

## A Case of Cystic Fibrosis - ANSWER KEY

The student version of this activity available in these formats:

[Google Doc File](#) - for in - person learning

[PDF Version](#) for printing

Google Doc File - Remote Edition [Part 1](#) and [Part 2](#)

*Remote editions are easier, mainly because students don't get the benefit of me helping them with the more difficult questions. This is also split into two files so that you can provide feedback sooner.*



Answer Key - In Person Version

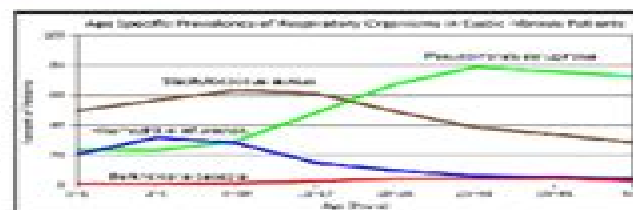
1. "Woe to that child which when kissed on the forehead tastes salty. He is bewitched and soon will die" This is an old saying from the eighteenth century and describes one of the symptoms of CF (salty skin). Why do you think babies in the modern age have a better chance of survival than babies in the 18th century?

Modern medicine, patients have access to antibiotics and respiratory therapy and drugs

2. What symptoms lead Dr. Weyland to his initial diagnosis? wheezing and salt crystals on the skin

3. Consider the graph of infections, which organism stays relatively constant in numbers over a lifetime. What organism is most likely affecting baby Zoey? *B. copacra* stays constant, for Zoey's age, staph is most likely causing the problem

4. What do you think is the most dangerous time period for a patient with CF? Justify your answer. 11-24 is where there is a large number of bacteria present, staph and pseudomonas at the same time



## Part II: CF is a disorder of the cell membrane.

5. Suggest a molecular fix for a mutated CFTR channel. How would you correct it if you had the ability to tinker with it on a molecular level? *Answers vary, since the channel is blocked, suggest to unblock the channel or keep it open in some way*

6. Why would treatment that targets the CFTR channel not be effective for 5% of those with cystic fibrosis? *5% of the patients don't have the channel protein at all*

7. Sweat glands cool the body by releasing perspiration (sweat) from the lower layers of the skin onto the surface. Sodium and chloride (salt) help carry water to the skin's surface and are then reabsorbed into the body. Why does a person with cystic fibrosis have salty tasting skin? *the salt is not being reabsorbed into the body due to missing channels*

# Cystic Fibrosis Evolve Case Study Answers Answer Expo

**Jacob Haskins**



## **Cystic Fibrosis Evolve Case Study Answers Answer Expo:**

**Chasing Science at Sea** Ellen Prager, 2009-05-15 To the average office dweller marine scientists seem to have the good life cruising at sea for weeks at a time swimming in warm coastal waters living in tropical paradises But ocean scientists who go to sea will tell you that it is no vacation Creature comforts are few and the obstacles seemingly insurmountable yet an abundance of wonder and discovery still awaits those who take to the ocean *Chasing Science at Sea* immerses readers in the world of those who regularly go to sea aquanauts living underwater marine biologists seeking unseen life in the deep ocean and the tall ship captains at the helm among others and tells the fascinating tale of what life and science is like at the mercy of Mother Nature With passion and wit well known marine scientist Ellen Prager shares her stories as well as those of her colleagues revealing that in the field ingenuity and a good sense of humor are as essential as water sunblock and GPS Serendipity is invaluable and while collecting data is the goal sometimes just getting back to shore means success But despite the physical hardship and emotional duress that come with the work optimism and adventure prompt a particularly hardy species of scientist to return again and again to the sea Filled with firsthand accounts of the challenges and triumphs of dealing with the extreme forces of nature and the unpredictable world of the ocean *Chasing Science at Sea* is a unique glimpse below the water line at what it is like and why it is important to study explore and spend time in one of our planet's most fascinating and foreign environments

**Lewis's Medical-Surgical Nursing E-Book** Mariann M. Harding, Jeffrey Kwong, Debra Hagler, Courtney Reinisch, 2022-07-02 American Journal of Nursing AJN Book of the Year Awards 1st Place in Medical Surgical Nursing 2023 Selected for Doody's Core Titles 2024 with Essential Purchase designation in Medical Surgical Gain the knowledge and skills you need to succeed in medical surgical nursing with this leading textbook Lewis's Medical Surgical Nursing 12th Edition uses a conversational writing style a focus on nursing concepts and clinical trends evidence based content and basic pathophysiology review to provide the solid foundation needed in a rapidly changing healthcare environment Comprehensive chapters cover topics including nursing management and collaboration health promotion acute interventions and ambulatory care Summary tables and boxes make it easy to find essential information and a building block approach makes even the most complex concepts simple to grasp In addition to three new chapters this edition includes a stronger focus on the nursing process clinical judgment and preparation for the Next Generation NCLEX Examination

*The Human Body in Health & Disease - E-Book* Kevin T. Patton, Gary A. Thibodeau, 2017-01-11 No one explains A P more clearly *The Human Body in Health Disease* 7th Edition makes it easier to understand how the body works both in normal conditions and when things go wrong Its easy to read writing style more than 500 full color illustrations and unique Clear View of the Human Body transparencies keep you focused on the principles of anatomy physiology and pathology New to this edition are Connect It features with bonus online content and concept maps with flow charts to simplify complex topics From noted educators Kevin Patton and Gary Thibodeau this book presents A P in a way that lets you

know and understand what is important More than 545 full color photographs and drawings bring difficult A P concepts to life and illustrate the most current scientific knowledge Clear conversational writing style breaks down information into brief chunks making principles easier to understand UNIQUE Clear View of the Human Body transparencies allow you to peel back the layers of the body with a 22 page full color insert showing the male and female human body along several planes Over 50 Animation Direct 3 D animations provide dynamic visual explanations for key concepts with callouts in the text directing you to these animations on the Evolve companion website Language of Science Language of Medicine presents lists of medical terms pronunciations and word parts to help you become familiar with A P terminology and the meanings of individual word parts Useful learning features include study tips chapter objectives case studies critical thinking questions summary boxes review questions and chapter tests A study guide reinforces your understanding of anatomy and physiology with a variety of practical exercises to help you review and apply key A P concepts Sold separately NEW and UNIQUE Connect It articles on the Evolve companion website provide bonus information for you to explore and are called out in the text NEW and UNIQUE Active Concept Maps on Evolve utilize animated and narrated flow charts to explain complex topics and are also called out in the text NEW Chapter objectives and Active Learning sections more closely tie objectives to the end of chapter material UPDATED Genetics chapter includes the latest and most important advances

Buck's The Next Step: Advanced Medical Coding and Auditing, 2023/2024 Edition - E-Book Elsevier,2022-12-05 Master advanced coding skills Buck's The Next Step Advanced Medical Coding and Auditing shows how to code for services such as medical visits diagnostic testing and interpretation treatments surgeries and anesthesia Real world cases cleared of any patient identifiers takes your coding proficiency a step further by providing hands on practice with physician documentation With this guide you ll learn to pull the right information from medical documents select the right codes determine the correct sequencing of those codes and properly audit cases Real world patient cases cleared of any patient identifiers simulate the first year of coding on the job by using actual medical records allowing you to practice coding with advanced material UNIQUE Evaluation and Management E M audit forms include clear coding instructions to help reduce errors in determining the correct level of service More than 150 full color illustrations depict and clarify advanced coding concepts Coverage of CPT E M guidelines changes for office and other outpatient codes From the Trenches boxes highlight the real life experiences of professional medical coders and include photographs quotes practical tips and advice NEW Coding updates include the latest information available including 2024 code updates when released

*Buck's The Next Step: Advanced Medical Coding and Auditing, 2025/2026 Edition - E-BOOK* Elsevier Inc,Jackie Koesterman,2024-12-26 Master advanced coding skills Buck's The Next Step Advanced Medical Coding and Auditing shows how to code for services such as medical visits diagnostic testing and interpretation treatments surgeries and anesthesia Real world cases cleared of any patient identifiers takes your coding proficiency a step further by providing hands on practice with physician documentation With this guide you ll learn to pull

the right information from medical documents select the right codes determine the correct sequencing of those codes and properly audit cases NEW Coding updates include the latest information available including 2026 code updates when released Real world patient cases cleared of any patient identifiers simulate the first year of coding on the job by using actual medical records allowing you to practice coding with advanced material UNIQUE Evaluation and Management E M audit forms include clear coding instructions to help reduce errors in determining the correct level of service More than 150 full color illustrations depict and clarify advanced coding concepts Coverage of CPT E M guidelines changes for office and other outpatient codes From the Trenches boxes highlight the real life experiences of professional medical coders and include photographs quotes practical tips and advice      **Discover** ,1995-07      **Bulletin of the Atomic Scientists** ,1972-12 The Bulletin of the Atomic Scientists is the premier public resource on scientific and technological developments that impact global security Founded by Manhattan Project Scientists the Bulletin s iconic Doomsday Clock stimulates solutions for a safer world      Case Study Jacob Haskins,2012      *Explaining Cystic Fibrosis* Jillian Powell,2013

## Whispering the Strategies of Language: An Mental Journey through **Cystic Fibrosis Evolve Case Study Answers Answer Expo**

In a digitally-driven earth where screens reign great and immediate conversation drowns out the subtleties of language, the profound techniques and emotional nuances hidden within words often get unheard. Yet, located within the pages of **Cystic Fibrosis Evolve Case Study Answers Answer Expo** a interesting literary prize pulsating with fresh thoughts, lies an exceptional journey waiting to be undertaken. Composed by a talented wordsmith, that enchanting opus attracts viewers on an introspective journey, lightly unraveling the veiled truths and profound influence resonating within the very fabric of each word. Within the mental depths of the touching review, we will embark upon a heartfelt exploration of the book is core subjects, dissect its captivating writing design, and yield to the effective resonance it evokes serious within the recesses of readers hearts.

<https://crm.allthingsbusiness.co.uk/files/scholarship/default.aspx/Mental%20Health%20Tips%20Morning%20Routine%20Ideas.pdf>

### **Table of Contents Cystic Fibrosis Evolve Case Study Answers Answer Expo**

1. Understanding the eBook Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - The Rise of Digital Reading Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Advantages of eBooks Over Traditional Books
2. Identifying Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Exploring Different Genres
  - Considering Fiction vs. Non-Fiction
  - Determining Your Reading Goals
3. Choosing the Right eBook Platform
  - Popular eBook Platforms
  - Features to Look for in an Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - User-Friendly Interface

4. Exploring eBook Recommendations from Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Personalized Recommendations
  - Cystic Fibrosis Evolve Case Study Answers Answer Expo User Reviews and Ratings
  - Cystic Fibrosis Evolve Case Study Answers Answer Expo and Bestseller Lists
5. Accessing Cystic Fibrosis Evolve Case Study Answers Answer Expo Free and Paid eBooks
  - Cystic Fibrosis Evolve Case Study Answers Answer Expo Public Domain eBooks
  - Cystic Fibrosis Evolve Case Study Answers Answer Expo eBook Subscription Services
  - Cystic Fibrosis Evolve Case Study Answers Answer Expo Budget-Friendly Options
6. Navigating Cystic Fibrosis Evolve Case Study Answers Answer Expo eBook Formats
  - ePub, PDF, MOBI, and More
  - Cystic Fibrosis Evolve Case Study Answers Answer Expo Compatibility with Devices
  - Cystic Fibrosis Evolve Case Study Answers Answer Expo Enhanced eBook Features
7. Enhancing Your Reading Experience
  - Adjustable Fonts and Text Sizes of Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Highlighting and Note-Taking Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Interactive Elements Cystic Fibrosis Evolve Case Study Answers Answer Expo
8. Staying Engaged with Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Joining Online Reading Communities
  - Participating in Virtual Book Clubs
  - Following Authors and Publishers Cystic Fibrosis Evolve Case Study Answers Answer Expo
9. Balancing eBooks and Physical Books Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Benefits of a Digital Library
  - Creating a Diverse Reading Collection Cystic Fibrosis Evolve Case Study Answers Answer Expo
10. Overcoming Reading Challenges
  - Dealing with Digital Eye Strain
  - Minimizing Distractions
  - Managing Screen Time
11. Cultivating a Reading Routine Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Setting Reading Goals Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Carving Out Dedicated Reading Time

12. Sourcing Reliable Information of Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Fact-Checking eBook Content of Cystic Fibrosis Evolve Case Study Answers Answer Expo
  - Distinguishing Credible Sources
13. Promoting Lifelong Learning
  - Utilizing eBooks for Skill Development
  - Exploring Educational eBooks
14. Embracing eBook Trends
  - Integration of Multimedia Elements
  - Interactive and Gamified eBooks

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