Answer Key

Unit 1 (pages 2–24)

Exercise 1A: Understanding Assumptions of Academic Writers (page 3)
Answers will vary.

Exercise 1B: Free Writing and Understanding Assumptions (page 4)
Answers will vary.

Exercise 1C: Considering Readers (page 6)

<table>
<thead>
<tr>
<th>Type</th>
<th>Reader</th>
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<tbody>
<tr>
<td>Abstract</td>
<td>2</td>
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<tr>
<td>Biographic statement</td>
<td>both</td>
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<td>Cover letter</td>
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<tr>
<td>Thesis</td>
<td>2</td>
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<td>Email</td>
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<tr>
<td>Academic essay</td>
<td>1</td>
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<td>Grant</td>
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<td>Lab report</td>
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<td>Resume</td>
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<td>conference</td>
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<tr>
<td>dissertation</td>
<td>2</td>
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<tr>
<td>Published article</td>
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</tbody>
</table>

Exercise 1D: Selecting an Area of Interest for General Readers (page 6)
Answers will vary.

Exercise 1E: Comparing of Vocabulary for General and Field Expert Readers (page 7)

Emory scientists have for the first time used a new class of luminescent “quantum dot” nanoparticles in living animals to simultaneously target and image cancerous tumors.
Scientists Target Tumors with ‘Quantum Dots’

Holly Korschun

Emory scientists have for the first time used a new class of luminescent “quantum dot” nanoparticles in living animals to simultaneously target and image cancerous tumors. Encapsulated in a highly protective polymer coating and attached to a monoclonal antibody that guides them to prostate tumor sites in living mice, the quantum dots are visible using a simple mercury lamp. The scientists believe the ability to both target and image cells in vivo represents a significant step in the quest to use nanotechnology to target, image and treat cancer, cardiovascular plaques and neurodegenerative disease in humans. The findings appeared in the Aug. 1 edition of Nature Biotechnology. The research team was led by Shuming Nie, a nanotechnology expert and professor in the joint Emory/Georgia Tech Coulter Department of Biomedical Engineering and the Winship Cancer Institute, and by Lelund Chung, professor of urology in the School of Medicine and Winship.

Quantum dots are nanometer-sized luminescent semiconductor crystals that have unique chemical and physical properties due to their size and highly compact structure. Quantum dots can be chemically linked (conjugated) to molecules such as antibodies, peptides, proteins or DNA and engineered to detect other molecules, such as those present on the surface of cancer cells.

Exercise 1G: Identifying Strategies to Engage General Readers (pages 12–15)

Making Blurry Images a Thing of the Past

(has a creative and interesting title)

My family loves to take pictures. We see stars on Christmas Eve, not from the twinkling night sky, but from the hundreds of flashes coming from my mom’s and aunt’s 35 mm cameras. When asked why they take so many pictures, they always respond, “Just in case some of them don’t turn out” (2/humanizes the research 4/non-technical vocabulary).

Nowadays, the convenience of digital cameras allows us to immediately see our picture and take another if we are unsatisfied. But what if it costs $5,000 to take one picture? Would you pay another $5,000 if the picture was blurry or contaminated with specks of dust? Instead, I think you would try to fix the image you already have (2/humanizes the research). With the help of advanced mathematics and high-performance computers, researchers are finding new ways to take the blur out of images.

You may be wondering what kind of picture costs $5,000. One example is a medical image from a device called a PET scan. This particular camera can scan for cancer, detect Alzheimer’s disease and diagnose heart disease. But the image will be blurred if the subject fidgets. Performing the scan again is costly, not to mention possibly detrimental to the patient’s health. The radiologist, which is just a fancy name for a doctor who interprets medical images (4/uses non-technical vocabulary), must now face a blurred, degraded image of, say, your heart. She has no hope of a clearer image.

The goal of my research is to take that blurry image and work backwards to “undo” (4/uses non-technical vocabulary) the blur. The reconstruction must be done using a computer. As a computational scientist, I work to develop sophisticated algorithms or instructions for the computer. Now, a good detective knows that prior to starting any major operation, we need the proper tools and research (2/humanizes the research). That is, we need some knowledge about our problem. The
first line of investigation is determining what caused the blur. There could be many culprits; one example is motion blur. If you take a picture of a fast-moving car, you may see lines and streaks in the image (creates a visual). Many photographers desire this artistic effect, but medical doctors and radiologists want to eliminate it. To alleviate the smearing effects, the radiologist will ask you to lie still during the test. No matter how hard you try, you will breathe, itch, sneeze and/or twitch, thereby causing motion blur in the image.

Once we know the kinds of blur contaminating our image, the next step is to arm ourselves with the tools needed to do the reconstruction. We start with the basics. A digital image is a picture sitting inside a computer. Each image consists of pixels that snap together in a grid-like formation. Each pixel has an associated value, like each tile of a mosaic has its own color. A typical medical image has a grid of 256 pixels by 256 pixels, giving a total of 65,536 pixels in the image. That’s equivalent to the seating capacity of a large football stadium (creates a visual). Now imagine we line up all the players and fans into one single-file line and assign each person a number. This is similar to how images are stored in the computer. We organize them by putting all 65,536 pixel values into a very long list, making it easier to access each value individually. Remember that our goal is to “undo” the blur in the image. Thus, it is important to understand what happens during the blur process. We do this through mathematical modeling, which is just a fancy expression for using math to explain real-life phenomena. For example, suppose we want to motion blur. Imagine a scenario (creates a visual) in which we paint red, yellow and blue stripes side-by-side on the wall. While the paint is still wet, a child runs his fingers straight through all the colors. The mixture of paints causes a rainbow of colors to appear. In the same way that the motion of the kid’s hand causes the colors to mix along the wall, motion in an image causes an average (or smearing) of neighboring pixel values. Mathematically, this phenomenon is characterized by a formula we learned in elementary school: to compute an average, sum up the values and divide by the
total number of items. Since a typical image has 65,536 pixels, we have to do this “averaging” 65,536 times! That’s a lot of values to manage, so computational scientists conveniently store the information in a large table. This is where computers are helpful and important. Not only do we have to store all of these numbers, but massive computing power also is required to execute instructions that work with these huge tables. So far, we seem to have everything needed to perform the reconstruction, but we have overlooked the most notorious villain of all: the “specks of dust” on the image, which scientists call noise. **Looking at an image degraded by noise is like trying to see an image behind the black and white static in a bad TV transmission (creates a visual).** Due to the random or accidental nature of noise, the chance of us ever getting back to the exact original image now is like finding a pin in a haystack the size of China. I and many other researchers are trying to solve this problem. No definitive answer has been found, but we will NOT give up.

Even though we cannot reconstruct the original image, many computational mathematicians and researchers are investigating ways to get a good approximation. With the advent of novel mathematical techniques and the help of modern computer technologies, we are getting closer and closer to finding a reliable and automated way to “undo” the blur in any image. Clearing up blurry images is important to many aspects of life, whether to clear up the motion blur in your $5,000 PET scan or to avoid taking yet another family photograph. **With my research, maybe one day I will be able to convince my family that one picture is enough (humanizes the research).**

**Exercise 1H: Using Strong Action Verbs (page 18)**

**Set 1**

1. administer, 2. advocate, 3. alter, 4. affiliate, 5. agitate, 6. aid, 7. analyze, 8. approach, 9. assume

**Set 2**

1. vary, 2. proceed, 3. establish, 4. identify, 5. require, 6. involve, 7. indicate, 8. interpret
Exercise 1I: Identifying Strong Verb Usage (page 19)
Answers will vary.

Exercise 1J: Peer Review of Verb Usage (page 19)
Answers will vary.

Exercise 1K: Reducing the Number of Be Verbs (page 21)
Answers will vary.

Exercise 1L: More Practice Reducing the Number of Be Verbs (page 21)
Answers will vary.
1. Every organ and every cell have the same age and function as a single unit.
2. Medical research employs genetic engineering to improve health treatments.
3. These questions remain acute for each and every one of us.
4. Mitchlet’s research contributed to studies conducted in the sixteenth century.

Exercise 1M: Using Academic Vocabulary (page 23)
Answers will vary.
1. Building a nuclear power plant will not eliminate the energy problem completely.
2. The researchers obtained encouraging results.
3. The molecular process that turns healthy cells into malignant ones is unclear.
4. Genetic disorders cause a number of diseases.
5. The International Geochemical Mapping Project provides an excellent example of the collaboration of international chemists.
6. A recent TV program about tampering with nature raised the question of the ethics of genetic engineering and human cloning.
7. People require a long period of time to accept the new concept and recognize the benefit.
9. Genetic engineering, a helpful tool, moves forward the development of humanity.
Exercise 1N: Using Strong Verbs (page 24)

USGS Unveils How Earthquakes Pose Risks to Afghanistan

While human-induced rumblings have dominated life in Afghanistan for several decades, a more natural hazard may present a significant threat to this country undergoing massive restoration: earthquakes. Located in a geologically active part of the world, moderate to strong earthquakes strike the Islamic Republic of Afghanistan each year, and every few years, a powerful earthquake causes significant damage or fatalities. The 7.6-magnitude earthquake in Kashmir, Pakistan on October 8, 2005, poignantly demonstrated the seriousness of this hazard that caused more than 80,000 fatalities and left an estimated four million people homeless. Lack of planning for the potential devastation of earthquakes could undermine years of investment in restoration of Afghanistan infrastructure in a matter of seconds.


Exercise 1O: Peer Review Language Use (page 24)
Answers will vary.

Unit 2 (pages 25–39)

Exercise 2A: Recognizing Top-to-Bottom Structure (page 28)

1. Studies show that reading makes people smarter.
2. Good thinkers read a great deal.
4. Sentences three, four, and five
Exercise 2B: Analysis of Paragraph Structure (page 29)

John F. Kennedy’s Moon Speech—
Rice Stadium/September 12, 1962

No man can fully grasp how far and how fast we have come, but condense, if you will, the 50,000 years of man’s recorded history in a time span of but a half-century. Stated in these terms, we know very little about the first 40 years, except at the end of them advanced man had learned to use the skins of animals to cover them. Then about 10 years ago, under this standard, man emerged from his caves to construct other kinds of shelter. Only five years ago man learned to write and use a cart with wheels. Christianity began less than two years ago. The printing press came this year, and then less than two months ago, during this whole 50-year span of human history, the steam engine provided a new source of power. Newton explored the meaning of gravity. Last month electric lights and telephones and automobiles and airplanes became available. Only last week did we develop penicillin and television and nuclear power, and now if America’s new spacecraft succeeds in reaching Venus, we will have literally reached the stars before midnight tonight. This is a breathtaking pace, and such a pace cannot help but create new ills as it dispels old, new ignorance, new problems, new dangers. Surely the opening vistas of space promise high costs and hardships, as well as high reward.

Exercise 2C: Analyzing Biographical Statements (page 32)

1. focuses on his position and interest
2. focuses on past education and experience
3. focuses on slave trade research

Exercise 2D: More Analyzing Biographical Statements (page 36)

Answers will vary.

Exercise 2E: Revising (page 38)

Answers will vary.
Unit 3 (pages 40–47)

Exercise 3A: Analyzing Topic Sentences (pages 41–42)

1. guidelines for participation in clinical trials
2. no

Exercise 3B: Inserting Transition Words (page 43)

**Study Abroad Students as Global Citizens**
Oksana Gomas, Study Abroad Advisor

Students who leave their secluded worlds to experience a different environment abroad will gain experience and first-hand knowledge of foreign cultures to help them in a global work environment. **Mainly**, they will develop an important asset of patience and understanding of cultural difference. For example, students who study abroad are often stunned and frustrated to find that they cannot manage simple tasks in a foreign culture with strangers who speak a different language and have different customs. **In fact**, they cannot even call a cab or order a pizza. To manage successfully, they must patiently rely on foreigners to function in a new way. **In brief**, as they grapple with these first-hand experiences in a foreign culture, they will learn about the values, perceptions, and behavior of other nationalities which will prepare them for future positions in businesses and corporations with a diverse, work environment.

Exercise 3C: Improving Flow (page 43)

Answers will vary.

Exercise 3D: Recognizing Repetition (page 44)

Science is fueled by passion, a passion that often attaches to the world of objects much as the artist attaches to his paints, the poet to his or her words. Putting *children* in a rich object world is essential to giving science a chance. Children will make intimate connections, connections they need to construct on their own. At a time when science education is in crisis, giving science its best chance means guiding children to objects they can love.

Exercise 3E: Recognizing Repetition (page 45)

The Use of Human Stem Cells for Research in Human Diseases
Anthony Luyai, biochemistry PhD student

In general, scientists believe that human embryonic stem cell research holds the hidden keys for management and treatment of many medical conditions that have bedeviled mankind. These researchers are driven by strong inclinations to acquire knowledge about stem cells and transform the knowledge into tangible products for use as therapeutics for these illnesses. This quest for stem cell products to cure people with maladies that have no current cure has burgeoned by doctors and patients. However, many people question this rush to engineer and develop these expensive body spare parts because they believe that only the rich will benefit, and the manufacturers will reap outlandish profits from these expensive parts.

Exercise 3F: Revising (page 45)
Answers will vary.

Exercise 3G: Previously Mentioned versus New Information (page 46)

HIV Drug Resistance: Current Threats
Duc Bui Nguyen, graduate student in clinical research

Since the human immunodeficiency virus (HIV) was discovered, it quickly became the leading cause of morbidity and mortality around the world. In the battle against this deadly virus, many anti-HIV drugs, called antiretrovirals or ARVs, have been developed and used in patients. However, patients soon showed evidence of resistance to the drug. This resistance is now one of the biggest concerns of scientists and doctors worldwide. Even though apprehension about the problem exists, a thorough assessment has not been performed. Without a comprehensive and meticulous assessment, the battle to stop AIDS may be lost.
Unlocking Mysteries of the Parthenon

Evan Hadingham

The Parthenon was part of an ambitious building campaign on the Acropolis that began around 450 BC. A generation before, the Athenians, as part of an alliance of Greek city-states, had led heroic victories against Persian invaders. This alliance would evolve into a de facto empire under Athenian rule, and some 150 to 200 cities across the Aegean began paying Athens huge sums of what amounted to protection money. Basking in glory, the Athenians planned their new temple complex on a lavish, unprecedented scale—with the Parthenon as the centerpiece. Surviving fragments of the financial accounts, which were inscribed in stone for public scrutiny, have prompted estimates of the construction budget that range from around 340 to 800 silver talents—a considerable sum in an age when a single talent could pay a month’s wages for 170 oarsmen on a Greek warship.

Unit 4: (pages 48–63)

Exercise 4A: Identifying Main Points in a Thesis Statement (page 50)

1. A new kind of natural resource—bright, innovative workers (What?) — will make the difference between a prosperous society and one that stagnates (Why?). This creative class of workers will nurture creative cities, invest in creative infrastructures, and create open and secure societies (How?).

2. Female leaders (What?) can change the course of the political and economic future (Why?) with their unique values: empathy, community focus, and relational skills (How?).

3. The modern plagues of malaria, tuberculosis, and HIV/AIDS (What?) pose a major threat to world health (Why?) and can only be controlled by improving public health conditions in economically deprived environments and improving the mechanics involved in genetic variability that explain the appearance of vaccine and drug resistant strains (How?)

Exercise 4B: Creating a Claim or Thesis Statement (page 51)

Answers will vary.
Exercise 4C Analyzing Macro Structure (page 52–53)

1. Can Psychology Help the Dismal Science: Economics?

1 To understand why so many individuals choose diets and lifestyles that lead to obesity and ill health, economists typically focus on the usual economic suspects—prices, income, dietary information, and time preferences (the willingness to forego a benefit now for an equal or greater benefit tomorrow). Examination of each variable's role in promoting poor food choices and increasing obesity rates, however, does not typically explain the full story. Standard economics cannot provide the complete answer and should turn to psychology to understand what motivates food choices and health outcomes.

2 Even when standard economics identifies the causes of poor food choices, policymakers have few attractive options to reverse these trends. For example, empirical evidence suggests that rising obesity rates are at least partially attributable to technological advances that have made food relatively cheap, plentiful, and convenient while making expending energy in daily lives less necessary. However, standard economic tools, like using taxes to raise the relative price of unhealthful foods, may have unintended consequences. Taxes on food would disproportionately burden low-income individuals who spend a greater share of their income on food than wealthier consumers. Also, such measures would impose an additional cost for everyone, not just consumers who need incentives to make better choices. For example, they would raise prices for those who are in good health, but who may occasionally enjoy some less nutritious foods.

3 An increasing number of economists look to psychology for answers with findings from behavioral and psychological studies indicating that people regularly behave in ways that contradict basic economic assumptions. People's responses to prices and changes in income, for instance, are not as cut and dry as previously believed. Experimental studies of how individuals pay for various goods and services (e.g., cash versus credit, flat rate versus pay per use) show that payment options influence choices. Time preferences are not solidly fixed either. The tradeoffs individuals make between now and the future fluctuate with situations, stress, and other distractions. Behavioral experiments also reveal surprising findings about how individuals use and process information. Each day, people make thousands of decisions—whether to hit the snooze button on the alarm clock once or twice. They consider
whether they have time to eat breakfast at home, and if so, what they should have and how much they should eat. Rather than brood over each and every quotidian task (and make it to work on time), they use simple rules of thumb. Given the sheer volume of information needed to process daily, this is an efficient solution. However, it can lead to systematic reasoning errors that, again, become more likely when individuals are distracted or under stress.

For USDA, which devotes considerable resources to nutrition assistance programs like food stamps or school meals, findings from behavioral economics offer alternative strategies that could be applied to improving the diet quality of program participants without restricting their right to choose the foods they like. A thorough analysis of costs, benefits, and potential impacts, however, would be needed before any strategy could be considered as a policy option.

Exercise 4D: Analyzing Moves in an Introduction (page 55)

**Clinical Trials and Novel Pathogens: Lessons Learned from SARS**

The recognition of SARS as a transmissible disease prompted international efforts to identify its cause and control its spread. The success of these efforts has been dramatic, with the identification of the SARS-associated coronavirus (SARS-CoV) and the control of SARS outbreaks in all affected countries (1–4) (1 and 2). An evidence-based approach to the management of the patient with SARS is still lacking, however, as no controlled clinical data are available to justify any of the treatments used (3). If SARS reemerges, clinicians will have little evidence on which to base treatment decisions. Could clinical trials have been conducted during the global outbreak? If so, what steps need to be taken to ensure that such trials are implemented appropriately the next time a similar event occurs (4). We highlight the challenges faced by researchers attempting to conduct clinical trials of therapeutic agents during an outbreak caused by an unknown or novel pathogen. We focus the discussion on the design and implementation of randomized trials of candidate therapeutic agents, as trials are the gold standard on which therapeutic decision-making should be based. Examples from our own experience attempting to launch a trial of ribavirin therapy for SARS will illustrate these challenges (5).

Exercise 4E: Text Analysis (page 56)
Answers will vary.

Exercise 4F: Evaluating Internet Sources (page 58)
Answers will vary.

Exercise 4G: Finding Levels of Paragraph Support (page 59)

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Exercise 4H: Searching for Support to Validate a Claim (page 59)
Answers will vary.

Exercise 4I: Peer Review of the Outline (pages 61–62)
Answers will vary.

Unit 5 (page 66–78)

Exercise 5A: Analyzing for Plagiarism (pages 67–68)
Paraphrase 1

Exercise 5B: Paraphrasing (pages 68–69)
Answers will vary.

Exercise 5C: Practicing Paraphrasing (pages 69–70)
1. individualists
2. countries and states within the United States
3. Answers will vary.

Exercise 5D: Citing Sources (page 72)
Answers will vary.

Exercise 5E: Text Analysis of a Summary (pages 73–74)
1. No
2. Yes
3. Yes
Exercise 5F: Reading like a Writer (pages 74–77)

1. Paula Wasley
2. yes (connected to reputable education publication)
3. yes (Chronicle of Higher Education)
4. It is for general readers, and it gives a review of a plagiarism accusation.
5. blasts
6. to show a “critical” review of plagiarism
7. Answers will vary.
8. Answers will vary.
9. GRs

Exercise 5G: Peer Review (page 77)
Answers will vary.

Exercise 5H: Evaluating Your Summary (page 78)
Answers will vary.

Unit 6 (pages 79–100)

Exercise 6A: Analyzing Questions to Create Claims and Titles (page 85)
Answers will vary.

Exercise 6B: Introductions (pages 87–88)

1. 1
2. 2
3. 3
4. 5
5. 6–7
6. Social researchers should rescue the forgotten memories of the indigenous African-Colombian and working class by rewriting the celebration of the first centenary of Colombian independence.
7. What: Colombian nation-building excluded specific groups, and memories are forgotten.  
   How: by showing that the learned Creoles viewed history differently, and history should be re-written.  
   Why: to reclaim the forgotten memories of certain groups.  
8. It clearly connects the reader to the claim.

Exercise 6C: Analyzing Claims and Supporting Ideas (pages 91–93)
1. The writer believes that GFP promises a bright future for biochemistry.  
2. lights  
3. The discovery of GFP merits the Nobel Prize because it light the pathway for biochemistry to understand gene expression and protein targeting: two important areas in researching and finding cures for gene-related medical problems.  
4. two  
5. yes  
6. yes

Exercise 6D: Using Hedging Markers to Avoid Certainty (page 95)
Answers will vary.  
1. Improving lifestyle will essentially prevent diseases.  
2. A family history of cancer presumably causes cancer.  
3. Scientists and politicians believe that further studies on the nature versus nurture controversy could be pointless.  
4. Biology’s impact on individuals could be lasting and unchangeable.  
5. Genetically modified crops may potentially stop hunger.

Exercise 6E: Identifying Hedging Markers (page 95)

A Cause of Colombian Violence: The Forgotten Memories
Currently, many of these excluded ones feel forgotten and disregarded from the national building project with less power and wealth than the Creole national creators. Perhaps, it is time for social researchers to rescue the forgotten memories about the roles of the indigenous, African-Colombian, and working class because this exclusion might be one of the roots of current Colombian violence.

Exercise 6F: Drafting the Text (page 96)
Answers will vary.

**Malaria, Tuberculosis, and HIV/AIDS: The Modern Plagues: Are We Prepared to Control Them?**

Alberto Moreno, MD

“...when the sailors reached these places and mixed with the people there, it was as if they had brought evil spirits with them: every city, every settlement, every place was poisoned by the contagious pestilence, and their inhabitants, both men and women, died suddenly. And when one person had contracted the illness, he poisoned his whole family even as he fell and died, so that those preparing to bury his body were seized by death in the same way. Thus death entered through the windows, and as cities and towns were depopulated their inhabitants mourned their dead neighbors...”

—Gabriel de’ Mussi, 1348 (7).

The plague or Black Death is how the Europeans named the disease that modified the demographic spectra of the continent in the Middle Ages (7, 8). Centuries have passed and our knowledge about infectious diseases has changed dramatically. The introduction of vaccines and antibiotics and the improvement in sanitation have facilitated the control of several lethal transmissible diseases. Nevertheless, malaria, tuberculosis and HIV/AIDS still have a profound impact on public health and pose a real threat for humankind. A critical question is whether or not the International Health authorities are prepared to face this threat and implement control measures with the development of novel drugs and vaccines. Unless health authorities understand that malaria, tuberculosis and HIV/AIDS have unique characteristics which contribute to their efficacy in transmission and limit their control, even with modern drugs and vaccines, these diseases cannot be controlled. To restrain these diseases, public health officials must consider three factors: the improvement in public health conditions; the biological constraints determined by the complex life cycle of the infectious agents, and the mechanisms involved in genetic variability that explain the appearance of vaccine and drug-resistant strains.

1 The most critical variable to consider is the continued maintenance of transmissible diseases today in economically deprived environments with the control of them requiring a sustained improvement in living conditions...

2 Secondly, new vaccines and drugs cannot control these modern plagues without a consideration of the complex life cycles of the infectious agents. The microbes
that cause malaria (Plasmodium), tuberculosis (Mycobacterium) and AIDS (HIV) contain . . . . . . that represent a biological constraint in the search for the “magic bullet” to effectively destroy them…

3 Finally, the high variability of the infectious agents overshadow the development of vaccines or novel drugs. Plasmodium, Mycobacterium and HIV have the biological versatility to modify their genetic features . . .

Strategies designed to control Malaria, Tuberculosis and HIV/AIDS require the implementation of several measures to be effective. Those include the improvement in public health conditions and the development of novel drugs and vaccines. Nevertheless, obstacles still threaten these efforts. Socio-economical conditions forcing the creation of overcrowded slums or migration and deforestation facilitate the spread of such diseases. Furthermore, the complexity of the life cycle and the genetic variability of the infectious agents provide biological constraints for the development of effective drugs and vaccines. The frequent description of failures in the treatment of infected individuals has become the crude reality that illustrates the lack of preparedness of public health authorities facing these challenges. International Health authorities must design a coherent policy as soon as possible that integrates basic science and public health that can significantly impact the control of modern plagues.

Exercise 6H: Peer Review (page 99)
Answers will vary.

Exercise 6I: Revising Draft 1 for Macro Structure (page 100)
Answers will vary.

Exercise 6J: More Revising Draft 1 for Micro Structure (page 100)
Answers will vary.

Exercise 6K: Evaluating Your Research Interest Essay (page 100)
Answers will vary.
Unit 7 (pages 101–129)

Exercise 7A: Recognizing Parts of Speech (page 104)

1. noun  
2. verb  
3. conjunction  
4. noun  
5. preposition  
6. adjective  
7. pronouns  
8. preposition  
9. noun  
10. verb  
11. noun  
12. preposition  
13. noun  
14. adjective  
15. preposition

Exercises 7B: Expanding S+V+O Sequence (page 105)
Answers will vary.

Exercise 7C: Identifying Phrases and Clauses (page 105)

1. phrase  
2. phrase  
3. clause  
4. clause  
5. phrase

Exercise 7D: Identifying Prepositional Phrases (page 107)

1. Good local universities will help the development (of local economic dynamism) as graduates may move (to more attractive places).
2. University facilities, high-tech firms, and other creative endeavors have sparked significant growth (in urban areas).
3. The presence (of a talented creative class) (of professionals) was associated (with patent awards, technology adoption, and growth) (in jobs) (during 1900–2004).
4. People (in these occupations) seek a high level (of life and rewarding work).
5. They are drawn (to cities) (with cultural diversity, active street scenes, and outdoor recreation opportunities).

Exercise 7E: Identifying Prepositional Phrases in Your Writing (page 107)
Answers will vary.
Exercise 7F: Identifying Independent Clauses (page 109)

**The U.S. Environmental Protection Agency**

The National Research Council (NRC, 2001) concluded:

Health outcomes in response to climate change are the subject of intense debate. Climate change has the potential to influence the frequency and transmission of infectious disease, alter heat- and cold-related mortality and morbidity, and influence air and water quality. Climate change is just one of the factors that influence the frequency and transmission of infectious disease, and hence the assessments view such changes as highly uncertain. Changes in the agents that transport infectious diseases (e.g., mosquitoes, ticks, rodents) usually occur with any significant change in precipitation and temperature. Increases in mean temperatures result in new record high temperatures and warm nights and an increase in the number of warm days compared to the present. Cold-related stress declines whereas heat stress in major urban areas increases if no adaptation occurs. The National Assessment ties increases in adverse air quality to higher temperatures and other air mass characteristics. However, much of the United States appears to be protected against many different adverse health outcomes related to climate change by a strong public health system, relatively high levels of public awareness, and a high standard of living.

From [www.epa.gov/climatechange/index.html](http://www.epa.gov/climatechange/index.html).

Exercise 7G: Recognizing Types of Clauses (page 111)

A 2005 survey by the international food information council found that at least 89 percent of American adults sampled (noun) indicated that they believe diet, exercise, and physical activity influence health (noun). These beliefs are reflected in the popularity of books, magazines, and weight-loss programs offering dietary and health advice. Recent consumption statistics, however, show that many of us still choose diets (noun) that are out of sync with dietary guidance (adjective). Many Americans eat too much sodium, saturated fat, and added sugar yet too few fruit, vegetables, and whole grains with the prevalence of obesity and diet-related illnesses continuing to rise. Although we may intend to have a healthy diet (adverb), other preferences often beguile us into food choices that may eventually harm our health (adjective). To explain this growing pattern of insidious consumption, economists increasingly
turn to behavioral economics—a burgeoning field within the dismal science. Findings from behavioral studies point to a broader set of factors that help determine food choices (adjective). These findings also provide an opportunity to begin thinking of new ways to encourage consumers to choose diets better aligned with their own goals for future health.


Exercise 7H: Recognizing and Adding Complexity to Sentence Types in Your Writing (page 112)
Answers will vary.

Exercise 7I: Identifying and Correcting Punctuation Errors (page 113)

1. The Allegheny National Forest which is located in northwestern Pennsylvania spans four counties and is known for its hardwood resources and beautiful fall colors.
2. Even though restoration efforts are an important part of the conservation program in this National Forest, many communities do not participate.
3. The Region offers many public and private facilities; camping, fishing, golfing and snowmobiling are the most popular.
4. To attract visitors, a Cooperative International Marketing Initiative has been established with Germany since many of the early Pennsylvania settlers emigrated from Germany.
5. The initiative will market Tour Packages for German travelers and will develop catalogues for advertisement.

Exercise 7J: Identifying Sentence Types (page 114)

1. complex
2. complex
3. simple
Exercise 7K: Combining Sentences (pages 114–15)

Answers will vary.

While the creative class of professionals lives mostly in urban settings, it is also found in rural areas with mountains, lakes, and other rural amenities.
Type: Complex

Counties with higher proportions of people in creative class occupations tend to have higher rates of job growth.
Type: Simple

Exercise 7L: Identifying and Correcting Sentence Fragments (page 115)

The 19th amendment guarantees all American women the right to vote. Achieving this milestone required a lengthy and difficult struggle; victory took decades of agitation and protest. Beginning in the mid-19th century, several generations of women suffrage supporters lectured, wrote, matched, lobbied, and practiced civil disobedience to achieve what many Americans considered a radical change of the constitution. Few early supporters lived to see final victory in 1920.

Exercise 7M: Identifying and Correcting Run-Ons and Comma Splices (page 117)

The new privacy regulations ensure a national floor of privacy protections for patients. By limiting the ways that health plans, pharmacies, hospitals and other covered entities can use patients’ personal medical information. The regulations protect medical records and other individually identifiable health information, whether it is on paper, in computers or communicated orally. Patients generally should be able to see and obtain copies of their medical records and request corrections. If they identify errors and mistakes. Health plans, doctors, hospitals, clinics, nursing homes and other covered entities generally should provide access to these records within 30 days, and may charge patients for the cost of copying and sending the records.

Exercise 7N: Identifying and Correcting Subject and Verb Agreement (page 118)

1. Quilt making remains a part of American rural life in the mountains of North Carolina and Virginia even though its popularity has declined.

2. A national revival of interest in quilt making has occurred since the 1970s that has led many women to take it up as a hobby.

3. These new quilters often lack any family connection with quilts.
4. Instead of modeling their creations upon existing family quilts, quilt makers have turned to books and magazines for examples.

5. C

6. C

7. As the collective memory of older quilt makers fades, new quilters create memories of their own linking the generations with profound respect for traditions of the past.

Exercise 7O: Editing for Subject and Very Agreement (page 118)

Answers will vary.

Exercise 7P: Identifying the Present Time Frame (page 121)

A 2005 survey by the international food information council found that at least 89 percent of American adults sampled indicated that they believe diet, exercise, and physical activity influence health. These beliefs are reflected in the popularity of books, magazines, and weight-loss programs offering dietary and health advice. Recent consumption statistics, however, show that many of us still choose diets that are out of sync with dietary guidance. Many Americans eat too much sodium, saturated fat, and added sugar yet too few fruit, vegetables, and whole grains with the prevalence of obesity and diet-related illnesses continuing to rise. Although we may intend to have a healthy diet, other preferences often beguile us into food choices that may eventually harm our health. To explain this growing pattern of insidious consumption, economists increasingly turn to behavioral economics—a burgeoning field within the dismal science. Findings from behavioral studies point to a broader set of factors that help to determine food choices. These findings also provide an opportunity to begin thinking of new ways to encourage consumers to choose diets better aligned with their own goals for future health.

Exercise 7Q: Identifying the Past Time Frame (page 121)

(Beginning in the 1800s) women organized, petitioned, and picketed to win the right to vote, but it took decades to accomplish their purpose. Between 1878, when the first amendment was first introduced in congress, and August 18, 1920, when it was ratified, champions of voting rights for women worked tirelessly with varied strategies for achieving their goal. Some pursued a strategy of passing suffrage acts in each state—nine western states adopted women suffrage legislation by 1912. Others challenged male-only voting laws in the courts. Militant suffragists used tactics such as parades, silent vigils, and hunger strikes. Often supporters met fierce resistance. Opponents heckled, jailed, and sometimes physically abused them.
Exercise 7R: Identifying the Future Time Frame (page 122)

The last 2 years were marked by a flurry of construction activity in the U.S. ethanol industry, as ground was broken on dozens of new plants throughout the corn belt, and plans were drawn for even more facilities. As of February 2007, the annual capacity of the U.S. ethanol sector stood at 5.6 billion gallons, and plants under construction or expansion will likely add 6.2 billion gallons to this number. The tremendous expansion of the ethanol sector raises a key question: where will ethanol producers get the corn needed to increase their output? With a corn-to-ethanol conversion rate of 2.7 gallons per bushel, the U.S. ethanol sector will need 4 billion bushels per year by 2011—roughly twice as much as it consumed in 2006. How the market adapts to this increased demand will likely be one of the major developments of the early 21st century in U.S. agriculture. The most recent USDA projections suggest that much of the additional corn needed for ethanol production will be diverted from exports and feed. However, if the United States successfully develops cellulosic biomass (e.g., wood fibers and crop residues) as an economical alternative feedstock for ethanol production, corn will become one of many crops and plant-based materials used to produce ethanol.

Exercise 7S: Self-Editing for Verb Time Frames (page 123)

Answers will vary.

Exercise 7T: Identifying Count Nouns and Articles (page 126)

While spinach and other leafy greens have been associated with numerous food-borne illness outbreaks, the risk of becoming ill from spinach is low. In 2005, U.S. consumers ate 680 million pounds of fresh spinach, and the load of contaminated spinach associated with the outbreak totaled only 1,002 pounds. However, leafy greens are the most likely produce category to be associated with an outbreak. Since 1996, leafy greens have accounted for 34 percent of all outbreaks due to microbial contamination traced back to a specific fruit or vegetable, 10 percent of illnesses, and 33 percent of the deaths.
Exercise 7U: Editing for Articles (page 126)

Fourth USDA Greenhouse Gas Conference:
Positioning Agriculture And Forestry To Meet The Challenges Of Climate Change
February 5–8, 2007—Baltimore Marriott Camden Yards
Baltimore, Maryland

Conference Overview

The purpose of this conference is to provide a forum for the presentation of scientific, technical, and policy information related to the impacts of climate change on agriculture and forestry, and the potential role of management practices in related ecosystems and product use in mitigating climate change. Ecosystems related to the practice of agriculture and forestry are all lands involved in the production of food, feed, fiber, and timber, including croplands, feedlots, pastures, rangelands, forests, and associated wetlands. The conference will feature a combination of plenary sessions, technical breakout sessions, and poster sessions organized to maximize interactions, discussion, and dialogue.

Exercise 7V: Identifying Nouns (page 127)

1. food/non-count, generic
2. Americans/count, generic
3. calories/count, generic
4. fare/non-count, generic
5. share/count, definite
6. intake/non-count, generic
7. food/non-count/generic
8. restaurants/count, definite
9. market/count, generic
10. portion/count, indefinite
11. expenditures/count, generic
12. analysis/count, generic
13. survey/count, indefinite
14. consumers/count, generic
15. respondents/count, generic
16. experience/count, indefinite
17. desire/count, definite
18. health/non-count, generic
19. knowledge/non-count, generic
20. role/count, indefinite

Exercise 7W: Analyzing Your Writing (page 127)

Answers will vary.
Unit 8 (pages 132–48)

Exercise 8A: Identifying Sections of a Problem-Solution Text (pages 134–36)
1. Answers will vary.
2. Desertification of land
3. Use of hybrid seeds
4. Yes. The author provides example of success in Kenya.

Exercise 8B: Identifying the Five Wh- Questions (page 137)
1. Hungry people
2. World hunger
3. This century
4. The world
5. Land shortages

Exercise 8C: Analyze a Problem-Solution Text (pages 140–41)

Gas-Fueled Tools Can Poison Users

CPWR—Center for Construction Research and Training

Last year, two laborers cleaning an empty underground parking garage in Washington, D.C., collapsed and had to be treated in a hospital emergency room for carbon monoxide poisoning. Two other workers and a foreman were also treated. They had been using a gas-fueled power washer.

[Workers can suffer carbon monoxide poisoning if they use gas-fueled equipment where there isn’t enough fresh air. Even open doors and fans may not provide enough ventilation. In four years, doctors at the George Washington University Medical Center (GWU) in Washington, DC, have seen nine construction workers poisoned by carbon monoxide from using three types of equipment: propane-powered forklifts in a warehouse and gasoline-powered saws and the gas-fueled power washer. Workers using liquid-propane-powered floor burnishers were treated at a hospital in Vermont for the same problem.

Carbon monoxide is an odorless, tasteless, and colorless gas. It quickly enters the lungs and attaches to the blood, which moves it quickly throughout the body. The level of poisoning is affected by the concentration of carbon monoxide in the air, the length of the exposure, the exercise involved in the work being done (which
affects the breathing rate), and personal factors. In some cases, a victim may not show dizziness or other symptoms. Unconsciousness or death can result in minutes if the exposure is high. For workers who survive, carbon monoxide can permanently damage the nervous system.

The risk of carbon monoxide poisoning can be cut by using electric or diesel equipment, good ventilation, monitoring, and training. But you need to make sure the solution doesn’t add new problems. Electrical equipment should have a ground-fault circuit interrupter to lower the chance of electrocution. Diesel-fueled equipment needs to be properly fitted with filters for diesel particulates in the air that can probable cause cancer. Diesel- and gas-fueled equipment should also be fitted with a catalytic converter and well-maintained, to give off less carbon monoxide.

Even with these steps, the amount of carbon monoxide may still be too high to use the equipment in some areas. Air monitoring is needed to make sure workers are not exposed to unsafe levels of the gas. This monitoring requires special equipment and people trained to use it. Contractors and all workers must also be told about the dangers of using gas-fueled equipment in enclosed spaces. Warning labels can be used. Training can show how to use the equipment safely.

These cases were identified by Dr. Laura Welch and her colleagues at GWU. They have been studying work-related health problems of construction workers treated in the emergency room as part of a special program with the BCTD’s CPWR – Center for Construction Research and Training. Funding is provided by the National Institute for Occupational Safety and Health.

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Exercise 8D: Writing a Definition (page 141)
Answers will vary.

Exercise 8E: Using -ing Phrases (page 142)

1. Junk e-mail or spam has proliferated dramatically in the past few years, increasing costs for companies.

2. Greenhouse gas emissions continue to increase, changing the weather patterns.

4. The current population is growing, diminishing world resources.

5. Humanitarian organizations strive to remove the presence of land mines, reducing human suffering.

Exercise 8F: Writing a Short Summary (page 144)
Answers will vary.

Unit 9 (pages 149–64)

Exercise 9A: Reading an Example of a Comparative Approach (page 150)
Answers will vary.

Exercise 9B: Analyzing Comparative Structure (pages 151–52)
1. Parents with boys and families with rising incomes.
2. The two categories show the differences in parents’ concerns.

Exercise 9C: Recognizing Comparative Signal Words (pages 153–55)
1. Biological
2. The area of the brain connected to language works harder in girls than boys. Language processing for girls seems to be more sensory and in boys more abstract.
3. Teaching boys and girls may need to be different.
4. Answers will vary.

Exercise 9D: Identifying Signal Words (page 156)

**Prosopography and Microhistory**
Daniel Domingues da Silva

Two methods of history research, prosopography and microhistory, are frequently confused and considered to be the same. Although prosopography and microhistory share the same ultimate aim of writing the history of places, people, culture, economy and politics, they differ in scope. Prosopography, on one hand, provides a wider scope than microhistory, observing the past through the behavior of different social groups interacting in the political scenes of a city or country. In contrast, microhistory observes the past through a reduced scope. It tends to see the past following the life trajectory of an individual, how s/he interacts with other individuals of his/her parish, community or town. Thus, prosopography and microhistory conceptualize the scope of an historical narrative in different ways.
Exercise 9E: Outlining Comparative Text (pages 160–61)
Answers will vary.

Exercise 9F: Revising (page 162)
Answers will vary.

Exercise 9G: Editing Review 1 (page 163)

The Smallest Flower in the World

Water-meal is one of the duckweeds in the family Lemnaceae that contains some 38 species of the smallest and simplest flowering plants. The plant itself averages 1/42 inch long and 1/85 inch wide or about the size of one candy sprinkle. It can weigh about 1/900,000 of an ounce, equivalent to two grains of table salt; it is very hard to see. If you imagine trying to fill a thimble with them, it is estimated that you would need 5,000 plants.

Each Wolffia flower consists of a single pistil and stamen; it also produces the world’s smallest fruit, called a utricle. The plant is found in quiet freshwater lakes or marshes with species worldwide. Since the plants have no roots, they can easily float on the surface of the water, where they resemble corn meal. Water-meal is sometimes used in cold-water aquaria since it is easy to propagate.

Exercise 9H: Editing Review 2 (page 164)
Answers will vary.

Unit 10 (pages 165–77)

Exercise 10A: Investigating and Commenting (pages 168–69)
Answers will vary.

Exercise 10B: Timed Writing (page 169)
Answers will vary.

Exercise 10C: Peer Review of the Commentary (page 176)
Answers will vary.

Exercise 10D: Self-Editing (page 176)
Answers will vary.