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PRODUCT DEVELOPMENT: FOLLOWING OUR INITIAL TRAILING.

STAKEHOLDER FEEDBACK: We looked at our stakeholder feedback and found that our product, a dairy free ice cream flavour, would have the most success with our stakeholders and possible consumers in our target market. From our previously trialled ice creams, we found that avocado and salted caramel coffee cream were the two that stood out in our group and among our stakeholders.

PRODUCT PROCESS: We developed a PMI chart looking at the Interesting, Positive and Negative aspects of each product. As well as a product idea screening chart to look at the factors affecting the development of our product in our position. We looked at limiting factors such as equipment, time, processing operations and the skills required to make our product. We then evaluated this information and elected the best suited ice cream for us to further develop.

PROFIT: Following these charts we developed a brief suited to the product, in the brief we described the desired attributes for our product, based on what we had previously learnt about how others prefer ice cream and what our target market would look for in a product. We also included a brief description on why and how we would complete these attributes.

PRODUCT SPECIFICATION: We developed detailed specifications that would be what each trial would be assessed against thus giving us a goal to work towards each time we further developed the ice cream. Our specifications included texture, flavour balance, nutrition, cost and colour.

QUALITY CONTROL: We researched the types of products that we would use in the processing of our product. To ensure each aspect was the best it could be. We did this because we believe that in order to have the best possible product we should use the best possible ingredients. We researched the coconut cream, lime and avocados to ensure we knew we were using the best products available to us so that the quality of our ingredient was not an inhibiting factor in our refined product. This gave us insight on how to pick and work with the best ingredients available.

PRODUCT TRIALLING AND REFINING: We then began trialling our recipe. This trial included taking into account one aspect of the recipe, so that we could effectively identify what ingredient, quantity or processing operation was negatively affecting the outcome of our ice cream. This trial testing system was useful in the refining stage of our product development as we were able to productively improve our ice cream while minimising the number of trials we would have conducted if we were to change numerous things in our recipe per trial, which would have caused unnecessary confusion.

PRODUCT TRIALLING AND REFINING:

1. From our previously trialled ice creams, we found that avocado lime and salted caramel coffee cream were the two that stood out in our group and among our stakeholders.
2. We developed a PMI chart looking at the Interesting, Positive and Negative aspects of each product. As well as a product idea screening chart to look at the factors affecting the development of our product in our position. We looked at limiting factors such as equipment, time, processing operations and the skills required to make our product. We then evaluated this information and elected the best suited ice cream for us to further develop.
3. Following these charts we developed a brief suited to the product, in the brief we described the desired attributes for our product, based on what we had previously learnt about how others prefer ice cream and what our target market would look for in a product. We also included a brief description on why and how we would complete these attributes.
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CONCLUSION:

Our trial refined the need to create a dairy free, non- soy ice cream. Upon further research into the market and after trialling various recipes and flavours we were able to identify a gap for a uniquely flavoured, creamy ice cream made from coconut cream. From our developed specifications, we worked towards a nutritious, smooth-textured, creamy, avocado-lime ice cream with well-balanced flavours and an appealing colour. Judging our product now, we believe that we have achieved this. We have faced major problems with the flavour (the aftertaste of each ice cream due to the coconut cream) and with the texture (from the unemulsified Ceres Organic) of our ice cream. However we were able to overcome both these problems to develop a well-rounded ice cream that fits all specifications extremely well. Because of this we believe that we have been able to fully fulfilling the outlined requirements of our brief. Reflecting on our research into the need and opportunity for our product in the dairy free ice cream market we think it would be successful if introduced into supermarkets and delicatessens.

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EXPERIMENTS:

- We trialled our ice cream multiple times, only changing one variable to determine what was affecting the texture and other specifications of our ice cream. By experimenting like this we were able to improve our ice cream. Some examples of how we experimented include:
  - Trialling different coconut creams to determine the best in terms of texture and taste
  - Using sanitarium gula to thicken and emulsify our ice cream
  - Whipping the cream to smoothen and avoid the ice cream
  - Using raw organic sugar to improve the creaminess (sugar affects the size of ice crystals when freezing)
  - Removing time red from recipe to smoothen the texture

PRODUCT RANKING: The brief guidelines were to test dairy-free and non-soy flavors.

EXPRESSIVE THEMES:

- Using a citrusy theme to thicken and emulsify our ice cream
- Using raw organic sugar to improve the creaminess (sugar affects the size of ice crystals when freezing)
- Removing time red from recipe to smoothen the texture

INNOVATION TESTING:

- In order to test if the product fits for our standards and specifications we had to carry out several tests to ensure we achieved this. Throughout the process we used several methods of testing that our stakeholders completed for us to evaluate and develop our product as our trial happened.
  - We created a stakeholder feedback form used for every trial to allow us to know what stakeholders would give feedback on, this way we would be able to receive the feedback we required.
  - Another technique we used was having a set of specifications which addressed each sensory term related to our product therefore we would be able to achieve a product that is appealing to customers in all aspects.

CONSTRAINTS:

- While developing our product it was inevitable that we would face obstacles that affected the ease developing our product and therefore its outcome. These limiting factors meant we needed to find alternative ways to produce and improve our ice cream. Working in a Year 12 Food Technology environment created most of the restraining factors as the materials usually necessary to successfully create a product were not available to us. Examples include:
  - Money: Through fees and donations we were assigned a certain budget per person/group that we could work within throughout the year. This budget had to cover the cost of ingredients, packaging, meeting with other companies and any new equipment our product would require.
  - Equipment Availability: Due to working within the school we had a list of available equipment that the school supplied. Though this also meant that there was a lack in specialty equipment such as the ice cream machine that existed very old.
  - Knowledge & Skills: Our group’s only expertise within school is very limited to just level 1 food and nutrition as well as the help we had from our teacher and mentor who was experienced in food chemicals and technology, therefore blindly we were able to consult them when we didn’t get something.

PROJECT BRIEF:

- Aimed to create a dairy-free, non-soy ice cream. Upon further research into the market and after trialling various recipes and flavours we were able to identify a gap for a uniquely flavoured, creamy ice cream made from coconut cream. From our developed specifications, we worked towards a nutritious, smooth-textured, creamy, avocado-lime ice cream with well-balanced flavours and an appealing colour. Judging our product now, we believe that we have achieved this. We have faced major problems with the flavour (the aftertaste of each ice cream due to the coconut cream) and with the texture (from the unemulsified Ceres Organic) of our ice cream. However we were able to overcome both these problems to develop a well-rounded ice cream that fits all specifications extremely well. Because of this we believe that we have been able to fully fulfill the outlined requirements of our brief. Reflecting on our research into the need and opportunity for our product in the dairy free ice cream market we think it would be successful if introduced into supermarkets and delicatessens.

PROGRAMME ENCLOSED:

- Throughout trialling and further developing of our product we have come across many barriers and problems that have affected our ice cream, we also decided to make changes based on our specifications. But by gauging stakeholder feedback from each trial we were able to look and decide how we are going to change the ice cream for the next trial.

These problems include:
  - Texture was one of the first initial problems we faced with our ice cream; having small coconut cream lumps as the coconut cream being separated between the water particles and the cream particles, by doing this we used the technique such as whipping coconut cream, heating coconut cream and using thickener and gums.
  - Appearance colour not being appealing to stakeholders and not reaching the specified colour on our specifications, we looked for better quality avocados.
  - Flavour not having an even balance of sweet and tangy from the lime and maple syrup both having times of being overpowering. Also the coconut cream/milk we were using gave a bitter aftertaste which wasn’t appealing for our flavour and stakeholders didn’t enjoy this. We changed this by taking out the lime and using a better quality maple syrup.

IN INITIAL ATTRIBUTES:

- We started vague initial attributes based on our environmental research.

PRODUCT RANKING:

- The brief guidelines were to test dairy-free and non-soy flavors.