

Paediatric Dose Calculation from a Given mg per kg per Dose Order

Experiment 21 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To verify a dose or supply calculation using an instructor-provided fictional prescription.

Principle

Dose (mg) = given mg/kg/dose × weight (kg); volume (mL) = ordered mg / concentration (mg/mL).

Fictional Given Order

A fictional prescriber order states 10 mg/kg per dose for a child weighing 18 kg; the teaching product is 120 mg/5 mL.

Requirements

- Given fictional prescription, body weight where relevant and product strength
- Calculator, unit-conversion worksheet and independent checker

Procedure

1. Read

Identify whether the order is per dose or per day and confirm all supplied units.

2. Calculate

Write the formula and substitute only the given values.

3. Convert

Convert mg to mL or tablet quantity using the actual product strength.

4. Check

Independently verify arithmetic, product suitability, dose limits and complete instructions through the authorised source.

5. Report

Record the calculated amount and any information still requiring clarification.

Observations and Record

Field	Student calculation
Given order / weight	_____
Product strength / units	_____
Calculated mg per dose	_____
Calculated mL / tablets	_____
Independent check / clarification	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- Ordered dose = $10 \times 18 = 180$ mg per dose.
- Concentration = $120 / 5 = 24$ mg/mL.
- Volume = $180 / 24 = 7.5$ mL per dose.
- Frequency, maximum dose, indication and product suitability must be confirmed separately; this worksheet does not select them.

Result

Calculated amount: _____. Unit and independent checks: _____. Unresolved order/product information: _____.

Precautions

- These are arithmetic exercises with given orders, not recommended regimens.
- Rounding must follow the available measuring device and authorised policy.
- Do not infer a paediatric dose from an adult dose by an unvalidated rule.

Viva Questions and Answers

1. Why distinguish per day from per dose?

Using one as the other can multiply or reduce the intended total.

2. Why verify the product strength?

The same medicine may have different concentrations or formulations.

3. Why use an independent check?

It helps detect arithmetic, unit and interpretation errors.

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