

# World of Work Programme

## Year 6 - Product Design

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**Over the course of the week you will take part in five activities to teach you more about designing a new product**

### **Objectives:**

- **Learn about product design**
- **Practice creativity in designing your own product**
- **Learn about profit and loss**
- **Practice presentation skills by presenting your product**

**These activities need minimal resources. If you wish to make a prototype you will need recyclable materials, so please keep hold of your cardboard and plastic.**

# 1 ~ Product Design

## Introduction

This week you'll be inventing a new product and presenting it to your parents or carers. You'll research products already in the shops, write a product plan, make a sketch or prototype and present it to your family!

The best products are those that solve problems or do something different from other products that are already in the shops.

**Watch the video to find out about how products have changed over the years**



<https://www.youtube.com/watch?v=DENG7Q7VRgo>

**After watching the video answer these questions:**

- 1) What improvements have been made to the mobile phone?
- 2) How many inches wide was the first TV?

## Writing Activity: Important Inventions

Pick a product or invention that you feel has made an important contribution to society. You can choose anything you like! Why do you think this product is so important? How has it changed over the years?

**Write about it under the following headings:**

1. Introduction
2. Who invented it and what problem were they trying to solve?
3. Has it changed over the years?
4. Why do you think this product is important to society?
5. Conclusion – summarise your arguments

Take a look at the page below for an example:

## Important Inventions - EXAMPLE

### Introduction

I would like to tell you all the reasons why the pillow is an important product for our society. You can buy a pillow anywhere from £5 - £250 depending on whether it has fancy material.

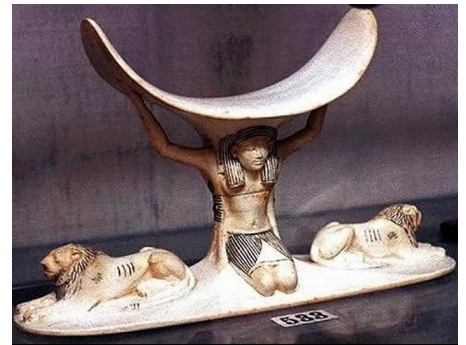
### Who invented it and what problem were they trying to solve?

Pillows have been around for thousands of years but today they are more luxurious than ever! There is no single inventor of the pillow, but the newest invention in pillow technology is memory foam. Memory foam was invented by Charles Yost in 1966 when he was working for NASA and trying to find a way to stop the impact to astronauts' necks during take-off and landing.



### Has it changed over the years?

In the olden days people used to use wrapped up material, fur, or even straw to use as pillows. The ancient Egyptians used stands made from stone or wood. The Greeks and Romans started to stuff sacks with feathers and this was the beginning of the modern pillow.



### Why do you think this product is important to society?

Pillows are very important for our society because they help us sleep well every night. The average child needs 10-11 hours of sleep each day and adults need 7-9 hours. Without pillows people would struggle to sleep. We would be tired all the time and have sore necks. Children would pay less attention in school and adults might be too tired to do their jobs.

### Conclusion

In conclusion the pillow is a very important product for society. We often take them for granted, but pillows help us sleep and regain our energy. Without pillows we would be tired and grumpy.



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Memory foam pillow: <https://worthumb.com/bamboo-charcoal-memory-foam-pillow/>

Egyptian pillow: <http://www.ancientpages.com/2018/06/18/why-did-ancient-egyptians-use-pillows-made-of-stone/>

Sleeping lady: <https://www.prevention.com/health/sleep-energy/g21562734/earplugs-sleeping-snoring/>

## 2 ~ Profit and Loss

### Introduction

All businesses need to make money, even charities need money to stay open. When you make money selling a product it's called **PROFIT**. However, to make a profit you need to do the maths to work out how much you spent making the product Vs how much money you earned selling it.

Think of all the things that a business owner needs to pay for when making a product. Let's imagine that Pike is a new company selling trainers. To make new trainers, Pike needs to pay for:

<b>Material</b>	<b>Rent for the factory</b>
<b>Wages for staff</b>	<b>Electricity &amp; water</b>
<b>Vans to take the trainers to shops</b>	
<b>Advertising costs</b>	

Pike needs to sell their trainers at a high enough cost that they end up with more money than they originally spent making the trainers. **Let's imagine it cost Pike £1000 to make 100 pairs of trainers.** Pike sold all the trainers and they ended up with £1500. That would be £500 **PROFIT**.

BUT if Pike ended up with only £900 after selling all the trainers that would be £100 **LOSS**.

### Watch the video...



<https://www.youtube.com/watch?v=JRtxCYRziLo>

**After watching the video answer these questions in your own words:**

- 1) What does it mean when a person makes a profit?
- 2) What does it mean when a person makes a loss?

## Activity - Profit and Loss

Remember to work out whether you made a profit or a loss, you need to subtract the **cost to make** the product from the **selling price**.

$$\text{Selling Price} - \text{Cost to Make} = \text{Profit or Loss}$$

Item	Selling Price	Cost to make	Final amount (selling price - cost to make)	Was there a profit or a loss?
Ice Cream 	£1.50	50p	£1.50 - 50p = <b>£1</b>	There was £1 profit
Trainers 	£15	£17	£15 - £17 = <b>-£2</b>	There was a £2 loss
Scooter 	£21	£47		
Bike 	£19	£90		
TV 	£78	£299		
Rucksack 	£18	£12		
Mobile Phone 	£17	£175		
<b>Make up your own!</b>	£...?	£...?		

When you design your product in the next activity remember to think of a reasonable price that you will sell it for. Remember you might think you'll make a profit selling an ice cream for £10 **but** if it's too expensive and there are other ice-creams for £1.50 for sale, no one will buy your one. Then you will end up making a loss since you had to pay for the ingredients to make the ice cream in the first place and haven't sold any.

## 3 ~ Design your own product

It's time to design your own product! There are 2 steps you need to take...

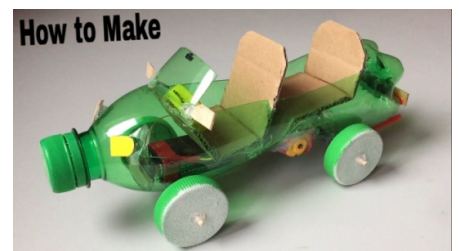
### 1) Write a **Product Plan** by answering these questions:

- What problem do you want solve?
- What does your product do, and how does it solve the problem?
- Does it have any special features
- Who will buy your product?
- What is your selling price? (How much will you sell it for)
- How is it different to similar products that are already in the shops?

### 2) **Sketch out** your product! Don't forget to label all its cool features



(OPTIONAL) If you're feeling jazzy you can even make a **prototype** out of recycled materials



Cardboard mug: <https://incrediblethings.com/products/these-mugs-look-like-cardboard-but-they-are-not-okay/>

Cardboard trainer: <https://imgur.com/nphc4YZ>

Recycled car: <https://www.youtube.com/watch?v=XMg4U5VSIsI&feature=youtu.be>

## 4 ~ Advertise your Product

### Introduction

Every business needs people to know about their product. The more people that hear about your product the more potential customers you'll have. Today you'll be creating an advert that shows everyone all the great things your product can do.

### Watch these 2 videos to learn about persuasive speaking:

Your advert will need to persuade people to buy your product. Think carefully about using language that will persuade your audience.



## Persuasive Adverts

<https://youtu.be/8thrJwnKft0>



### After watching the video answer these questions:

- 1) What is alliteration?
- 2) Can companies lie on an advert? (yes or no)
- 3) What is a rhetorical question?

### Speaking & Drama Activity

Once you've watched the videos use your drama skills to create an advert for your product. You'll need to show all the amazing things your product does, so that people will get excited about it. Try to use a slogan and a rhetorical question to get your customers attention.

**(OPTIONAL)** Ask your parents to film you when you've finished.



Boy being filmed: [https://www.kindpng.com/imgv/oxJxJ\\_being-filmed-cartoon-hd-png-download/](https://www.kindpng.com/imgv/oxJxJ_being-filmed-cartoon-hd-png-download/)

## 5 ~ Time to present!

### Introduction

You're almost ready to present your product to your parents or carers. You already have:

- A product plan
- A sketch or prototype of your product
- An advert

Now all you need is a list of all the reasons why your product is so great. Write down at least 5 reasons why everyone should buy your product!

**Watch the following video of two students presenting their product:**



<https://www.youtube.com/watch?v=y5nmwuu6RX0>

**What things did the boys say or do to persuade the judges to buy their product?**

### Activity - Present It!

Ask your parents or carers to listen to your presentations. Make sure you've practiced what you're going to say! Use your product plan to help you and don't forget to show your sketch or prototype.

Your parents/carers will ask you some questions when you've finished presenting. Parents and carers can use the following questions or make up their own:

1. How much are you going to sell this for?
2. Where will I be able to buy your product?
3. Who is the product aimed at? (children / parents / teachers, etc)
4. How will you advertise your product?
5. Does your product have any special features?
6. Are there other products you will add to your range?



### Wrap up quiz:

- **How has the pillow evolved over time?**
- **What are some of the things businesses have to pay for?**
- **Explain what it means to 'make a profit'?**
- **Explain what it means to 'make a loss'?**
- **What is a rhetorical question?**