SPECIFICATION

Safety/Function

- My helmet should not have any sharp objects sticking out of it because when the user is going to wear it the sharp object could seriously hurt the user.
- Must protect the users head and face at all times during a cricket game which involves the use of a hard cricket ball.
- The helmet must be able to withstand really powerful attacks from the cricket ball.
- The cricket helmet should enable the wearer to play cricket safely minimising the impact from a cricket ball.

Anthropometrics

- Helmet must fit children that are 12-16 years old
- From my research on head sizes I have found that the difference in the head sizes between these age groups is minimal.
- My helmet must suit the head sizes of 12-16 year old head sizes.
- I must consider the dimensions of the human head when designing the cricket helmet.

Ergonomics

- Helmet must be comfortable to wear
- Should allow air to come in and cool down the users head so user does not feel hot and troubled
- Mustn't cause any irritation or problems to the user while product is in use.
- The helmet must be adjustable to allow the fitting of differences in head sizes and it must not restrict view.
- Must be light weight so it does not slow down the users running speed in any way.

Manufacture

- I am designing my helmet to be produced in mass production but I will produce a prototype type to illustrate and test validity of design.
- I must consider appropriate methods of mass production when designing.
- Production of my design should be efficient and use appropriate manufacturing processes.
- The product will be injection moulded when being manufactured by a arge manufacturer but ia m going to vacuum form it due to the lack of equipment I have.
- I am going to manufacture the faceguard using a cad cam.

Issues

- The product must be environmental friendly and must not harm the environment in any way when being manufactured.
- The product must not be harmful to animals
- The product must not offend the target market group
- It must not be harmful to the user when it is worn

Cost

- The cost of a helmet depends on the size of the helmet, if the helmet is an adult size, it would cost around £40.00 but if it is for juniors then it is going to be around £20.00 at retail prices.
- My helmet is designed for children; this is a small size and am appealing to design a helmet which would be lower in cost than the existing helmets.
- My helmet must have a lower cost but must still be made out of good materials.
- Need to consider the cost of the materials.
- Need to consider the cost of manufacturing.

Consumer/client

- Helmet is intended for young cricketers who are 12-16 years of age.
- My Product is designed to be used at schools.
- Product must fulfil the needs of target demographic.

Form

- My helmet must have a hard and durable exterior.
- The foam in the inside the helmet is going to mould in to the size or shape of the users head because Human heads are not regular in shape and vary from one person to another.
- Face protector must also be a suitable shape to protect the face of the user.
- The size of the helmet must suit the majority of the heads of 12-16 year olds.
- The shape of the helmet is going to be spherical but the foam built inside the helmet will take the shape of the users head as the head will not be exactly a spherical shape.
- The weight of the helmet must be as light as possible but at the same time very strong, this will provide strong protection and wont prevent the user from running quickly while batting.

Materials

- The materials for my helmet must be reasonably strong but at the same time not too heavy.
- For my helmet I will use plastic and metal, the plastic for the head protector and the metal for the faceguard.
- The materials must be very strong and be able to take a lot of impact.
- Must be made of very hard and solid material.
- I must use appropriate materials for the design of the helmet
- For the face guard the properties of the material must be Tough ductile and malleable high tensile strength, easily joined, welded, poor resistance too corrosion.
- The materials used for my helmet must be environmental friendly and minimise impact on the environment.