

Getting to Know the *Biotechnology: Science for the New Millennium* Textbook and Lab Manual

- 1) Look at the Table of Contents of both the textbook and the lab manual.
 - a. How many chapters are in the textbook? _____
 - b. Each text chapter begins with a focus on a _____
 - c. What is the title of Chapter 9 in the text? _____
 - d. What is the title of the 3rd lab in Chapter 5 of the lab manual? _____

- 2) On what page of the textbook does the glossary begin? _____
 - a. What is the definition given for “recombinant DNA?”

 - b. What is the definition given for “volume?”

- 3) On what page does the index begin? _____
 - a. On what pages can information about coronaviruses be found? _____
 - b. On what pages can information about hydroponics be found? _____

- 4) In the *Preface* it explains how the textbook is divided into focus areas. Describe them below:
 - a. Unit 1, Chapters 1-5 focus on _____
 - b. Unit 2, Chapters 6-9 focus on _____
 - c. Unit 3, Chapters 10-14 focus on _____

- 5) Look through Chapter 4 in the textbook. ?
 - a. Who is the career focus, what is his job, and where does he work?

 - b. How many *Learning Outcomes* are given at the beginning of the chapter? _____
 - c. Into how many sections is this chapter divided? _____
 - d. Look on page 119. How many terms are defined in the margins? _____ What is the definition of “broth?” _____

- e. Look on page 121. How many Figures are there? _____ Look at each. How many chromosomes are found in a human cell? _____ Which figure caption provides the chromosome number information? _____
- f. Using the Internet, *Biotech Online* activities reinforce and expand a student's knowledge and interest. How many *Biotech Online* activities are found in Chapter 4? _____
- g. How many Section Review questions are found in Section 4.3? _____
- h. At the end of the chapter, in the Chapter Review the vocabulary terms listed in the text and the margins of the pages are listed. How many Speaking Biotech terms are listed in Chapter 4? _____
- i. What color are the *Summary of Concepts* bullets in the Chapter Review? _____
- j. What color are the *Lab Practices* bullets in the Chapter Review? _____
- k. How many *Thinking Like a Biotechnician* questions are found in the Chapter Review? _____
- l. As more in depth projects, *Biotech Live* activities reinforce and expand a student's knowledge. How many *Biotech Live* activities are found in Chapter 4? _____
- m. A *Bioethics* dilemma is presented at the end of each chapter. What is the *Bioethics* dilemma presented at the end of Chapter 4?" _____

6) In Figure 5.2, what protein is depicted in the computer-generated model? _____

7) In Table 10.1, how many plant tissue types are described? _____

8) In what chapter is forensics discussed? _____

9) On what pages is there a photograph of a forensic scientist? _____

10) In the lab manual, each lab activity is divided into 5 parts representing The Scientific Method. These are shown in green. List them

- | | |
|----------|----------|
| a. _____ | d. _____ |
| b. _____ | e. _____ |
| c. _____ | |

11) On the "About the Author" page, what is the name of the author's chihuahua? _____

Getting to Know the Biotechnology: Science for the New Millennium Textbook **Answers**

- 1) Look at the Table of Contents of both the textbook and the lab manual.
 - a. How many chapters are in the textbook? **14**
 - b. Each text chapter begins with a focus on a **career**
 - c. What is the title of Chapter 9 in the text? **Bringing a Biotechnology Product to Market**

- 2) On what page of the text does the glossary begin? **476**
 - a. What is the definition given for “recombinant DNA?”
DNA created by combining DNA from two or more sources
 - b. What is the definition given for “volume?” **the amount of space something occupies**

- 3) On what page does the index begin? **490**
 - a. On what pages can information about coronaviruses be found? **125**
 - b. On what pages can information about hydroponics be found? **329, 346**

- 4) In the *Preface* it explains how the book is divided into focus areas. Describe them below:
 - a. Unit 1, Chapters 1-5 focus on **standard lab operating procedures**
 - b. Unit 2, Chapters 6-9 focus on **production of recombinant proteins**
 - c. Unit 3, Chapters 10-14 focus on **current and recent advances in biotechnology**

- 5) Look through Chapter 4. ?
 - a. Who is the career focus, what is his job, and where does he work?
Paul D Kaufman, PhD, Molecular Biologist/Professor, University of Massachusetts Medical School
 - b. How many *Learning Outcomes* are given at the beginning of the chapter? **7**
 - c. Into how many sections is this chapter divided? **4**
 - d. Look on page 119. How many terms are defined in the margins? **6** What is the definition of “broth?” **liquid media used for growing cells**
 - e. Look on page 121. How many Figures are there? **3** Look at each. How many chromosomes are found in a human cell? **46** Which figure caption provides the chromosome number information? **Figure 4.16**

- f. Using the Internet, *Biotech Online* activities reinforce and expand a student's knowledge and interest. How many *Biotech Online* activities are found in Chapter 4? 8
 - g. How many Section Review questions are found in Section 4.3? 4
 - h. At the end of the chapter, in the Chapter Review the vocabulary terms listed in the text and the margins of the pages are listed. How many Speaking Biotech terms are listed in Chapter 4? 40
 - i. What color are the *Summary of Concepts* bullets in the Chapter Review? green
 - j. What color are the *Lab Practices* bullets in the Chapter Review? orange
 - k. How many *Thinking Like a Biotechnician* questions are found in the Chapter Review? 10
 - l. As more in depth projects, *Biotech Live* activities reinforce and expand a student's knowledge. How many *Biotech Live* activities are found in Chapter 4? 7
 - m. A *Bioethics* dilemma is presented at the end of each chapter? What is the *Bioethics* dilemma presented at the end of Chapter 4?" The Promise of Gene Therapy
- 6) In Figure 5.2, what protein is depicted in the computer-generated model? acetylcholinesterase
- 7) In Table 10.1, how many plant tissue types are described? 7
- 8) In what chapter is forensics discussed? Chapter 1 and Chapter 13
- 9) On what pages is there a photograph of a forensic scientist? Pages 421 and 422
- 10) In the lab manual, each lab activity is divided into 5 parts representing The Scientific Method. These are shown in green. List them
- a. Background
 - b. Purpose
 - c. Procedure
 - d. Data Analysis
 - e. Conclusion
- 11) On the "About the Author" page, what is the name of the author's chihuahua? Rocky Balboa