

SI Pharmacy Technician - Full Discipline Demo

Compounding - Creams and Ointments

Final Report - Answer Guide

Institution	Science Interactive University
Session	SI Pharmacy Technician - Full Discipline Demo
Course	SI Pharmacy Technician - Full Discipline Demo
Instructor	Sales SI Demo

Test Your Knowledge

Classify each statement regarding compounded pharmaceuticals as either true or false.

⚡ Compounded pharmaceuticals are drug formulations that are available commercially.	
⚡ Not all pharmacies have compounding capabilities.	
⚡ During compounding, flavors may be added to make the medication more palatable.	
⚡ Compounding may be done if the patient has an allergy to an essential ingredient.	
True	False
1	2

Correct answers:

1 Not all pharmacies have compounding capabilities.

During compounding, flavors may be added to make the medication more palatable.

2

Compounded pharmaceuticals are drug formulations that are available commercially.

Compounding may be done if the patient has an allergy to an essential ingredient.

Match each term with the best description.

⌘ Doubling up	Technique in which each addition of the diluent is an amount equal to the bulk of the substance the diluent is being added to.	1
⌘ Ointments		
⌘ Geometric dilution	The process of grinding the particles in a mortar and pestle to produce a smaller particle size.	2
⌘ Powder		
⌘ Trituration	Water-based, generally opaque, have emollient properties, and can be classified as a thick or soft solid. Have a lubricating effect and can be used in areas where the skin rubs against itself.	3
⌘ Creams		
	A solid dosage formulated as fine particles that are smooth to the touch and nonirritating to the skin.	4
	The process of diluting an active ingredient by gradually adding amounts of the inactive ingredient that equal the amount containing the active ingredient.	5
	Oil-based; typically used for several purposes such as antiseptics, emollients, protectants, and astringents.	6

Correct answers:

- 1 Doubling up 2 Trituration 3 Creams 4 Powder
- 5 Geometric dilution 6 Ointments

Exploration

Which of the following is a scenario in which a compounded pharmaceutical might be prescribed?

- ☒ A patient who has difficulty swallowing requires a medication that typically comes in pill form to be liquefied. ✓
- ☐ A patient who has difficulty swallowing requires a medication that typically comes in liquid form to be in a tablet.
- ☐ The patient requires a drug that is readily available on the market.
- ☐ The patient doesn't like how the prescribed drug looks.

Geometric dilution is commonly used during compounding as it ensures a thoroughly homogenized mixture.

- ☒ True ✓
- ☐ False

The term “lotion” is often used to describe ointments intended for topical use.

- ☐ True
- ☒ False ✓

Exercise 1

What purpose does the sieve serve after trituration of the drug placebo?

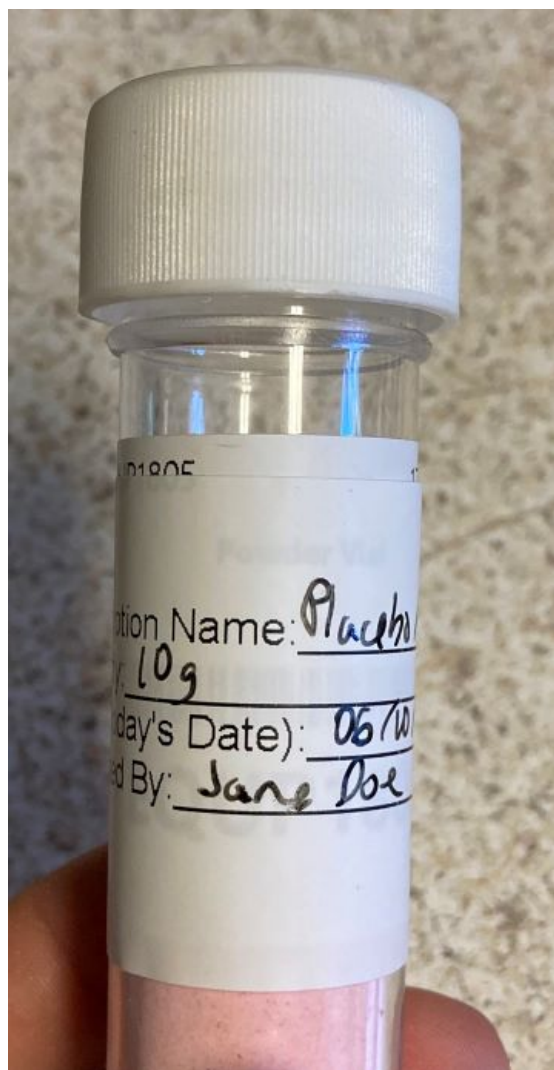
**Could you reverse the order of the powders by adding the drug placebo to the baking soda?
Why or why not?**

Why did you triturate more powder than was required for the final powder?

Photo 1: Triturated Powder
(SAMPLE ANSWER BELOW)



Photo 2: Packaged Powder
(SAMPLE ANSWER BELOW)



Exercise 2

What is geometric dilution and why is it used here?

In this exercise, what represents the active ingredient and what represents the diluent?

What special properties does an ointment have and what are they used for?

Photo 3: Compounded Ointment
(SAMPLE ANSWER BELOW)





Exercise 3

In this exercise, what represents the active ingredient and what represents the diluent?

What special properties does a cream have and what are they used for?

Photo 4: Compounded Cream
(SAMPLE ANSWER BELOW)



Competency Review

Only drugs that come in powder form can be compounded.

- ☐ True
 - ☒ False
- ✓

When performing geometric dilution, the diluent is gradually added to the active ingredient.

- ☒ True
 - ☐ False
- ✓

When preparing a powder for compounding, particle size is often reduced through a process called _____.

- ☐ geometric dilution
 - ☐ doubling up
 - ☒ trituration
 - ☐ levigation
- ✓

The base of a(n) _____ will not penetrate the human skin barrier.

- ☐ ointment ✓
- ☐ powder
- ☐ cream
- ☐ diluent

Because creams are water-based, they are absorbed into the skin.

- ☐ True ✓
- ☐ False

Trituration is only performed to reduce the particle size of a powder.

- ☐ True
- ☐ False ✓

Petroleum jelly is a potential base ingredient for a compounded _____.

- ☐ powder
- ☐ cream
- ☐ ointment ✓

A compounded cream is not fully homogenized if it is not smooth and has an irregular texture.

- ☐ True ✓
- ☐ False

Extension Questions

Why is it so important to ensure a homogeneous mixture when compounding a new drug preparation? (SAMPLE ANSWER BELOW)

A homogeneous mixture is crucial to ensure an even distribution of the active ingredient which will ensure consistent dosing of the active ingredient throughout the product.