

# Wash Bag Chemistry

Business Pack



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## Questions you should ask

### Remember the overall aim of your team is to develop three consumer goods

Think about who your target consumer is i.e. who will buy your products?

1. Define the formulation of the products.
2. Calculate how much the formulations cost.
3. Decide what process you will use to make the products.
4. Calculate a finished product cost.
5. Anticipate any problems you might have in launching the products.
6. Make a prediction of how much profit you're likely to make in the first year.

### Getting started

You may have already had an opportunity to make one or perhaps all three of the products described in the Product Pack. As a team you will now need to decide which product you wish to take forward and present to the Board Meeting. You will need to write up your decision making process in a final business report for each product.

### Useful hints

To compile a product formulation, you should:

- ▶ Decide which raw materials to choose based on (a) who your target consumer is i.e. who is going to buy the products and (b) what materials are available to use / are affordable.
- ▶ Decide which additional ingredients to include to boost the performance of your product.
- ▶ Decide the quantities of these materials in your product.

To help you do this, information on the cost of raw materials and on how to calculate formula cost and finished product cost is provided in this pack. Business report sheets should be filled in and these can be collected from your teacher.

## Finance section

### Raw material costs

Ingredient	£ / kg
Cocoa butter	12
Beeswax	15
Shea Butter	10
Ammonium Lauryl Sulphate	5
Lauryl Betaine	4
Polysorbate 20	5
Distilled Water	2
Olive Oil	10
Extra Virgin Olive Oil	15
Glycerine	2
Sepigel	10
Xanthan Gum	5

### Recommended shelf prices

- ▶ SHAMPOO (250 g)  
£1.99 - £2.59
- ▶ COCOA LIP BALM (50 g)  
£3.09 - £3.59
- ▶ MEDITERRANEAN MOISTURISER (100 g)  
£7.89 - £9.99

### Process / manufacturing costs

#### Shampoo

Process	Cost per pack	Advantages	Disadvantages
Continuous	£0.15	Quicker	More expensive
Batch process	£0.10	Cheaper	Machine breaks down more often

#### Lip Balm

Process	Cost per pack	Advantages	Disadvantages
Automated	£0.30	Cheaper	Less quality control
Manually operated	£0.40	Better product made	More expensive

#### Moisturiser

Process	Cost per pack	Advantages	Disadvantages
High shear emulsification	£0.30	Cheaper	Less creamy product made
High temperature	£0.50	Smoother product	More expensive

# Formula costs

## Formulation guidelines

You now need to calculate the cost per pack of each of the ingredients in your products. A blank sheet 'Business plan form' is available from your teacher.

## Optional materials

These materials can be added to enhance your consumer experience and make your products more desirable. Only 1 -2 drops of each is necessary in any product.

Material	Cost per drop / £	Notes
Lavender	0.15	Natural
Eugenol	0.10	Natural
Limonene	0.20	Natural
Strawberry oil	0.05	Synthetic
Chocolate oil	0.04	Synthetic
Peppermint oil	0.05	Synthetic
Red 33	0.10	Not compatible with lip balm formulation
Yellow 5	0.10	Not compatible with lip balm formulation
Pure vitamin E	0.30	Natural

## Additional information

### Cocoa butter

Cocoa butter can be bought from two different suppliers:

- ▶ Supplier A is a fair trade company and sources its cocoa butter from renewable cacao beans.
- ▶ Supplier B does not have fair trade status and is unclear about how much it pays its suppliers for their product.

### Vitamin E oil

Vitamin E is very expensive – do you

- ▶ Choose not to include it?
- ▶ Include it because more people will buy it if it's better for their skin / lips / hair?

### Olive oil

A summer of bad weather in Italy suggests that olive oil prices will rise because of lack of availability of olives this year.

### Beeswax

A recent supplier communication has noted that due to the decline of the bee population in the UK, beeswax is in short supply at the moment. This may affect supply of the raw material in due course but no further information is available at this time.

### Consumer trends

Recent trends have shown the following:

- ▶ Eco-friendly / green products are 50% more popular than other products.
- ▶ Natural products using natural materials and oils are popular with the young (20-40's) who also have the most disposable income.
- ▶ Consumers are showing a trend towards buying products that contain vitamin E because of its antioxidant properties.
- ▶ Fragranced and coloured products are more popular than their unfragranced and uncoloured counterparts.

# Business plan forms

## Final business report – shampoo (250g)

You will need to decide what additional ingredients you would like to add to your moisturiser. To do this you will need to answer the following questions:

1. Who are you going to sell the product to and why?

2. What is your intended advertised benefit?

3. Now you can calculate the cost of the ingredients in your chosen moisturiser. The blanks in the table are for any additional ingredients you have chosen to add.

Ingredient	g / pack	cost £ / g	Cost £ / pack (250g)
Ammonium Lauryl Sulphate			
Lauryl Betaine			
Polysorbate 20			
Distilled Water			

4. What is the total cost per pack of the ingredients in your moisturiser?

5. Which process have you chosen to make your moisturiser? What is the cost of this per pack of moisturiser?

6. Calculate the total finished product cost per pack.

$$\text{FINISHED PRODUCT COST PER PACK} = \text{COST OF RAW MATERIALS PER PACK} + \text{COST OF PROCESSING PER PACK}$$

7. What is your intended shelf price of your shampoo?

8. What is the shampoo cost as a % of shelf price?

$$\text{FINISHED PRODUCT COST as a \% of SHELF PRICE} = \text{FINISHED PRODUCT COST} \times 100 / \text{CHOSEN SHELF PRICE}$$

9. What is the expected profit per pack?

10. Are there any potential problems or issues that the company would need to be aware of?

## Final business report – Lip balm (250g)

You will need to decide what additional ingredients you would like to add to your lip balm. To do this you will need to answer the following questions:

1. Who are you going to sell the product to and why?

2. What is your intended advertised benefit?

3. Now you can calculate the cost of the ingredients in your chosen lip balm. The blanks in the table are for any additional ingredients you have chosen to add.

Ingredient	g / pack	cost £ / g	Cost £ / pack (50g)
Beeswax			
Cocoa butter			
Shea Butter			

4. What is the total cost per pack of the ingredients in your lip balm?

5. Which process have you chosen to make your lip balm? What is the cost of this per pack of lip balm?



6. Calculate the total finished product cost per pack.

$$\text{FINISHED PRODUCT COST PER PACK} = \text{COST OF RAW MATERIALS PER PACK} + \text{COST OF PROCESSING PER PACK}$$

7. What is your intended shelf price of your lip balm?

8. What is the lip balm cost as a % of shelf price?

$$\text{FINISHED PRODUCT COST as a \% of SHELF PRICE} = \text{FINISHED PRODUCT COST} \times 100 / \text{CHOSEN SHELF PRICE}$$

9. What is the expected profit per pack?

10. Are there any potential problems or issues that the company would need to be aware of?

## Final business report – Moisturiser (100g)

You will need to decide what additional ingredients you would like to add to your moisturiser. To do this you will need to answer the following questions:

1. Who are you going to sell the product to and why?

2. What is your intended advertised benefit?

3. Now you can calculate the cost of the ingredients in your chosen moisturiser. The blanks in the table are for any additional ingredients you have chosen to add.

Ingredient	g / pack	cost £ / g	Cost £ / pack (50g)
Distilled Water			
Olive Oil			
Glycerine			
Sepigel			
Xanthan Gum			

4. What is the total cost per pack of the ingredients in your moisturiser?

5. Which process have you chosen to make your moisturiser? What is the cost of this per pack of moisturiser?

6. Calculate the total finished product cost per pack.

$$\text{FINISHED PRODUCT COST PER PACK} = \text{COST OF RAW MATERIALS PER PACK} + \text{COST OF PROCESSING PER PACK}$$

7. What is your intended shelf price of your moisturiser?

8. What is the moisturiser cost as a % of shelf price?

$$\text{FINISHED PRODUCT COST as a \% of SHELF PRICE} = \text{FINISHED PRODUCT COST} \times 100 / \text{CHOSEN SHELF PRICE}$$

9. What is the expected profit per pack?

10. Are there any potential problems or issues that the company would need to be aware of?

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