



Scope and Sequence

Science/Medicine

GRADE LEVEL:

Jr. High and High School

COURSE OVERVIEW:

From surgery to vaccines, man has made great strides in the field of medicine. Quality of life has improved dramatically in the last few decades alone, and the future is bright. But students must not forget that God provided humans with minds and resources to bring about these advances.

A biblical perspective of healing and the use of medicine provides the best foundation for treating diseases and injury. In *Exploring the World of Medicine*, author John Hudson Tiner reveals the spectacular discoveries that started with men and women who used their abilities to better mankind and give glory to God. The fascinating history of medicine comes alive in this book, providing students with a healthy dose of facts and insightful biographies.

FEATURES:

Filled with photos and illustrations to enhance the learning perspectives, this text contains concepts for discussion and review, detailed content explanations, chapter exams, and a thorough glossary of terms that can be utilized for reviewing vocabulary or spelling ability. Answers to the chapter tests are available in the back of the book. This title is available as a stand-alone text or in a special “*Exploring Series*” package that includes: biology, chemistry, Earth science, ecology, mathematics, history of medicine, and physics.

CONTENT FOCUS:

Chapter 1: The First Physicians

Concepts for discussion:

- Doctors relied on myths and magical powers.
- Some doctors were mistreating their patients.
- Doctors did not understand how the body worked.

Chapter 2: Greek Medicine Goes Wrong

Concepts for discussion:

- It was illegal to study anatomy using humans.
- Europe fell into the Dark Ages where new learning ceased.

Chapter 3: Fabric of Modern Surgery

Concepts for discussion:

- Human anatomy was difficult to study because of decay.
- Medical professors were teaching ideas that were wrong.
- Students accepted these ideas without experimenting to see if they were right.

Chapter 4: Father of Modern Surgery

Concepts for discussion:

- Doctors used cruel and painful treatments.
- Professional doctors thought that surgery was beneath them.
- Medical textbooks were written in Latin so that the barber surgeons could not use them.

Chapter 5: The Living River

Concepts for discussion:

- Doctors were too dependent upon writings of old physicians.
- Galen’s writings were based upon false ideas about blood circulation.

Chapter 6: The Invisible Kingdom

Concepts for discussion:

- The Black Death plague was killing as many as one in three people.
- Physicians could only study things that could be seen with the human eye.
- Physicians did not know how to prevent the spread of deadly diseases.

Chapter 7: Triumph Over Smallpox

Concepts for discussion:

- For centuries doctors only treated diseases and did little to prevent them.
- Thousands were dying from smallpox.
- If a person survived smallpox, they might be left disfigured, blind or deaf.

Chapter 8: Davy Deadens Pain

Concepts for discussion:

- Pain of surgery was almost unbearable.
- Pain-relieving drugs caused addiction.
- Pain of surgery required speed over accuracy.



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Chapter 9: Morton Defeats the Pain of Surgery

Concepts for discussion:

- Dentistry... a painful experience.
- Sulfuric ether was ineffective because some patients would wake up during surgery.
- Sulfuric ether had an offensive odor and caused some patients to have trouble breathing.

Chapter 10: Death House in Vienna

Concepts for discussion:

- Childhood fever was taking thousands of lives of young mothers.
- More women were dying under the care of doctors than midwives.
- Some doctors were more interested in their reputations than in saving lives.

Chapter 11: The Chemist Who Became a Doctor

Concepts for discussion:

- Could science be applied to practical matters?
- It was difficult to ship food and wine because it often spoiled.
- Doctors still did not understand how diseases were spread.

Chapter 12: Joseph Lister Fights Infection

Concepts for discussion:

- Infection was a major problem during surgery.
- People often died after surgery from the infection alone.
- Compound bone fractures almost always ended in death because of infections.

Chapter 13: The Search for Disease Germs

Concepts for discussion:

- Epidemics of anthrax were killing cattle, sheep, and sometimes humans.
- Farmers had to kill, burn, or bury the animals to prevent the spread of anthrax.
- The disease would still re-occur.

Chapter 14: Louis Pasteur Again

Concepts for discussion:

- During an epidemic of cholera, a farmer could lose as many as 11 out of every 12 chickens.
- No cure for the disease anthrax had been found.
- The disease of rabies always proved fatal.

Chapter 15: Dr. Lind's Limes

Concepts for discussion:

- Sailors were dying of scurvy.
- The British Empire depended upon ships for commerce and national security.
- Doctors failed to believe the Indian's homemade remedy of pine needle tea.

Chapter 16: The Hidden Hunger

Concepts for discussion:

- European settlers sent by the Dutch East India Company were dying of disease.
- Victims couldn't eat, their heart weakened, then paralysis and death.
- Because doctors thought germs caused all diseases, they were overlooking the role of the diet in health.

Chapter 17: Mysterious Rays

Concepts for discussion:

- Could electricity travel without air to conduct it?
- Could high voltage electricity be of any practical use?
- Doctors were limited in diagnosing and treatment of patients by an inability to view inside the human body.

Chapter 18: Useful Radiation

Concepts for discussion:

- Some people were overusing x-ray machines and were suffering from radiation burns.
- Were there other materials that would improve the x-ray?
- Could x-rays be used to help fight disease?

Chapter 19: Wonder Drugs

Concepts for discussion:

- Doctors still had no drugs to fight many common diseases.
- Doctors needed something that would kill bacteria without harming human tissue.
- Some bacteria were overwhelming the body's natural defenses.



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Chapter 20: Mold Battles Bacteria

Concepts for discussion:

- Sulfa did not work on all types of bacteria.
- More research was needed to find other germ fighting chemicals.
- Some antibiotics were so hard to make that they were too expensive to be practical.

Chapter 21: Medicine in Today's World

Concepts for discussion:

- Blood transfusions had proven to be too dangerous to be practical.
- Other healthy people were dying because of the failure of a single organ.
- Doctors did not understand how diseases were passed from parent to child through heredity.