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Week 5: Pharmacology

Module 3: Routes of Administration

Lesson: Same Medicine, Different Results: How Route Changes Everything

Lesson Overview

Students analyze how the route a medicine takes into the body affects how it works. They use evidence to explain how route changes the speed, location, and control of treatment outcomes.

Learning Targets

Explain how medicine enters the body and begins to work.

Describe how route affects speed, location, and control of treatment.

Use evidence to choose the best route for a situation.

Vocabulary

Route of administration
how medicine enters the body

Absorption
how medicine gets into the bloodstream

Injection
medicine given with a needle

Materials

Module
Student response sheets
Whiteboard or chart paper

Instructional Notes

Students often think the fastest treatment is always best. This lesson shifts thinking to selecting the right treatment based on purpose: fast, local, or controlled. Emphasize decision-making using evidence and comparison between options. Avoid confirming answers early. Students should justify ideas using evidence from the module. This lesson connects students' understanding of medicine to how treatment is delivered. The conceptual shift is recognizing that health science professionals not only choose a medicine, but also choose how it enters the body based on what the patient needs. Students may initially believe that the fastest route is always the best route. Through discussion and evidence gathering, they should recognize that the most effective route depends on the treatment goal. This lesson prepares students for future learning about treatment decisions by reinforcing the idea that evidence is used to select appropriate healthcare interventions.



Learning Experience

8 min	Opening	Present the scenario: "Two patients take the same medicine. One takes a pill. One gets an injection. The injection works in minutes. The pill takes an hour." Ask: "Why do the results differ?" Display choices: A. The injection is stronger B. The medicine enters the body differently C. One body works better Students: Choose one answer and write their decision (independent). Turn to a partner and compare reasoning. Present second scenario: "You have an itchy rash on your arm. Would you choose an injection or a cream?" Students choose an option and briefly explain to a partner. Ask "If injections work faster, why didn't everyone choose that?" Students write a revised explanation (independent revision). Sentence Frame: "I first thought _____, but now I think _____ because the route affects _____."
15 min	Module	Focus: How does the route into the body change what medicine does? Guiding Questions: • What routes of administration are described in the module? • How does route affect how quickly medicine works? • Why might health science professionals choose different routes for different situations? Quick Checks: • Which route from the module reaches the bloodstream quickly? • Which route stays focused on one area of the body? Sentence Frame: "The most important characteristic is _____ because it allows medicine to _____."
15 min	Application	Display the claim "The fastest route of administration is always the best choice." Tell students "Your job is not to guess the correct answer. Your job is to determine whether this claim is supported by evidence from the module." Display evidence from the module: • Nasal medications can enter the bloodstream directly without being broken down by the digestive system. • Topical creams are used to treat skin conditions such as itching and rashes. • Topical otic medications deliver medicine directly into the ear canal. • Subcutaneous injections allow medicine to enter the bloodstream slowly and steadily. • Intramuscular injections are absorbed quickly because muscles have a plentiful blood supply.



		• Intravenous medications enter the bloodstream very quickly because they are delivered directly into a vein. Students: Step 1: Take a Position • Decide whether the claim is supported by the evidence from the module. • Record your initial position. Step 2: Find Evidence • Review your module notes and the evidence provided. • Select two pieces of evidence that support your position. Step 3: Construct an Explanation • Write a short explanation defending your position. • Use evidence from the module to support your reasoning. Step 4: Discuss and Revise • Share your explanation with a partner. • Compare evidence and reasoning. • Revise your explanation if needed. Sentence Frames: "My position is ____." "One piece of evidence from the module is ____." "This evidence supports my position because ____."
2 min	Reflection	Why is the fastest treatment not always the best treatment?
2 min	Career Connections	Health science professionals choose how to deliver medicine based on what the body needs: speed, location, or control. This decision-making process helps ensure treatments are safe, effective, and appropriate for each situation. Physicians, nurses, pharmacists, and other health science professionals regularly evaluate evidence before selecting a route of administration.