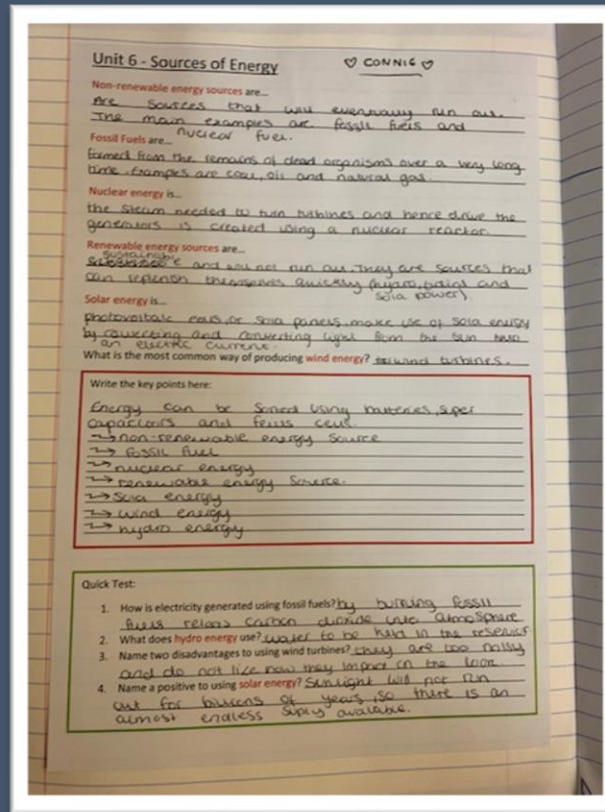
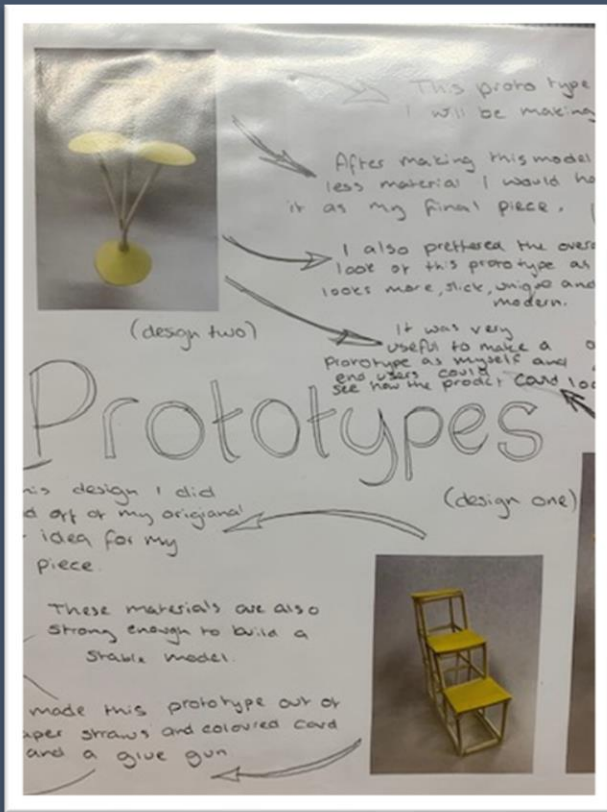


# OCR GCSE Design Technology (Resistant Materials)



# Why Should I Study Resistant Materials?

- Develop communication skills and creative thinking
- Develop an understanding of materials and design/construction processes
- Develop a range of making skills in wood, metal and plastic
- Use ICT effectively and appropriately

**Questions asked**

How old are you? 70% of people who answered this survey were aged 18-21 or under 18

What sex are you? 60% of people who answered the survey were male meaning it would be smart to specify it to them

How far do you normally ride your bike? 30% of people ride their bike further than 15 miles so my product needs to be durable

What weathers do you ride your bike in? 63% of people said that they ride their bikes in all types of weathers meaning it needs to be weather resistant

How much stuff do you take on your bike? majority of people said that they just take drinks bottles on their bikes so my product should probably be just designed for them

Do you like to carry a lot of drinks? Most people said no so the holder cant be too big


How much do you like to spend on bike products? 63% of people said that they would spend £20+ on bike products meaning i can make the product to a high quality and still make a profit

What sized drinks do you usually get? Most people say they normally have large dinks

Where do you get your drinks from? people said they get their drinks from a wide range of places so the holder needs to be adjustable

How often do you ride your bike? majority of people ride their bike more than 3 times every week

**Primary user interview**



My primary user normally rides a bike 5 days a week as he uses it to get to and back from work.

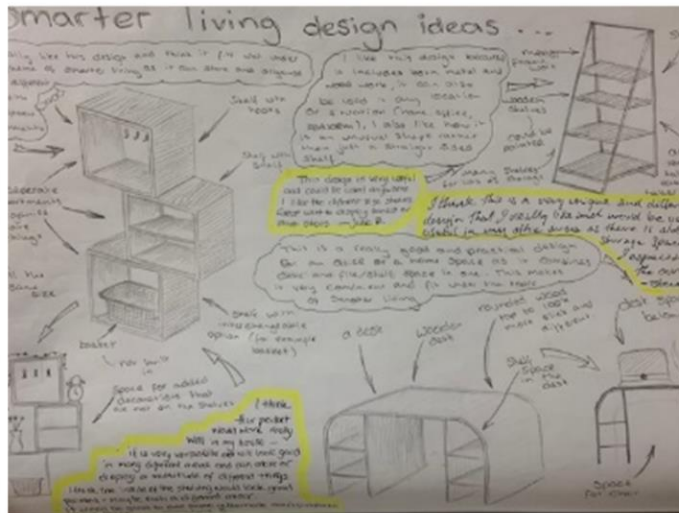
He's also 60 years old and struggles to get up hills and go long distances and in the past he has had to use heavy baskets to hold things on his bike which made his problem with hills even more severer.

He also wouldn't mind spending over £25 pounds on a accessory for his bike as he believes with money you normally buy better quality which is very important to him as he would need to use it very often due to him riding 5 days a week

**Where i got my data from**

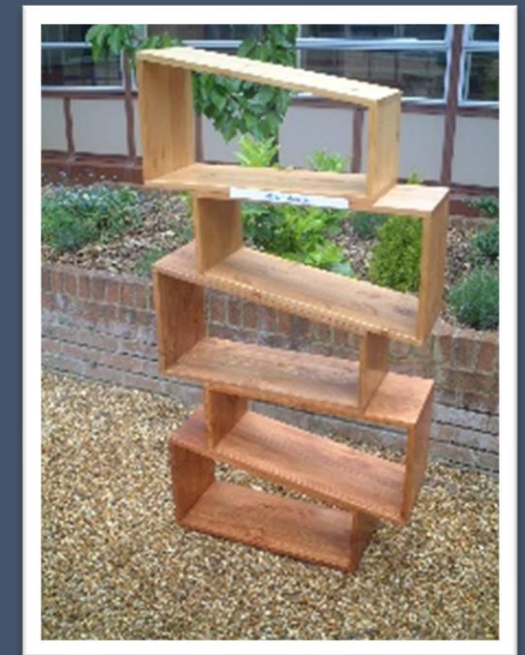
We used survey monkey to ask ten questions to random people that would help us design our product and specify it to the general needs of the public. I asked ten questions related to riding bikes and strage on them.

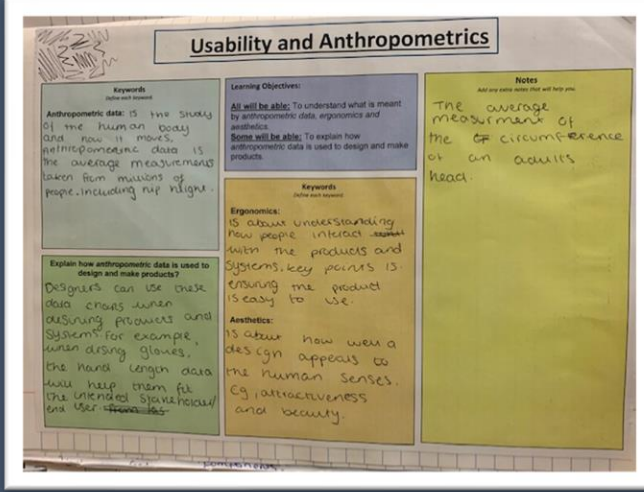
**Smarter living design ideas**



Notes from the sketches include:

- "This design is made of wood"
- "I like the idea of a shelf that can be adjusted"
- "This is a really good and practical design"
- "wooden shelves"
- "metal and plastic"
- "I think this is a very unique and different design that really would be useful"
- "This is a really good and practical design"
- "I like the idea of a shelf that can be adjusted"
- "This is a really good and practical design"





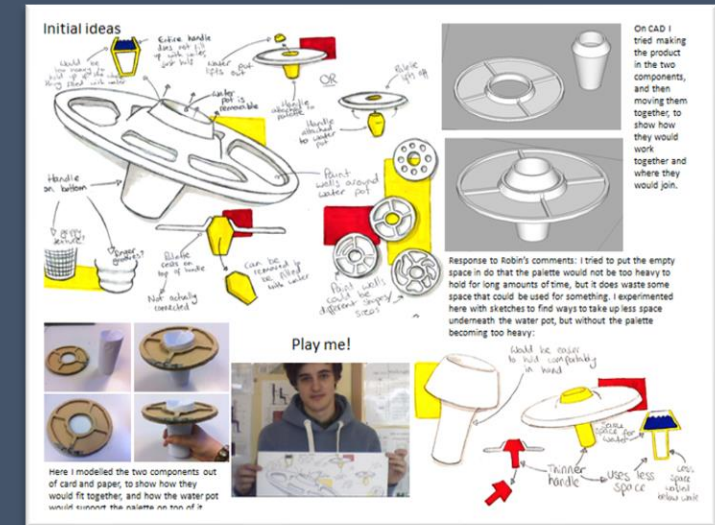
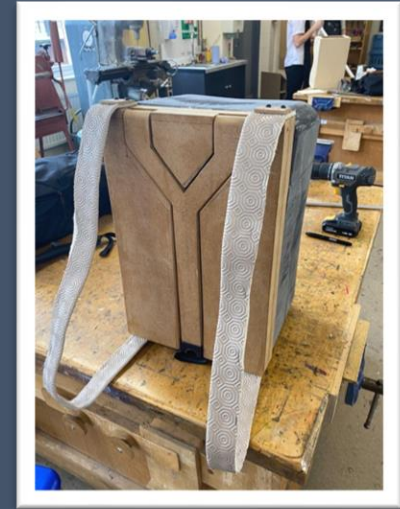
# What Will I Study?

- In year 10 you will cover a range of theory topics such as the properties of materials, how they are made, sources of energy and industrial processes.
- In year 10 you will study a range of practical skills such as measuring, cutting, brazing and finishing techniques to enable you to approach your NEA in Year 11.
- In year 11 you will continue to study a range of theory topics towards your written exam.
- You will start your NEA portfolio in the summer of Year 10 and continue to develop this throughout year 11.



# What Will Resistant Materials Lessons Be Like?

- This course provides the opportunity to develop the student's designing and making skills.
- Students are made aware of the design and technology in today's and tomorrow's society through theory lessons. Candidates make decisions about the 'resistant material' in which they work, which includes wood, metals and plastics, for a specific task.
- Double lesson mainly covers technical skills
- Single lesson mainly covers theory and subject knowledge.

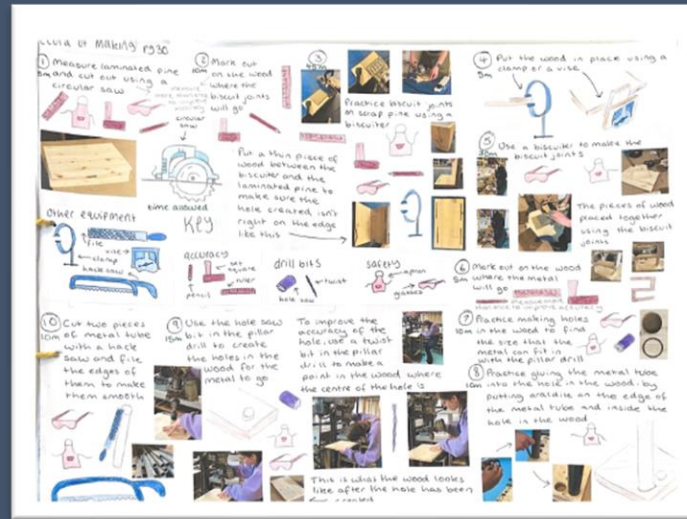


# How Will I Be Assessed?

- **NEA (Coursework) 50%**

(Designing 35%-Making 15%)

A design context is set by the exam board for the one major project that is completed in Year 11.



- **Written Exam 50%**

The 2 hour, written theory exam is worth 50% of the overall grade.

1 out of the 3 lessons every week will be based on theory content.



# What Does Work Look Like In Resistant Materials?

**CAD**

**Main problems**

- It's not securely attached - the holder could slip along on the bike frame because nothing is holding it in place.
- Bottles could fall out - the bottle could slip out of a small deep cup. The holder could fall out of the bike frame.

**Main problems**

- size of bottle - not all bottles are the same size and smaller bottles will fall out and big bottles won't fit.
- Uncomfortable to hold - it doesn't have a handle to grab so you would probably have to use both hands to hold it.

**Solution to problem 1**

A solution to this problem is to add some rubber padding on the inside of the curved plate that fits and the rubber holds the bottle in place.

**Ideas/solutions to problems**

It's an idea to have a handle that you can open and close it when you want to hold the bottle.

**Additional research**

I did some online research to find a way to stop the bottle from falling out.

**Additional research**

From my research I got a basic bottle but I thought that I could adapt it so it would fit on my bottle holder.

**Next steps**

Next steps: I will explore solutions to problems 3 and 4 by designing a handle, a product and redesigning the bottle compartments.

**Green and red text**

As part of my user testing and feedback my product on a bike to see if it fits right. There's a red text on the bike for over 20 years, he said that it's too big and bulky meaning it could be hard to store and carry. He also said that it looks a bit funny and could stop easily.

**LOTS of images of models**



**DESIGN AND DEVELOPMENT.**

**Modelling Session:**

I simplified the design during the modelling. This was because I only intended for the model to give a physical representation of the concept and its function.

The pictures below show the innovative function of the unit. The central support column allows the separate compartments to rotate around, giving shape versatility and allows for the client's preference.

**Review and conversation with end user discussing favourable features and areas of the design to develop upon.**

Please play videos (left) of end user comments.

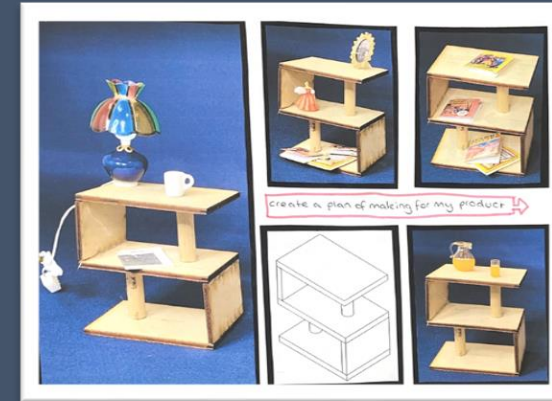
**Review and conversation with end user discussing favourable features and areas of model to develop upon.**



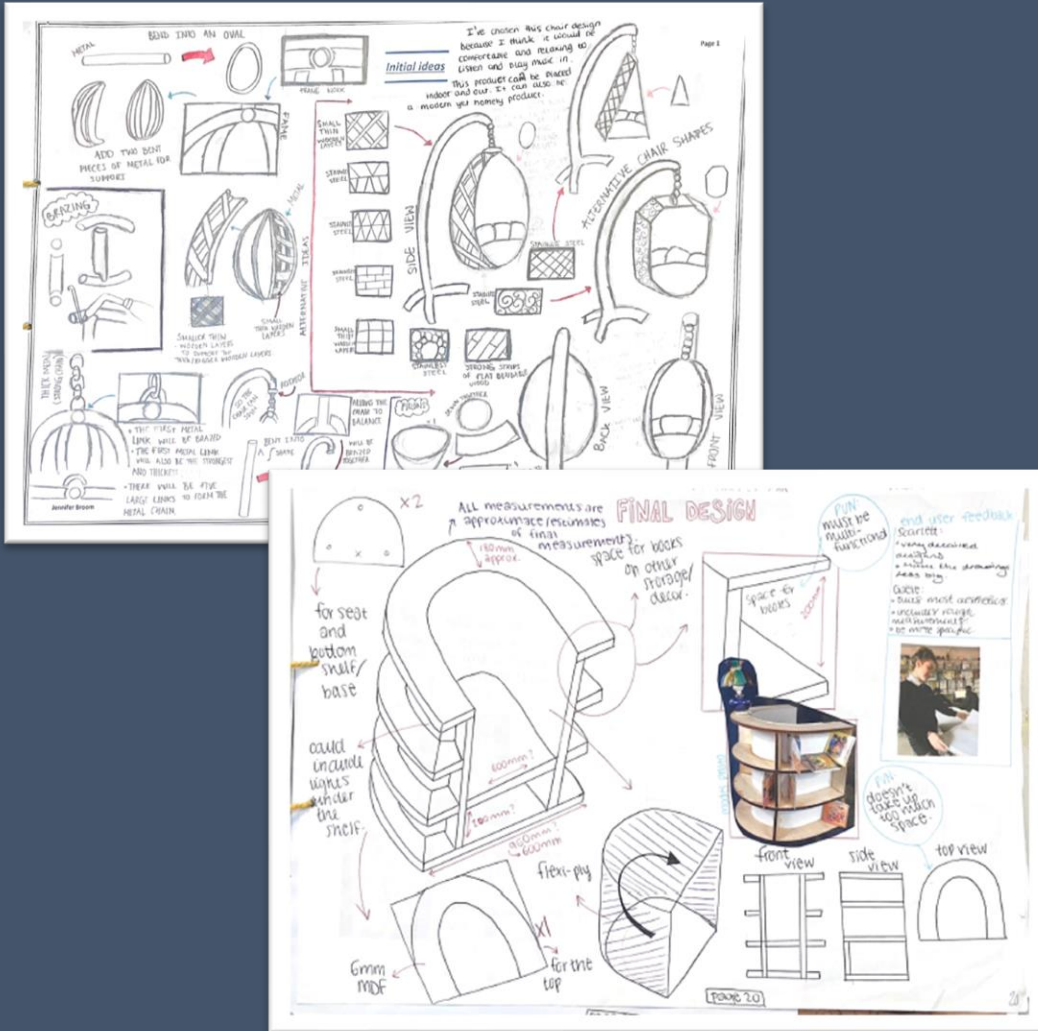
# OCR GCSE Design Technology (RM)

## FAQ page:

- What DT subjects can I take with it?  
*Food, Textiles (Art & Design)*
- Is there a written exam?  
*Yes, 2 hours.*
- What skills do I need to have to be successful?  
*ICT skills, being able to sketch, annotate and draw design ideas.*
- What can Design Technology RM lead to?  
*The course naturally leads into A Level Product Design which can then take students to a vast number of Design based degree courses throughout the country.*
- How much time do we spend making?  
*As a result of the making only being worth 15% of the NEA we spend a proportionate amount of time on the practical element. Most of the time is spent on the design folio.*



# How Do I Find Out More Details?



- Speak to the subject lead: Miss Walker & Mr Holden
- Email: [walkera@wallingfordschool.com](mailto:walkera@wallingfordschool.com)  
[holdens@wallingfordschool.com](mailto:holdens@wallingfordschool.com)
- Speak to older pupils already taking the course