 5/5.

“The chips didn’t look cooked, although they were.”

POTENTIAL FOR FURTHER DEVELOPMENT: The burgers didn’t hold their shape very well after Cooking; I could improve this if they were made again.

SUSTAINABILITY CREDENTIALS: I used gluten free bread buns, and market standard vegetables. The potatoes in particular were British, so low transportation mileage.

~~Asian Idea 4: Chilli in a Bread Bowl~~

Hearty winter warmer, chunky chilli in a gluten free bread bowl.

ASSEMBLY DIAGRAM AND METHOD OF MAKING: I heated the beef in a pan, when the beef had browned through; I added the tinned tomatoes and tinned kidney beans. I chopped the mushroom, red pepper and chilli peppers and added those. I fried off the red onions in a small amount of oil, and added those. I added some Chilli Chocolate last, to give a rich spicy flavour. I made up the bread dough with milk and yeast, allowed to prove in the top oven, then cooked until firm and golden brown.



RECIPE AND FUNCTION OF INGREDIENTS: 500g Beef mince, 1 tin of chopped tomatoes, 1 tin of kidney beans, 1 large red onion, 125g of Yorkshire button mushrooms, 1 clove of garlic, 6 real chilli peppers, 1 red pepper, 50g Gluten free flour, 125 mls milk, 1 sachet of yeast.

COSTING PER PRODUCT: Beef; £2.88 Tomatoes; 39p Kidney beans; 39p Red onion; 89p Mushrooms; £1.99 Garlic; 52p Chilli peppers, 99p Red pepper; 55p Chilli chocolate; £1.25 Gluten free flour; £3.50 Milk; 79p Yeast; 25p. Total = $14.36 \div 4 = £3.59$, added 55% for retail price = £5.45

EVALUATION AGAINST SPECIFICATION:

My product is realistic, technical and measurable against my Design Specification.

My product costs £5.45. This is slightly over my set selling price.

My product must weigh between 250g – 400g. This places it at a small meal portion size.

My product is freshly made and should last nicely for up to a day.

My product is Gluten Free, as I used Gluten Free Flour for the Bread dough.

My product is meat based. This means it contains meat and is unsuitable for vegetarians.

My product is suitable for re-heating after purchasing. My product should be re-heated ONCE by oven or microwave.

SENSORY ANALYSIS & 3RD PARTY COMMENTS: Averages; Texture 4.6/5 Taste 3.8/5 Appearance 5/5 Smell 4.6/5.

'The chilli was very nice, had a great texture and looked fantastic.' 'The chilli could have been a little spicier, as it was very rich.' 'The bread dough was quite sweet, although the crispy texture went well with the chilli.'

POTENTIAL FOR FURTHER DEVELOPMENT: The bread dough was slightly sweet, if made again I would salt the dough a little more.

SUSTAINABILITY CREDENTIALS: I used Organic Beef mince, and home-grown real chilli peppers, rather than chilli powder.

Design Idea 5: Moroccan Chicken Baharat, with Dates and Almonds.

Spiced Chicken pieces in a sweet honey and apricot stock with chopped dates and almonds.

ASSEMBLY DIAGRAM AND METHOD OF MAKING: I fried the onions in a little oil, with some of the Baharat seasoning. I put the onions into a pan with the chicken stock. I then fried the chicken in with some Baharat seasoning.



RECIPE AND FUNCTION OF INGREDIENTS: 675g Chicken Pieces, 1 large Onion, 2 Large Garlic Cloves, 1 teaspoon Baharat seasoning, 500ml Chicken Stock, 12 Dates, 250g Almonds, 250g Apricots 2 tbsp Honey.

COSTING PER PRODUCT: Chicken; £4 Onion; 89p Garlic; 52p Baharat seasoning; 5p Stock; 15p Dates; £2.49 Almonds; 1.99 Apricots; 99p Honey; 58p.
Total: $11.66 \div 6 = 1.94$ add 55% for sale price = £3.21

EVALUATION AGAINST SPECIFICATION:

My product is realistic, technical and measurable against my design criteria.
My product costs £3.21. This is towards the lower end of my price range.
My product weighs 315g per portion. This is nicely in between my criteria weights.
My product is freshly made and should last for longer than a day.
My product is Gluten Free, and is of light meal portion size.
My product is a meat based products, and therefore my product contains meat.
My product is suitable for re-heating ONCE by oven or microwave.

SENSORY ANALYSIS & 3RD PARTY COMMENTS: Averages; Texture 4.8/5 Taste 5/5 Appearance 4/5 Smell 5/5. 'Delicious, very aromatic and not too spicy, which was nice.' 'Would have been nice with more chicken, cut into slightly smaller pieces.' 'Really tasty!' 'Maybe some red peppers or chilli peppers for some colour and a bit more spice.'

POTENTIAL FOR FURTHER DEVELOPMENT: Use more ingredients, or more luxury ingredients to try and increase the products selling price slightly. Add more colour.

SUSTAINABILITY CREDENTIALS: I used Organic Chicken in my product.

~~Design~~ – Design Idea 6: Yasai Cha Han with Chinese 5 Spice Chicken

Orientally inspired stir fry, with spicy chicken and egg noodles.

ASSEMBLY DIAGRAM AND METHOD OF MAKING: I cooked the chicken in a shallow frying pan with some stir fry oil and Chinese 5 spice. I then warmed the egg noodles in a wok, adding the chicken when it was thoroughly cooked. I added all the other vegetables and cooked on a high heat very quickly, so they were still fresh and crunchy.



RECIPE AND FUNCTION OF INGREDIENTS: 200g Spring greens, 150g peas, 200g egg noodles, 250g family stir fry mix (Savoy cabbage, red onion, beansprouts, sweetcorn, water chestnuts) a splash of stir fry oil, soy sauce to taste, 350g Chicken, small amount of Chicken stock to taste.

COSTING PER PRODUCT: Spring greens + peas + egg noodles, £2.50 family stir fry mix; £1(Savoy cabbage, red onion, beansprouts, sweetcorn, water chestnuts) stir fry oil; £1.29 soy sauce; 99p. Chicken £4 Chicken stock; 15p. Total = £9.92 ÷ 4 = £2.48. Add 55% for retail price = £3.84

EVALUATION AGAINST SPECIFICATION:

My product is realistic, technical and measurable against my design criteria.

My product costs £3.84 per portion.

My product weighs exactly 300g. This puts it firmly between my criteria.

My product is freshly made, and last for up to a day.

My product is Gluten Free, of snack portion size.

My product is vegetable based, and is therefore suitable for vegetarians.







My product is suitable to be re-heated ONCE by oven or microwave.

SENSORY ANALYSIS & 3RD PARTY COMMENTS: Taste 5/5 Texture 5/5 Appearance 4.2/5 Smell 4.8/5.

'Was delicious, I liked the crunchy vegetables' 'Smelled wonderful, shame I couldn't eat it because of the meat in it!' 'Was not dry, sometimes stir fries can be.' 'The noodles were slightly greasy.'

POTENTIAL FOR FURTHER DEVELOPMENT: Use a different protein, for example Quorn or Tofu to make this product vegetarian. Use less oil when frying.

SUSTAINABILITY CREDENTIALS: I used organic chicken in my product. I aimed to use all organic meat in my products.

Name	Strengths	Weaknesses	Specification met?	Suitability of manufacture	Suitability for development	Picture	Sustainability criteria met?	Client feedback
Tuna Pasta Salad.	Quick and easy to prepare and serve. Will keep fresh for up to a day.	Simple, not very complicated recipe or ingredients.	Yes.	Very suitable.	Suitable, add more ingredients.		Yes.	Looks nice, can say this fitting in with other salads
Broccoli and Cheese Quiche.	Quick and relatively simple to make.	Slightly more complex and luxury ingredients.	Yes.	Suitable, for batch production.	Use more luxury ingredient, like stilton cheese.		Yes.	A bit plain. Not ambitious enough to be a well
Veggie burgers with Homemade Chips.	Very tasty :)	Did not keep texture very well after baking.	Yes.	Not very suitable.	Use egg as a binder.		Yes.	Be junior for diatribe would get in with other food
Chilli in a bread bowl.	Self packaged, can be eaten on the go.	Bread was slightly sweet, because it was gluten free.	Yes.	Suitable for batch production.	Add more salt to the Bread Dough.		Yes.	Unusual but different
Moroccan Lamb Baharat.	Unusual oriental taste.	Difficult to prepare quickly.	Yes.	Suitable.	Use different meat.		Yes.	Looks appealing A bit different
Yasai Cha Han with 5 Spice Chicken.	Very tasty, fresh flavours.	Quick and easy to prepare.	Yes.	Very Suitable.	Use meat substitute instead of chicken.		Yes.	Very appealing Suitable for a menu

EXISTING DESIGN SPECIFICATION

- My Product must be realistic, technical and measurable.
- My Product must cost between £3-5.
- My Product must weigh between 250g - 400g
- My Product will be gluten free, and of snack or small meal portion size.
- My product will be pastry, salad, vegetable or meat based.
- My product may or may not contain meat.
- My product should be suitable for re-heating.

PRODUCT SPECIFICATION

NEW POINTS

- My Product must be low in fat.
- My Product must be high in fibre.
- My Product must have interesting, complementary flavours.
- My product should contain high iron.

NEW SPECIFICATION!

- My Product is a healthy, light meal to be served at lunchtime, to Shoppers and City workers.
- My Product is low fat, high in iron and contains lots of fibre.
- My Product must contain oriental spices, and have interesting, delicious and complementary flavours
- My product should be waxy and cost between £3-5.
- My Product, as a light meal, must weigh between 250g - 400g
- My Product must be gluten free.
- My Product must be measurable against these criteria
- My Product should be suitable for re-heating. (MAX. ONCE.)

Development 1 – Vegetables.

I developed the traditional oriental stir fry, by using seasonal vegetable variants. I made winter, summer and Spring Vegetable Stir Fries.

Winter:
Red + Yellow peppers, Tomato,
Courgette, Squash, onion
Cashew nuts, Tahini Paste
Flat leaf parsley.



Summer:
Red cabbage, Red onion
Apple, Celery + Cinnamon



Spring:



Squash - high fibre

- The bright colours of my products indicate their high Vitamin content.
- My products are low in fat, as they were cooked in Sesame Oil, which is low in Saturated fat → contain lots of fruit + vegetables.

Costing per product:

* See costings section in last pages, back of packet. Page 38

My product is realistic, technical and measurable. My product cost between £3 - £5. My product weighed between 250 - 400g. My product is freshly made and will last for up to a day. My product is gluten free and of snack or small meal portion size. My product is vegetable based, and is vegetarian. My product is suitable for re-heating once.

Winter: The winter vegetable medley was my least favourite, the flavours were odd and it was stodgy and not very nice, I didn't like the parsley. Overall 2/5
Spring: This was delicious! Nice fresh, crisp, spring vegetables. My favourite, by far! Overall 5/5

Summer: I didn't like this product hot. I preferred it cold as a salad, the apple and red cabbage was sweet and nice, and went well with the pear and cinnamon. Celery added a salty yet fresh tasting level. Overall 4/5

All vegetables used were organic or locally sourced.

The spring vegetable medley was by far the most successful, scoring the highest. This was probably the most suitable for mass production. For my next development I am going to look at which was the most popular and complimentary meat.

Development 2 + 3 – Meat and Sauce

After choosing the most successful vegetable medley, I then went on to develop the most successful accompanying meat. I combined the spring greens with Turkey, chicken, pork, beef, lamb and Quorn.



→ I made a large amount of the spring greens medley, then one meat of each with each sauce into small pots.

I then asked for feedback on the combinations of meat and sauce.



Turkey.



Chicken.



Pork.



Lamb.



Beef.



Quorn.

Costing per product:

* See Costings section on last pages, at back of booklet. Page 39

My product is realistic, technical and measurable. My product cost between £3 - £5. My product weighed between 250 - 400g. My product is freshly made and will last for up to a day. My product is gluten free and of snack or small meal portion size. My product will be vegetable based. My product is vegetarian / meat based. My product is suitable for re-heating once.

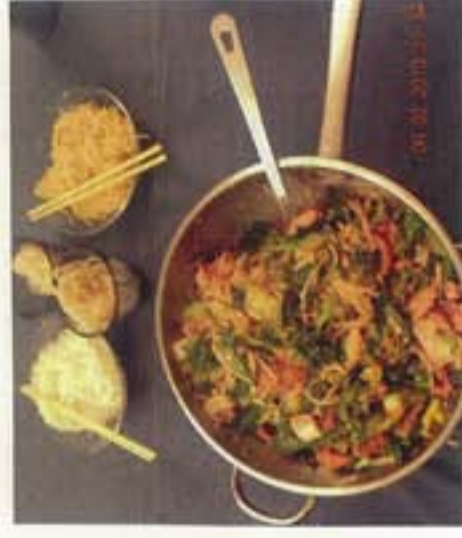
Meat used was supermarket free range, in the cases of Turkey and Chicken. The beef steak lamb and pork were from the local butcher.

Name of sauce	Soy and Honey	Sweet Chili	Chinese Stir Fry Sauce	Hoisin	Comments
Turkey	Taste: 4/5 Texture: 3/5 Appearance: 4/5 Smell: 4/5	Taste: 5/5 Texture: 5/5 Appearance: 4/5 Smell: 4/5	Taste: 5/5 Texture: 4/5 Appearance: 5/5 Smell: 5/5	Taste: 4/5 Texture: 5/5 Appearance: 4/5 Smell: 5/5	<ul style="list-style-type: none"> ➤ Slightly bland ➤ Meat was quite dry ➤ Not very flavoursome
Chicken	Taste: 4/5 Texture: 5/5 Appearance: 4/5 Smell: 5/5	Taste: 4/5 Texture: 4/5 Appearance: 5/5 Smell: 5/5	Taste: 5/5 Texture: 5/5 Appearance: 4/5 Smell: 5/5	Taste: 3/5 Texture: 4/5 Appearance: 5/5 Smell: 3/5	<ul style="list-style-type: none"> ➤ Very tasty ➤ moist meat ➤ Complimented the vegetables well
Beef	Taste: 5/5 Texture: 5/5 Appearance: 4/5 Smell: 4/5	Taste: 4/5 Texture: 5/5 Appearance: 3/5 Smell: 4/5	Taste: 4/5 Texture: 4/5 Appearance: 5/5 Smell: 5/5	Taste: 5/5 Texture: 4/5 Appearance: 3/5 Smell: 4/5	<ul style="list-style-type: none"> ➤ Meat was tough ➤ Chewy texture ➤ Tasted nice and rich
Pork	Taste: 3/5 Texture: 5/5 Appearance: 4/5 Smell: 4/5	Taste: 4/5 Texture: 4/5 Appearance: 3/5 Smell: 4/5	Taste: 5/5 Texture: 4/5 Appearance: 4/5 Smell: 4/5	Taste: 5/5 Texture: 5/5 Appearance: 4/5 Smell: 3/5	<ul style="list-style-type: none"> ➤ Meat was fatty ➤ Greasy texture ➤ Didn't compliment the vegetables as well as some others did
Lamb	Taste: 4/5 Texture: 4/5 Appearance: 3/5 Smell: 4/5	Taste: 4/5 Texture: 4/5 Appearance: 3/5 Smell: 3/5	Taste: 4/5 Texture: 5/5 Appearance: 5/5 Smell: 4/5	Taste: 4/5 Texture: 5/5 Appearance: 5/5 Smell: 5/5	<ul style="list-style-type: none"> ➤ Not enough of the meat ➤ Was slightly tough ➤ Very chewy
Quorn	Taste: 4/5 Texture: 4/5 Appearance: 5/5 Smell: 4/5	Taste: 3/5 Texture: 3/5 Appearance: 4/5 Smell: 5/5	Taste: 3/5 Texture: 5/5 Appearance: 4/5 Smell: 5/5	Taste: 4/5 Texture: 4/5 Appearance: 4/5 Smell: 5/5	<ul style="list-style-type: none"> ➤ Very nice crumbly texture ➤ Although was quite dry ➤ Nice, light texture

From the sensory analysis scores, the most popular (with equal highest scores) were; Chicken Soy and Honey, Chicken Stir fry sauce, Turkey Hoisin and Turkey Stir fry. As the Chicken was the most popular meat form my consumer comments, and the Stir fry sauce was the most popular sauce, by combining the two, Chicken Stir-fry seems the most popular choice to continue to develop.

Development 4 - Accompaniments

I chose Chicken with Stir Fry sauce as the most popular meat and sauce combination, and I am now going to investigate which accompaniment best fits the vegetables, sauce and meat medley. I looked at Udon noodles, Rice noodles, Egg noodles, Plain boiled Rice, Egg fried Rice, and Steamed Sticky rice.







Costing per product:

* See 'costings', on last pages
at back of booklet - page 40

My product is realistic, technical and measurable. My product cost between £3 - £5. My product weighed between 250 - 400g
My product is freshly made and will last for up to a day. My product is gluten free and of snack or small meal portion size.
My product is vegetable based. My product contains meat. My product is suitable for re-heating once.

There were no sustainability credentials as far as free range, organic or fresh produce, but there is a low carbon footprint as the noodle factory is very close to where I bought them from.

From my consumer feedback, the Udon noodles were the least popular, as they were thick and chewy, followed by the sticky rice for the same reasons. The egg fried rice was quite popular, but by far the highest scoring was the Rice noodles. They were nice and light, as they are very thin, and have a nice creamy taste. The egg noodles were quite oily, and greasy textured, which was not very appealing. The plain rice was also quite bland. My final product then, will be spring greens, with Chicken and stir fry sauce, with rice noodles.

<u>Development</u>	<u>Strengths</u>	<u>Weaknesses</u>	<u>Specification Met</u>	<u>Suitability of Manufacture</u>	<u>Picture</u>	<u>Sustainability Criteria Met?</u>	<u>Client Feedback</u>
<u>Vegetables:</u> <u>Spring Greens:</u>	The spring greens medley was tasty, fresh and crisp.	Easily went soggy and not as nice when slightly overcooked.	Yes – It was tasty and nutritious.	Very suitable, can be made quickly and easily and would suit being made in stages on a batch production line.		Yes. All the vegetables used were 'Market' standard, which is good to reduce wastage and food miles.	Looks good and fresh
<u>Winter Veg:</u>	The winter vegetable medley was wholesome, warming and filling.	Was very savoury and quite salty. Might not have paired as well as others with meat and sauce.	Was possibly a little too heavy on the stomach, but still tasted very nice.	Quite suitable, could be prepared lineally, then cooked all together in large brat pans.		Yes. All the vegetables used were 'Market' standard, which is good to reduce wastage and food miles.	Not Very Successful Not part of the theme
<u>Sweet Red cabbage and cinnamon:</u>	Was deliciously different, contained lots of antioxidants.	Actually tasted better as a cold salad.	Yes – It was tasty and nutritious.	Was not as suitable, certain aspects like grating cinnamon would require some or more human input than the other two.		The cinnamon would have to have been grown in a warmer climate, and therefore imported, increasing the carbon footprint of my product.	
<u>Meat:</u> <u>Lamb:</u>	Was an unusual choice for a stir-fry.	Was quite heavy and dense, and described as greasy from consumer feedback.	Yes, it was high quality meat, with low food miles and non-intensive farmed.	Difficult to say, probably very little difference between it and other meats.		Yes, the lamb was sourced from a local butcher, and not factory farmed for a supermarket.	Unusual Choice of Meat

<u>Quorn:</u>	Was very tasty, had a nice crumbly texture.	Did not appeal to non vegetarian consumers.	Yes, was low fat and yet still very tasty. Had a nice moist texture, and absorbed flavour well.	Was most suitable, it is safer to work with from a food safety point of view, and requires less cooking time and attention.		Yes, products like Quorn and Soya use less energy to produce, and are highly nutritious, around 60% protein, Beef being only 25%	<i>Nice idea Suitable for Vegetarians</i>
<u>Turkey:</u>	Low in fat.	Not very flavorful.	Yes, it was high quality meat, with low food miles and non-intensive farmed.	Difficult to say, probably very little difference between it and other meats		The Turkey was bought from a supermarket, but it was free range and organically fed.	<i>Healthy choice</i>
<u>Chicken:</u>	Low in fat, high protein.	Quite bland, took on the flavour of the spices.	Yes, it was high quality meat, with low food miles and non-intensive farmed.	Difficult to say, probably very little difference between it and other meats		The Chicken was bought from a supermarket, but it was free range and organically fed.	<i>lean meat high in protein</i>
<u>Beef:</u>	Very full of flavour, and a popular meat choice.	Was tough and chewy, and did not go as well with the choice of vegetable medley.	Yes, it was high quality meat, with low food miles and non-intensive farmed.	Difficult to say, probably very little difference between it and other meats		Beef was sourced from the local butcher, which was non-intensively farmed and has low food miles.	<i>Unusual meat choices for a stir fry could be popular with male clients</i>
<u>Pork:</u>	Unusual choice of meat for a stir fry.	Again, was described as fatty and greasy – not very desirable attributes.	Yes, it was high quality meat, with low food miles and non-intensive farmed.	Difficult to say, probably very little difference between it and other meats		UK pork is reared to higher quality living standards than anywhere else. I used 'Union Jack' pork, from a supermarket.	

<p><u>Sauce.</u></p> <p><u>Soy and Honey:</u></p>	<p>Was a nice mix of savoury and sweet.</p>	<p>Contains a lot of sugar.</p>	<p>Yes, it contained oriental flavours, and was gluten and wheat free.</p>	<p>Sauces can be mass produced very easily.</p>		<p>Difficult to assure sustainability in things like sauces, source standard components from nearby manufacturers.</p>	<p>Did not look appealing</p>
<p><u>Chinese Stir Fry:</u></p>	<p>Was a lot like the soy and honey, except more aromatic and spicy.</p>	<p>Did not look very appealing.</p>	<p>Yes, it contained oriental flavours, and was gluten and wheat free.</p>	<p>Sauces can be mass produced very easily.</p>		<p>Difficult to assure sustainability in things like sauces, source standard components from nearby manufacturers.</p>	<p>Popular sauce choice.</p>
<p><u>Sweet Chilli:</u></p>	<p>Was hot and sweet, very aesthetically pleasing.</p>	<p>Tasted quite sugary and sweet, was quite sticky too.</p>	<p>Yes, it contained oriental flavours, and was gluten and wheat free.</p>	<p>Sauces can be mass produced very easily.</p>		<p>Difficult to assure sustainability in things like sauces, source standard components from nearby manufacturers.</p>	<p>Contained a lot of sugar</p>
<p><u>Hoisin:</u></p>	<p>Popular sauce choice.</p>	<p>Went well with the chicken and turkey options, but less so with the other, darker meats.</p>	<p>Yes, it contained oriental flavours, and was gluten and wheat free.</p>	<p>Sauces can be mass produced very easily.</p>		<p>Difficult to assure sustainability in things like sauces, source standard components from nearby manufacturers.</p>	<p>Not my personal choice, strong flavour.</p>
<p><u>Accompaniments:</u></p> <p><u>Boiled Rice:</u></p>	<p>Low calorie and very filling.</p>	<p>Was quite a plain choice, not very flavourful in their own right.</p>	<p>Yes – was gluten and wheat free, and suitable for Celiacs too.</p>	<p>All of the accompaniments were fairly similar manufacture wise, all needed boiling or heating.</p>		<p>Rice has high food miles, as is grown in Asian countries in Rice Paddys. This is probably the least sustainable of all the developments.</p>	<p>Plain did not have its own flavour</p>

<p><u>Egg Fried Rice:</u></p>	<p>Had slightly more taste, and added protein from the egg.</p>	<p>Was difficult to cook properly, if the pan was too cold initially, the rice went 'cloggy' and thick.</p>	<p>Yes – was gluten and wheat free, and suitable for Celiacs too.</p>	<p>All of the accompaniments were fairly similar manufacture wise, all needed boiling or heating.</p>		<p>Rice has high food miles, as above; but contains free range egg.</p>	<p>Very appealing Traditional choice.</p>
<p><u>Steamed Sticky Rice:</u></p>	<p>Low calorie and very filling.</p>	<p>Was quite thick and stodgy, not very suitable for a light meal. Was also quite watery.</p>	<p>Yes – was gluten and wheat free, and suitable for Celiacs too.</p>	<p>All of the accompaniments were fairly similar manufacture wise, all needed boiling or heating.</p>		<p>Rice has high food miles, as is grown in Asian countries in Rice Paddys. This is probably the least sustainable of all the developments.</p>	<p>Not very appealing</p>
<p><u>Udon Noodles:</u></p>	<p>Were quite distinctive, looked good on the plate once served.</p>	<p>Were thick, doughy and chewy, and didn't provide much flavour in their own right.</p>	<p>Yes – was gluten and wheat free, and suitable for Celiacs too.</p>	<p>All of the accompaniments were fairly similar manufacture wise, all needed boiling or heating.</p>		<p>The noodles came from a factory which is very close to where I live. This reduces the transportation miles and the product's carbon footprint.</p>	<p>looked doughy and unappealing like the taste</p>
<p><u>Egg Noodles:</u></p>	<p>Were slightly more colourful than the other options, added more colour to the overall dish.</p>	<p>Were very oily, they seemed to soak up a lot of the cooking oil used.</p>	<p>Yes – was gluten and wheat free, and suitable for Celiacs too.</p>	<p>All of the accompaniments were fairly similar manufacture wise, all needed boiling or heating.</p>		<p>Reduces the transportation miles and the product's carbon footprint.</p>	<p>Oily and greasy but looked appealing</p>
<p><u>Rice Noodles:</u></p>	<p>Were very delicious, has a mild creamy taste and smooth light texture.</p>	<p>Can stick together when left to cool – this may affect the quality of the product after overheating.</p>	<p>Yes – was gluten and wheat free, and suitable for Celiacs too.</p>	<p>All of the accompaniments were fairly similar manufacture wise, all needed boiling or heating.</p>		<p>Rice has high food miles, as is grown in Asian countries in Rice Paddys. This is probably the least sustainable of all the developments.</p>	<p>Individual but not overpowering taste</p>

Final Product

For my final product, I am going to use the most popular modifications from my earlier development products. This means my final product will consist of; Spring greens, with Chicken & Chinese Stir fry sauce, on Rice Noodles. I will cook the chicken in a wok pan, with some garlic and ginger oil, and a handful of sesame seeds. When the chicken is cooked, I will then add the vegetables and some soy sauce. After the vegetables have fried for a very short time, I will warm the rice noodles in a different pan. I will serve the vegetables on top of the rice noodles, with a portion of sauce, or sauce swirled on top.

3rd Party analysis & feedback;

"This really is delicious; I enjoyed the creamy texture of the noodles in comparison to the sweet sauce and spicy chicken"
"The vegetables were really well cooked, they tasted almost buttery, but still crunchy and nice!"










Costing per product;

* Please refer to Costings
at back of booklet, page 40

My product meets my specification well, as my product is a healthy light meal, low in fat, high in fibre and iron, which contains oriental spices. Most importantly, my product is gluten free.

The changes I have made from my original product are; I used rice noodles, I used a different stir fry sauce, and a different vegetable medley. I think this improved my original product well. It may have only been a few small changes, but I think it made a lot of difference, and explored all other eventualities.

I used organic chicken in my product, and all vegetables were of 'market' quality. This decreases food wastage, in a product like this where all vegetables are shredded, doesn't matter, as the appearance of the vegetable as a whole is not part of the presentation of the product.

Photo	Process	Time	Quality Point	Food Safety Point	Health and Safety Point
	Laying out the correct equipment and ensuring everything is clean	00:00	Using the correct implements (like the right knives & chopping boards) ensures quality and safety of product	Color coded boards and separate knives prevent cross contamination	Due care must be taken when working with sharp tools like a knife.
	Handwashing	00:03	Removal of rings & jewellery ensures no chance of foreign objects falling in food.	No Nail polish and rings, ensures a low risk of bacterial contamination from the preparer.	Hot water may scald. Rinse soap thoroughly.
	Cutting the chicken	00:05	All cut to same size & shape Any fatty or stringy tissue to be removed.	Check for off colors & colour, check sell by & use by dates.	Take care when using knives and cutting equipment.
	Cutting the vegetables	00:10	All cut to the same size and shape Top and tail any hard ends.	Wash vegetables & check for dirt and foreign objects.	Take care when using knives and cutting equipment
	Cooking the chicken	00:20	Ensure cooked thoroughly Check by cutting one piece, look at the centre of the meat	Leave to cook longer if still pink in the middle.	Beware of spitting fat or oil Take care when using a hob
	Adding the vegetables	00:21	Ensure vegetables cook evenly and are well mixed in	Add slowly, to ensure no dropping or wastage. Do not add any veg that may have fallen out.	Add evenly in case of over fill and spillage, when over heat, can be a fire hazard.
	Presenting & serving	00:30	equal amounts of each component for one portion	Ensure plate and utensils are clean + safe.	Be careful when carrying plates.

Equipment / Process	Risk	Who is at risk?	How likely is the risk?	Prevention
Using a knife; cutting chicken	Injury from an accident with the knife, for example slipping etc.	Food preparer	Low Risk	Careful use of knife, correct knife for use, like not using a bread knife or a carving knife, a small paring knife would be ideal.
Chopping Board; Chicken	Cross contamination	The consumer	Low Risk	Separate, colour coded chopping boards for meat and vegetables.
Chicken being off	Salmonella	The consumer	Low Risk	Smell / Sight checks, checking the suppliers sell by date.
Using the Hob/Gas	Accidental burning	The preparer	Low Risk	Ensure due care is taken when working around the Hob/Gas surface.
Using hot oil in the pan	Scalding or splash backs from the oil spitting.	The preparer	Medium Risk	Ensure the oil is not left in the pan and allowed to get too hot before adding the chicken or the Vegetables. This will reduce the risk of the pan spitting.
Foreign objects	Hair or plasters or any object falling into food un-noticed	The consumer	Medium Risk.	Use beard snoods, hair nets and protective clothing like aprons etc.
Hygiene	Poor hand washing, surface cleansing, utensil cleansing and implement cleansing.	The consumer	High Risk – care MUST be taken, surfaces and preparers must be clean & protected if necessary.	Make sure antibacterial soap is used with correct hand washing technique. Ensure surfaces are sprayed clean with a suitable surface cleaner.

Specification Point	Test	Result	Conclusion
My product is a healthy, light meal to be served at lunchtime, to shoppers, city workers, students etc.	Ingredients, does it contain anything high in fat? Was it prepared with excess oil / fat?	My product is made with chicken and fresh vegetables, and cooked with minimal amounts of oil.	Yes, My product is a low fat, light meal, as it contains lots of vegetables and chicken, which is low in fat. It will not be heavy on the stomach, or high in calories.
My product is low fat, high in iron and contains lots of fibre.	What are the nutritional aspects of the ingredients?	Leafy green vegetables are high in iron and fibre. Chicken is a low fat meat.	My product is low fat and nutritionally matches my specification point.
My product MUST contain oriental spices, and have interesting, delicious and complimentary flavours.	What spices were used in the making of my product?	I cooked the chicken in Chinese five spice before adding to the vegetables.	My product was very tasty and was not overpowered by the spices; it was still chicken-y.
My product must be luxury and have a retail price of between £3 - £5.	Ingredient cost + materials cost = production price ÷ number of portions x 55%	My Product would sell for £4.96	This is within my price bounds, for one portion.
My product, as a light meal, must weigh between 250 – 400g	Does one portion of my product weigh between my set boundaries?	My Product weighed 325g per portion	This is within the weight boundaries for one portion.
My product MUST be wheat & gluten free.	Have I used a gluten free substitute or replacement where needed?	My product contains no wheat or gluten ingredients.	This makes my product suitable for a gluten free wheat free audience, and others.
My product should be suitable for re-heating once.	My product was cooked in one stage, making it suitable for re-heating once.	This presents some problems, as chicken and rice are foods that can present problems.	Care must be taken when re-heating chicken and rice, these two ingredients hold some shadow as to their suitability to re-heat. Make sure food is heated piping hot, all the way through. Thorough heating is needed to ensure the food safety of this product.
My product must be measurable against these design criteria	I have not struggled or been unable to measure or compare my product to any of the above criteria.	My product is measurable against these criteria.	This satisfies this point in my design specification.

Find a European grower / producer of rice, (if possible) to reduce the food miles of my product.

Use another Accompaniment, or find a way of making the rice safer to reheat.

This was one of very few changes I would make to my product, rice and chicken are two ingredients which are notorious for causing illness.

The packaging should also be fully re-cyclable again, to ensure its continual use has as little energy impact as possible. This also makes the life cycle of my product longer & more sustainable.

Find a 'fairtrade' or organic rice company or supplier

or supplier

Rice has high food miles, and there was no fairtrade or organic option.

Make a vegetarian version of this product, use Quorn Chicken or TVP.

This was probably the least sustainable of all ingredients that I used.

This was the only downfall of my product, that it eliminated the vegetarian audience.

My product was excellent as far as the taste, Aesthetics and Organoleptics were concerned. I feel this to be a success, and that it is possible to create a Gluten free product that is appealing to not only a Gluten free audience

My product met my specification well.

The only criteria I failed was the sustainability of the rice. If I improved this, then my product would be exactly as I designed.

To ensure my product is as eco-friendly and as sustainable as possible, I intend the packaging of my product to be made from re-cycled cardboard, paper and plastic where possible, and for bio-degradable Cellulose film to be used. This ensures my product has as little negative impact as possible, and contributes fairly to the economic growth in the right areas.



Costings

Development 1:

Winter vegetables;

Courgette, ■ - 56p
Red + yellow peppers - 74p
Cashew nuts - £1.99
Squash - £1.40
Flat leaf parsley: 60p
Total = £5 - 29

÷ 4 = £1.32
x 0.55% = R.R.P £3.75

Summer vegetables;

Red cabbage - 99p
Red onion - 35p
Apple - 17p
Celery - 69p
Walnuts - £1.59
Cinnamon - £1.00
Total = £4 - 79

÷ 4 = £1.19
x 0.55% = R.R.P £3.25

Spring vegetables;

Mixed leaves medley }
Pak Choi } £2.50
Chicory }
Bean sprouts }
Peas } £2.50
Cabbage Greens }

Total = £5 - 00
÷ 4 = £1.25
x 0.55% = R.R.P = £3.47

Development 2:

Meat;

Spring Greens

$$\begin{aligned} + \text{ Lamb} &= (£3.47 \div 4) (\pounds 2 \div 4) = \underline{\underline{£3.99}} \\ + \text{ pork} &= (£3.47 \div 4) (\pounds 1.90 \div 4) = \underline{\underline{£3.94}} \\ + \text{ Beef} &= (£3.47 \div 4) (\pounds 2.79 \div 4) = \underline{\underline{£4.16}} \\ + \text{ Chicken} &= (£3.47 \div 4) (\pounds 3 \div 4) = \underline{\underline{£4.22}} \\ + \text{ Turkey} &= (£3.47 \div 4) (\pounds 3.59 \div 4) = \underline{\underline{£4.36}} \\ + \text{ Quorn} &= (£3.47 \div 4) (\pounds 2.99 \div 4) = \underline{\underline{£4.21}} \end{aligned}$$

Sauce;

Chicken

$$\begin{aligned} + \text{ Sweet Chilli} &= (4.22 \div 4) (\pounds 62.5 \div 4) = \underline{\underline{£4.84}} \\ + \text{ Hoisin} &= (4.22 \div 4) (\pounds 62.5 \div 4) = \underline{\underline{£4.84}} \\ + \text{ Soy + Honey} &= (4.22 \div 4) (\pounds 62.5 \div 4) = \underline{\underline{£4.84}} \\ + \text{ Stir fry} &= (4.22 \div 4) (\pounds 62.5 \div 4) = \underline{\underline{£4.84}} \end{aligned}$$

Development 3:

Accompaniments:

Spring greens, chicken & stirfry sauce

$$+ \text{rice} = (4 \cdot 84 +) \left(\frac{45}{4}\right) = \underline{\underline{£4.92}}$$

$$+ \text{egg fried rice} = (4 \cdot 84 +) \left(\frac{60}{4}\right) = \underline{\underline{£4.99}}$$

$$+ \text{sticky rice} = (4 \cdot 84 +) \left(\frac{45}{4}\right) = \underline{\underline{£4.92}}$$

$$+ \text{egg noodles} = (4 \cdot 84 +) \left(\frac{83}{4}\right) = \underline{\underline{£4.96}}$$

$$+ \text{rice noodles} = (4 \cdot 84 +) \left(\frac{83}{4}\right) = \underline{\underline{£4.96}}$$

$$+ \text{udon noodles} = (4 \cdot 84 +) \left(\frac{1.29}{4}\right) = \boxed{\cancel{£5.16}}$$

→ This places this product out of my price range.

Final product

Spring greens, chicken, stirfry sauce with Rice Noodles.

would have a selling price of £4.96.