

# A2 Product Design

## Child Development

**Brain Development:** **Brain and nervous system development during early childhood also continue to be dramatic.** The better developed the brain and nervous system are, the more complex behaviour and cognitive abilities children can engage in.

In the left hemisphere of the brain, language, writing, logic, and mathematical skills are located and focused on. In the right hemisphere, creativity, fantasy, artistic skills and musical skills are located. These two sides of the brain often combine their functions and work together.

The left side of a child's brain tends to develop quicker meaning that creative aspects of games should be made easier than the language side. I should therefore consider what kind of game I want to make, a musical game for example may be quite difficult for some children whereas a card game may be easier to understand.

**LEFT BRAIN RIGHT BRAIN**

<b>LOGIC</b>	<b>CREATIVITY</b>
ANALYSIS	IMAGINATION
REASONING	HEALTHY TRAINING
LINEAR	ARTS AND CRAFTS
MATHEMATICS	NON-VISUAL
LANGUAGE	FEELINGS
FACTS	THINKING (Abstract)
THINGS IN ORDER	TIME OF HONORS
WORKS OF SCIENCE	VALUATION
COMPUTATION	

**Slide Introduction:** I have used this slide to research the individual design when a child's development, this will hopefully help me design a toy to help the child and fit with their development.

**Slide Introduction:** After researching child development, I can see that I should include features that will encourage the child to learn such as blocks to count or colours to sort. For the older children of the target market, the game could include a more active part of the game like racing.

**Physical Changes:** **Round the age of three, toddlers learn to acquire the brain, new athletic skills developed with children. One of the early signs of life, how long to have more muscle mass than fat.**

Considering that my target audience age begins at age two, I should take into consideration the weight of the product. As this product is meant to be designed for the age of two, it would be the problem if it was too big or heavy to carry around/ to be an obstacle.

My client's children are of various different ages which makes the problem harder because the older children can get by the way for their sibling. However, it is possible that parents with only one child will buy this. This links closely to health and safety, if the toy is too big or heavy, the child could strain their muscles.

**Motor Skills:** **Both gross and motor skills develop and are refined during early childhood. However, fine motor skills develop more slowly to production.**

Gross motor skills, which include crawling, jumping, hopping, skipping, swinging, throwing, balancing, and drawing, include the use of large body movements. Fine motor skills, which include drawing, writing, and tying shoelaces, include the use of small body movements.

Since the fine motor skills develop slowly, I should try to make a game that will encourage gross motor skills. A large board game for example that would require the children to jump their pieces. This links closely to the brain development, if children find it difficult to do small things, they may not be able to engage themselves as much as older children.

**Development - 2 years:**

- Begin to follow 'behind' games
- Start to turn over containers to pour something
- Start to wash up and down dishes with support

**Development - 3 years:**

- Can roll a toy car
- Start to get dressed with support

**Development - 4 years:**

- Start to use scissors
- Start to walk up and down stairs without support

**Development - 5 years:**

- Can dress and undress without help
- Start to walk, jump and sometimes handle to eat

**Development - 6 years:**

- Eats mostly without support
- Start to run around without tripping feet

## Product Research

**Product 1: That's not my pony...**

**Why choose this?** This book includes different fabric, perfect to feel and recognise. This is particularly good for young, developing children. I would like to consider using different textures in my product that will engage and excite young children.

**How could this product be improved?**

- All of the books in the collection are fairly repetitive and a child could become bored.
- These books have up quite a bit of room on a shelf as they're very thick due to the fabric between each page.

**What could I take forward from this product?**

- This product includes all sorts of textures and colours to full engage the child and encourage the child to look at the picture in the story. Even if there isn't an adult to read the story out, the child can still get the different pictures.
- The story sets a bright colour for each page to draw the child in.

**Product 2: Fabrics book**

**Why choose this?** This book could be used to play as an aid to help text. This would also be very appealing to the parent as it can easily be folded up and put away, meaning that it would clutter the room.

**How could this product be improved?**

- The fabric design could have a specific - showing particular animals rather than a whole variety.
- The colours used in this design seem more appealing for boys, there could be one for girls and one for a baby or unborn coloured fabric.
- The text could have cartoons on the inside to make it more like a book.

**What could I take forward from this product?**

- This text had more than one purpose, making it more appealing for the child and appealing to the parent.
- The text can be used by connecting meaning that it doesn't get in the way.

**Product 3: 250cs Assorted Soft Top Zoo Animal Assorted Designs**

**Why choose this?** I chose this because I haven't yet employed a bear, simply to add extra choice because I have to list it at home and know for a fact that the very popular amount of children.

**How could this product be improved?**

- There could be other types of animals from different habitats e.g. dolphins, penguins
- Though the soft animal, the colours used for these toys are fairly bland. The manufacturer could use brighter colours, some that don't suit the animals perhaps e.g. blue and pink.
- The animals could also be used as soft water bottles.

**What could I take forward from this product?**

- The soft toys on the top make them very nice and therefore appealing to adults, having them for their child's room.
- The fabric used for these animals is very soft and is nice to cuddle with.

**Product 4: That's not my pony...**

The product includes bright colours and small details that draw the eye. The book is made of a thick material, meaning that it has a bit of weight to it. The book has a hard cover, meaning that it is durable and can be used for a long time. The book is made of a thick material, meaning that it has a bit of weight to it. The book has a hard cover, meaning that it is durable and can be used for a long time.

The price of this toy is £24. This is fairly expensive for a toy that is only used for a short time. The price of this toy is £24. This is fairly expensive for a toy that is only used for a short time.

## Developed Ideas - Decoration

**Potential Designs:** Here are some examples of designs for my doughnut, the first three I gave a 2D design, these could be coloured and use on the sublimation printer later in my project.

**Slide Introduction:** On this slide I show ways in which I could decorate my doughnut. My teacher suggested sublimation printing which I will test on different fabrics. This works well to get ahead to test different colours.

**Sublimation Printing - The Process:**

- Step 1: I printed off several coloured designs and chose fabrics of different material and colour.
- Step 2: The sublimation primer has a unique shape like glue to keep from burning/ cut out. I design and place it, along with the fabric, inside the protective material.
- Step 3: The printed image was then placed onto the fabric coloured using dough.
- Step 4: The temperature in the primer was set to 220 degrees and the timer was set to 20 this is the average time but depend on the type of fabric.
- Step 5: The fabric was placed into the primer and the timer was set to 20. The timer was set to 20.
- Step 6: The timer was set to 20.

**Colour:** This print was in 120 seconds with a temperature of 220. This worked very well with a clear design, the colours came out really well. This one thing I did notice was that the colour was left on the paper print meaning that giving a longer primer time could make the print even clearer.

**White Fabric:** This print was in 120 seconds with a temperature of 220. This worked very well with a clear design, the colours came out really well. This one thing I did notice was that the colour was left on the paper print meaning that giving a longer primer time could make the print even clearer.

**Orange Fabric:** This print was in 120 seconds with a temperature of 220. This worked very well with a clear design, the colours came out really well. This one thing I did notice was that the colour was left on the paper print meaning that giving a longer primer time could make the print even clearer.

**Pink Fabric:** This print was in 120 seconds with a temperature of 220. This worked very well with a clear design, the colours came out really well. This one thing I did notice was that the colour was left on the paper print meaning that giving a longer primer time could make the print even clearer.

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## Developed Ideas - Sizing

**Slide Introduction:** After testing out my manufacture, I realized that I would need to increase the timer and reduce the temp for printing. I'm hoping that this development will make my product more appealing as well as easier to use.

**Original Sizing:** In my first manufacture test, I created doughnuts with a diameter of 20cm, this was much bigger and changed the sizing from 20cm to 24cm with a 5cm extra gap for sewing the chain.

**Step 1:** The fact that I used thicker thread also made a huge difference to the appearance and it together had a very positive effect on the design.

**Step 2:** I didn't think that I would need to make my design too much bigger and changed the sizing from 20cm to 24cm with a 5cm extra gap for sewing the chain.

**Step 3:** The new sizing affected this part of the process the most. It was a much easier to maneuver due to using the power cord. As you can see the outcome is a very good result of the colour's don't match.

**Step 4:** Cutting the excess fabric from around the doughnut made it appear much more professional. The fact that I used different fabric also didn't show in the chain but also because the thread was right against the felt.

**2D Change:** This is a doughnut mesh ball. This kind of size may be more effective as it would ensure that the children could swallow any small parts. However, this particular design would use up a lot of fabric and therefore have a high cost. Because of its size, unless the customer was able to fill it up which isn't truly with my design I would save up a bit of room and perhaps not be easy to put away.

**Slide Summary:** Here is the final sizing plan for my product. After testing the smaller size, I decided that I should make it bigger. As you can see, I decided whether I should make a much larger doughnut but I have seen that this wouldn't be the best and therefore I decided on the slightly bigger design above because, as shown through testing, I know that this would work and top looking and fit my best.

