

CAMBRIDGE

PRISM

Reading
and
Writing

4



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Jessica Williams
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Experience
Better
Learning

PRISM

READING AND WRITING

4

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with

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SCOPE AND SEQUENCE

UNIT	WATCH AND LISTEN	READINGS	READING SKILLS	LANGUAGE DEVELOPMENT	
1 CONSERVATION <i>Academic Disciplines</i> Architecture / Information Technology / Urban Planning	Preserving CDs at the Library of Congress	1: Are We Living in the Digital Dark Ages? (article) 2: To the County Board regarding Cook County Hospital (letters)	Key Skills Identifying an argument Identifying supporting details Additional Skills Using your knowledge Previewing Understanding key vocabulary Reading for main ideas Reading for details Making inferences Skimming Identifying purpose Synthesizing	Time expressions Compound adjectives	
2 DESIGN <i>Academic Disciplines</i> Graphic Design / Marketing	The Role of Helvetica Font in Graphic Design	1: What Makes a Successful Logo? (textbook chapter) 2: Rebranding and Logos (textbook chapter)	Key Skills Taking notes in outline form Making inferences Additional Skills Previewing Understanding key vocabulary Reading for main ideas Reading for details Identifying purpose Predicting content using visuals Making inferences Synthesizing	Describing emotional responses Paraphrasing	
3 PRIVACY <i>Academic Disciplines</i> Business / Law Enforcement / Media	Computer Fraud: Celebrity Hacking	1: Cyber Harassment (article) 2: Combatting Cyber Harassment (essay)	Key Skill Identifying purpose and tone Additional Skills Understanding key vocabulary Using your knowledge Previewing Reading for details Reading for main ideas Identifying purpose and tone Synthesizing	Collocations for behavior Problem-solution collocations	
4 BUSINESS <i>Academic Disciplines</i> Entrepreneurship / Marketing / Social Media	Florida Teen Buys Houses	1: Starting Out Mobile (article) 2: Keeping Your Customers (article)	Key Skill Scanning to preview a text Additional Skills Using your knowledge Understanding key vocabulary Reading for main ideas Working out meaning Making inferences Synthesizing	Expressing contrast Business and marketing vocabulary	

	CRITICAL THINKING	GRAMMAR FOR WRITING	WRITING	ON CAMPUS
	Building support for an argument	Future real and unreal conditionals	<p><u><i>Academic Writing Skills</i></u> Paragraph structure and unity Impersonal statements</p> <p><u><i>Rhetorical Mode</i></u> Argumentative</p> <p><u><i>Writing Task</i></u> Make and support an argument for what to do with an aging but culturally or historically significant building. (essay)</p>	<p><u><i>Study Skill</i></u> Staying organized with group projects</p>
	Determining and applying criteria	Nonidentifying relative clauses Appositives	<p><u><i>Academic Writing Skills</i></u> Structuring a summary-response essay Writing a conclusion</p> <p><u><i>Rhetorical Mode</i></u> Summary-response</p> <p><u><i>Writing Task</i></u> Summarize criteria and then analyze a logo in terms of that criteria. (essay)</p>	<p><u><i>Life Skill</i></u> Building an academic resume</p>
	Determining the seriousness of a problem	Impersonal passive constructions Passive for continuity	<p><u><i>Academic Writing Skills</i></u> Writing about problems Writing about solutions</p> <p><u><i>Rhetorical Mode</i></u> Problem-solution</p> <p><u><i>Writing Task</i></u> Describe a problematic online behavior and explain what you think should be done to prevent or eliminate it. (essay)</p>	<p><u><i>Research Skill</i></u> Identifying reliable online sources</p>
	Analyzing advantages and disadvantages	Reductions of subordinate clauses	<p><u><i>Academic Writing Skill</i></u> Writing about similarities and differences</p> <p><u><i>Rhetorical Mode</i></u> Comparison and contrast</p> <p><u><i>Writing Task</i></u> Compare and contrast (a) two products or services regarding their potential as a mobile business or (b) the appropriateness of loyalty programs and subscription services for a product or business. (report)</p>	<p><u><i>Study Skill</i></u> Prioritizing your time</p>

UNIT	WATCH AND LISTEN	READINGS	READING SKILLS	LANGUAGE DEVELOPMENT	
5 PSYCHOLOGY <i>Academic Disciplines</i> Experimental Science / History / Neuroscience	Interview with the Founders of IDEO	1: Mental Illness and Creative Genius: Is There a Connection? (article) 2: The Creative Mind (article)	<u>Key Skills</u> Using graphic organizers to take notes Interpreting quotes <u>Additional Skills</u> Understanding key vocabulary Previewing Reading for details Making inferences Predicting content using visuals Reading for main ideas Synthesizing	Experimental science terminology	
6 CAREERS <i>Academic Disciplines</i> Business / Education / Information Technology	Vocational Training	1: The Skills Gap (article) 2: What Is the Value of a College Education? (article)	<u>Key Skill</u> Interpreting graphical information <u>Additional Skills</u> Predicting content using visuals Understanding key vocabulary Reading for main ideas Reading for details Identifying purpose Making inferences Synthesizing	Complex noun phrases	
7 HEALTH SCIENCES <i>Academic Disciplines</i> Globalization / Medicine	Superbugs	1: Superbugs (article) 2: The Globalization of Infection (article)	<u>Key Skill</u> Recognizing discourse organization <u>Additional Skills</u> Using your knowledge Understanding key vocabulary Reading for main ideas Reading for details Working out meaning Making inferences Scanning to predict content Synthesizing	Verbs and verb phrases for causation Word families	
8 COLLABORATION <i>Academic Disciplines</i> Business / Human Resources / Sports Management	Office Space	1: The Value of Talent (article) 2: The Perfect Work Team (article)	<u>Key Skill</u> Using context clues to understand terminology and fixed expressions <u>Additional Skills</u> Previewing Understanding key vocabulary Reading for main ideas Summarizing Reading for details Using your knowledge Working out meaning	Language for hedging	

	CRITICAL THINKING	GRAMMAR FOR WRITING	WRITING	ON CAMPUS
	Annotation Finding points of synthesis across sources	Complex noun phrases with <i>what</i>	<u><i>Academic Writing Skills</i></u> Citing quoted material Writing an explanatory synthesis <u><i>Rhetorical Mode</i></u> Explanatory synthesis <u><i>Writing Task</i></u> What is creativity? Explain the current understanding of this concept, synthesizing information from different sources. (essay)	<u><i>Study Skill</i></u> Managing high volumes of reading
	Analyzing information in graphs and other figures	Active vs. passive voice to discuss figures	<u><i>Academic Writing Skill</i></u> Making a claim <u><i>Rhetorical Mode</i></u> Argumentative <u><i>Writing Task</i></u> What is a good choice for a career path with a secure future? (essay with graphical support)	<u><i>Research Skill</i></u> Types of sources for research
	Analyzing causes and effects	Cause and effect: logical connectors	<u><i>Academic Writing Skill</i></u> Writing about causes and effects <u><i>Rhetorical Mode</i></u> Cause and effect <u><i>Writing Task</i></u> Choose one infectious disease and discuss the factors that may have contributed to its development and spread or could do so in the future. (essay)	<u><i>Life Skill</i></u> Applying to a degree program
	Understanding audience and purpose	Acknowledgment and concession	<u><i>Academic Writing Skill</i></u> Anticipating counterarguments <u><i>Rhetorical Mode</i></u> Argumentative <u><i>Writing Task</i></u> Present your recommendations for assembling and organizing an effective team for a particular business or collaborative group. (report)	<u><i>Communication Skill</i></u> The dynamics of group work

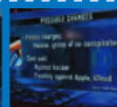
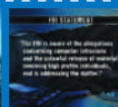
HOW PRISM WORKS

1 Video

Setting the context

Every unit begins with a video clip. The videos serve as a springboard for the unit and introduce the topic in an engaging way. The clips were carefully selected to pique students' interest and prepare them to explore the unit's topic in greater depth. As they work, students develop key skills in prediction, comprehension, and discussion.

WATCH AND LISTEN



ACTIVATING YOUR KNOWLEDGE

PREPARING TO WATCH

1 Take this survey about your online security habits. Check (✓) your answers. Discuss your answers with a partner.

How safe do you feel ...	Very safe	Safe	Not safe
1 sharing your address with someone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 shopping online?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 sending private information to someone's phone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 storing private information on your cell phone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 keeping passwords stored on your computer or phone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2 Discuss the questions with your partner.

- Does everyone have a right to privacy? Why or why not?
- Do you think celebrities and other public figures give up their right to privacy when they become famous? Why or why not?
- What can people do to better protect their privacy?

GLOSSARY

hack (v) to use a computer to get into someone else's computer system or other electronic device illegally

scandal (n) activities that shock people because they think they are very bad

breach (n) an act of breaking a rule, law, custom, or practice

virtual fingerprint (n) unique characteristics of a computer file, or set of data

liable (adj) having legal responsibility for something

04 UNITS

2 Reading

Receptive, language, and analytical skills

Students improve their reading abilities through a sequence of proven activities. They study key vocabulary to prepare them for each reading and to develop academic reading skills. A second reading leads into synthesis exercises which prepare students for college classrooms. Language Development sections teach vocabulary, collocations, and language structure.

READING

READING 1



USING YOUR KNOWLEDGE

PREPARING TO READ

1 You are going to read an article about mobile businesses. Read the statements. Do you think they are true or false? Write T (true) or F (false).

- It's easy to turn a hobby into a business.
- It is cheaper to start a food truck than a restaurant.
- It usually only costs about \$3,000 to start a mobile business.
- New food truck owners usually make a profit more quickly than new restaurant owners.
- The number of mobile businesses is increasing.
- Food trucks are just a small fraction of the mobile retail market.

2 Read the definitions. Complete the sentences with the correct form of the words in bold.

aspiring (adj) wishing to become successful
break even (idm) to earn only enough to pay expenses
component (n) one of the parts of something
fluctuate (v) to change frequently from one level to another
outweigh (v) to be greater or more important than something else
proposition (n) a proposal or suggestion, especially in business
revenue (n) the money that a business receives regularly
transition (n) a change from one state or condition to another

- The price of oil has _____ dramatically since 2000, going from \$40 a barrel to almost \$150 then down to \$30!
- My friend came to me with an interesting business _____, but I think it sounds a little too risky for me.
- My daughter is a(n) _____ chef in New York. She hopes to get a job in a famous restaurant.
- The benefits of this medication _____ its potential risks.
- One _____ of the course focuses on reading comprehension and the other focuses on listening skills.
- It can take teenagers a long time to make the _____ into adulthood.
- The first year, our business lost money, the second year it _____, and this year we made a profit.
- Amazon's _____ in 2015 was over \$100 billion (\$100,000,000,000).

10 UNITS

ACADEMIC WRITING SKILLS

Writing about causes and effects

Academic writing often includes explanations for why something happens or the consequences of events, behavior, or decisions. The first involves an analysis of causes, whereas the second requires an analysis of effects.

- A causal analysis addresses causal factors in a situation or decision.
- An effect analysis addresses the consequences of an event or situation.

These analyses may be chains; in other words, one cause may lead to an effect that causes another effect. The distinction between causes and effects is not always clear cut, as the effect of one situation can become the cause of another, and so on.

More complex pieces of writing may include both types of analysis.

PRISM Online

- 1 Review the articles in this unit. Do they involve primarily an analysis of causes or effects?

a Reading 1 _____ b Reading 2 _____

- 2 Work with a partner. Complete the tasks, first following the examples (items 1–3), then on your own (items 4–6).

- 1 Climate change is primarily the result of human activity. It is having a serious impact on the Arctic. Review this list of the effects of climate change.
 - Glaciers are melting: getting weaker and smaller.
 - There's an increase in shipping and other commercial activities.
 - Floating ice, an important habitat for polar animals, is disappearing.
 - Arctic areas are more accessible to humans.
 - Sea ice is melting.
 - Strong Arctic storms are more frequent.
 - Arctic animals, such as polar bears, have become endangered.
 - The ocean is getting warmer.
 - Storms are breaking up weak areas of glaciers.
- 2 Study this chain based on the information in Task 1 above. Develop another cause or effect chain using at least three of the facts from Task 1.



176 UNIT 7

3 Writing

Critical thinking and production

Multiple critical thinking activities begin this section, preparing students for exercises that focus on grammar for writing and writing skills. All of these lead up to a structured writing task, in which students apply the skills and language they have developed over the course of the entire unit.

ON CAMPUS

MANAGING HIGH VOLUMES OF READING

One of the biggest shocks for many new college students is the amount of reading they have to do. There are ways to manage the workload, but it takes practice.

PREPARING TO READ

- 1 Work with a partner. What strategies for managing reading volume do you predict will be presented? Come back to check your predictions after you read the text.

WHILE READING

- 2 Read the comments on the next page from an Academic Support Center discussion board thread about how to deal with a high volume of reading. Write T (true) or F (false).
 - 1 Students should read every word of an assigned text.
 - 2 You read differently for a class discussion than for a test.
 - 3 It is good to read before you go to sleep because you are relaxed.
 - 4 It can take some time to become good at the suggested strategies.
 - 5 You can usually understand the main idea of a chapter by previewing it.
 - 6 It is helpful to read the study questions in a textbook before doing the reading.

PRACTICE

- 3 Work with a partner. Discuss the questions.
 - 1 Which strategies from the discussion board would be easiest for you to implement?
 - 2 Which strategies from the discussion board would be most difficult for you to implement?

132 UNIT 5

4 On Campus

Skills for college life

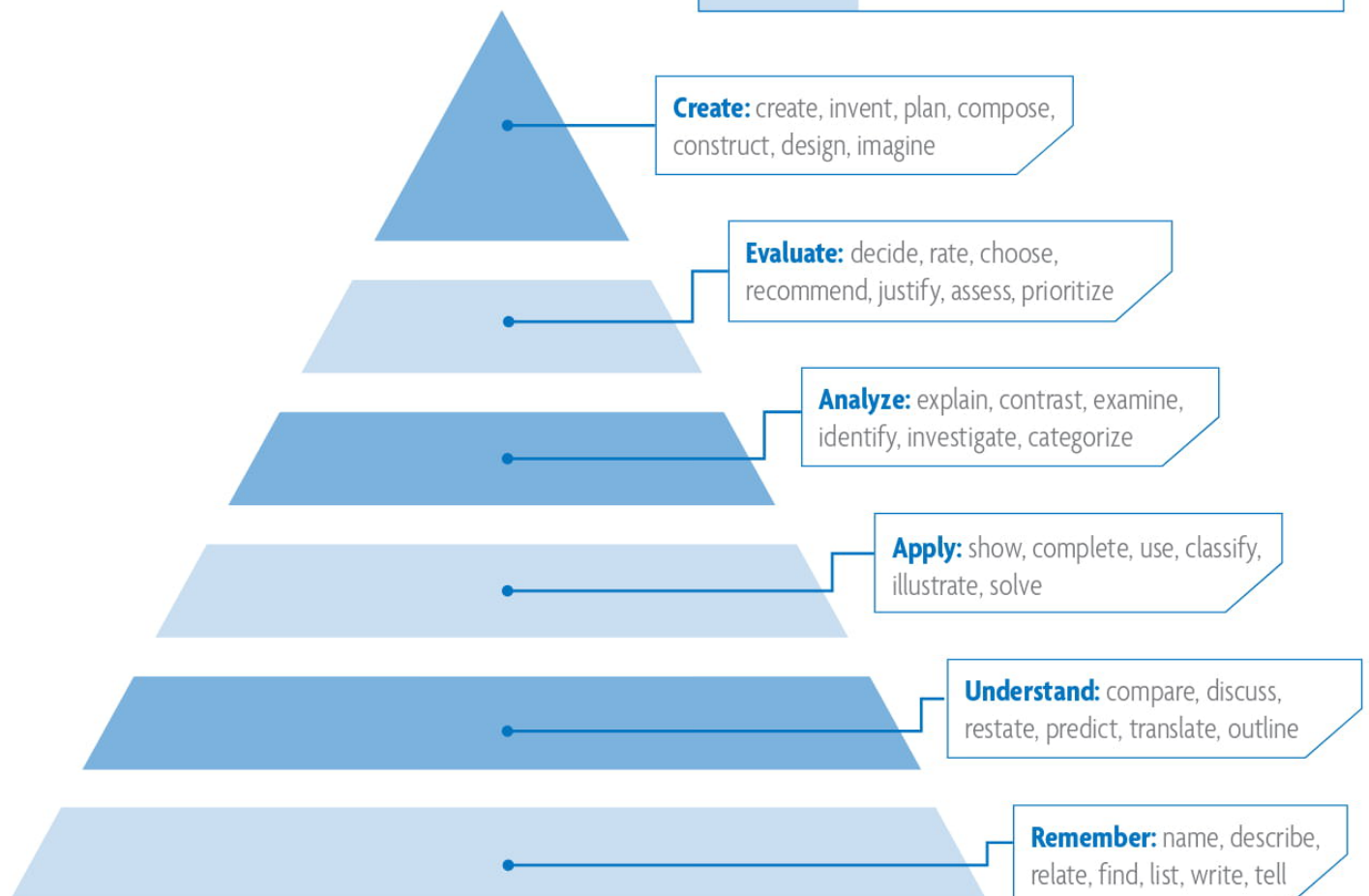
This unique section teaches students valuable skills beyond academic reading and writing. From asking questions in class to participating in a study group and from conducting research to finding help, students learn how to navigate university life. The section begins with a context-setting reading and moves directly into active practice of the skill.

WHAT MAKES *PRISM* SPECIAL: CRITICAL THINKING

Bloom's Taxonomy

In order to truly prepare for college coursework, students need to develop a full range of thinking skills. *Prism* teaches explicit critical thinking skills in every unit of every level. These skills adhere to the taxonomy developed by Benjamin Bloom. By working within the taxonomy, we are able to ensure that your students learn both lower-order and higher-order thinking skills.

Critical thinking exercises are accompanied by icons indicating where the activities fall in Bloom's Taxonomy.



WRITING

CRITICAL THINKING

At the end of this unit, you are going to write an argumentative essay about factors that are important in choosing a career. Your essay should include some form of graphical support. Look at this unit's Writing Task below.

Considering what you know about the job market, what is a good choice for a career path with a secure future?

Analyzing information in graphs and other figures

Information in academic texts is often presented visually in graphs or other types of figures. It is important to be able to connect this information with the information in the text.

UNDERSTAND

1 Work with a partner. Read the information about the annual 100 Best Jobs report and study the figure. Take turns explaining each of the components in your own words.

Every year, the news magazine *U.S. News and World Report* publishes a report on the year's 100 best jobs. Figure 5 shows how the report's authors measured job quality.

Figure 5. Components of Best Job measure



WHAT MAKES *PRISM* SPECIAL: CRITICAL THINKING

Higher-Order Thinking Skills

Create, **Evaluate**, and **Analyze** are critical skills for students in any college setting. Academic success depends on their abilities to derive knowledge from collected data, make educated judgments, and deliver insightful presentations. *Prism* helps students get there by creating activities such as categorizing information, comparing data, selecting the best solution to a problem, and developing arguments for a discussion or presentation.

2 With your partner, complete the tasks.

- 1 Table 1, below, is a selection from the 100 Best Jobs list along with the median salaries for each job. Based on what you have learned in this unit, explain the wide range of median salaries for the jobs in the table.
- 2 The highest ranked job is also the highest paid, but this relationship is not consistent throughout the list. Choose two examples and explain what other components in the measure could be responsible for the ranking.

Table 1. The 100 best jobs in the U.S., with median salary

Rank	job title	median salary
2	Dentist	\$150,000
13	Software Developer	\$96,000
22	Nurse	\$67,000
24	Accountant	\$66,000
36	Pharmacist	\$121,000
38	Mechanical Engineer	\$83,000
49	Medical Secretary	\$32,000
66	Laboratory Technician	\$38,000
71	Lawyer	\$71,000
73	Social Worker	\$52,000
81	High School Teacher	\$56,000
84	Insurance Salesperson	\$48,000
91	Manicurist	\$20,000
93	Anthropologist	\$59,000

Source: U.S. News and World Report 2016

3 Think of another job, perhaps your own job or one that you would like.

- 1 Give the approximate ranking that you think this job would get. Give reasons for your ranking.
- 2 What do you think is the salary potential for this job? Why?

ANALYZE

EVALUATE

CRITICAL THINKING 149

WRITING

CRITICAL THINKING

At the end of this unit, you are going to write a cause-and-effect essay about factors that affect the spread of disease. Look at this unit's Writing Task below.

Many infectious diseases that were once geographically limited now occur globally. Choose one disease and discuss the factors that may have contributed to its development and spread or could do so in the future.

GOALS Analyzing causes and effects

In academic writing it is important to be able to provide an analysis of why something happens and of the consequences of events, behavior, or decisions.

REMEMBER

- 1 Work with a partner. List the factors that you have read about in this unit that have contributed to the globalization of infection.

_____	_____
_____	_____
_____	_____
_____	_____

ANALYZE

- 2 Review these case histories for three infectious diseases that have created global concern in recent years. Go online and research another one. Prepare a case history for it in the space provided. With your partner, discuss the ways in which all the diseases are similar and how they differ.

A chikungunya

- first documented cases in Tanzania in the 1950s
- spread through Africa and SE Asia
- first case in western hemisphere in 2013
- about 3 million infections/year
- rarely lethal—1 death per 1,000 infections
- symptoms include joint pain, headaches, fatigue, and may last for months or even years
- vectors: *Aedes aegypti* and more recently, *Aedes albopictus*
- crowded conditions needed to sustain transmission among humans
- virus
- no vaccine
- no specific treatment

172 UNIT 1

Lower-Order Thinking Skills

Apply, **Understand**, and **Remember** provide the foundation upon which all thinking occurs. Students need to be able to recall information, comprehend it, and see its use in new contexts. *Prism* develops these skills through exercises such as taking notes, mining notes for specific data, demonstrating comprehension, and distilling information from charts.

WHAT MAKES *PRISM* SPECIAL: ON CAMPUS

More college skills

Students need more than traditional academic skills. *Prism* teaches important skills for being engaged and successful all around campus, from emailing professors to navigating study groups.

Professors

Students learn how to take good lecture notes and how to communicate with professors and academic advisors.

Beyond the classroom

Skills include how to utilize campus resources, where to go for help, how to choose classes, and more.

Active learning

Students practice participating in class, in online discussion boards, and in study groups.

Texts

Learners become proficient at taking notes and annotating textbooks as well as conducting research online and in the library.

WHAT MAKES *PRISM* SPECIAL: RESEARCH

LANGUAGE DEVELOPMENT

EXPERIMENTAL SCIENCE TERMINOLOGY

Read the summary of a child development study. Write the words and phrases in bold next to their definitions below.

A study that began in 1986 **established a causal link** between the behavior of parents and the success of their children. The **research subjects** in this study were the families of 129 children living in poverty in Jamaica. There were two **experimental groups**, and each group received a different treatment. In one, the children received extra food and milk. In the other, the families received visits from an expert in early childhood development, who encouraged the parents to spend more time engaged with their children: reading books, singing songs, or simply playing. A third set of families, the **control group**, received no treatment. The experiment lasted for two years, but the researchers who **conducted the study** continued to follow the children.

The researchers found that the **intervention** that made the most difference in the children's lives was early parental interaction. As they were growing up, the children in this group exhibited more positive behavior and had higher IQ scores than the children in the other groups. As adults, they earn 25% more than the other participants in the study. The researchers **contend** that their results have clear **implications**. To ensure the future success of children living in poverty, educate parents about the importance of parent-child interaction.

- 1 _____ (v phr) to do academic research, such as an experiment
- 2 _____ (n) action taken to deal with a problem
- 3 _____ (n) conclusions suggested by the results of an academic study
- 4 _____ (n phr) participants in an experiment who do not receive experimental treatment
- 5 _____ (n phr) participants in an experiment who receive experimental treatment
- 6 _____ (n) all the participants in an experiment
- 7 _____ (v phr) to show a cause-and-effect connection
- 8 _____ (v) to claim

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LANGUAGE DEVELOPMENT 123

Vocabulary Research

Learning the right words

Students need to learn a wide range of general and academic vocabulary in order to be successful in college. *Prism* carefully selects the vocabulary that students study based on the General Service List, the Academic Word List, and the Cambridge English Corpus.

GRAMMAR FOR WRITING

COMPLEX NOUN PHRASES WITH *WHAT*

A complex noun phrase with *what* can perform the same function as a noun + relative clause.

In a complex noun phrase beginning with *what*, the pronoun *what* replaces both the relative pronoun and the noun (phrase) it refers to. However, *what* can only be used to replace general terms like "the things/stuff/activities that ...".

These complex noun phrases can appear as subjects or objects. Notice that, although "the things/stuff/activities" are plural, *what* always takes a singular verb.

Subject: **What most people think of as creativity** generally involves divergent thinking.

Object: The quiet environment and free time gave him exactly **what he needed** in order to think creatively.

Complex noun phrases with *what* add variety to a writer's sentences. This structure is also an efficient and elegant way to draw attention to a point.

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- 1 Rewrite the sentences so that they contain a complex noun phrase with *what*. Make sure to use the correct verb form after *what*.
 - 1 The articles describe the activities that the research subjects in the study did in order to demonstrate their creativity.

 - 2 The things that have long been considered signs of mental illness may actually be part of the creative process.

 - 3 We still don't know for certain the things that lead to creativity.

 - 4 The researchers were looking for the things that single out the most creative people in the population.

 - 5 One of the goals of the study was to find out the activities that creative people are doing when they come up with their best ideas.

126 UNIT 1

Grammar for Writing

Focused instruction

This unique feature teaches learners the exact grammar they will need for their writing task. With a focus on using grammar to accomplish rhetorical goals, these sections ensure that students learn the most useful grammar for their assignment.

LEARNING OBJECTIVES

Reading skills	Identify an argument; identify supporting details
Grammar	Future real and unreal conditionals
Academic writing skills	Paragraph structure and unity; impersonal statements
Writing Task	Write an argumentative essay
On Campus	Staying organized with group projects



ACTIVATE YOUR KNOWLEDGE

Work with a partner. Discuss the questions.

- 1 Do you like looking at old family photos or old letters and postcards? Who keeps these things? How do they keep them (in photo albums, in a shoebox, in boxes in the attic)?
- 2 Do you like to visit old buildings or museums that show something about our past? Why or why not?
- 3 How important is it to preserve the past: buildings, records, art? Is preserving the past more important than creating new things?

WATCH AND LISTEN



ACTIVATING YOUR KNOWLEDGE

PREDICTING CONTENT USING VISUALS

PREPARING TO WATCH

- 1 Work with a partner. Discuss the questions.
 - 1 Do you own a collection of music or movies? Is it stored on discs in your home or in a digital download folder on your computer?
 - 2 Do you still have any CDs or DVDs? How long do you think they will last?
 - 3 What could you do to preserve your CDs and DVDs? What other belongings do you have that might need to be preserved?
- 2 Look at the pictures from the video. Discuss the questions with your partner.
 - 1 What problem do you think the woman is investigating?
 - 2 Why do you think it is a problem?
 - 3 What do you think will be learned by the research the woman is doing?

GLOSSARY

Library of Congress (n) the national library of the United States

posterity (n) the people who will exist in the future



parchment (n) the skin of animals that was used in the past to write on, or a paper made to look like this

degrade (v) to reduce the quality of something

longevity (n) how long a person or group of people lives, or how long a physical thing generally lasts; lifespan

Sharpie (n) a brand of permanent marker pen

WHILE WATCHING

- 3  Watch the video. Which sentence best expresses the main idea of the video?
- ☐ The Library of Congress is testing the longevity of CDs every three to five years.
 - ☐ CDs are being aged to help learn which type of manufacturing is best for CD development.
 - ☐ How a CD is manufactured, how it has been handled, and how it has been stored all affect its longevity.
- 4  Watch the video again. Write a detail for each main idea.
- Fanella France and her colleagues are studying the preservation of CDs.

 - To test CD durability, the Library of Congress is accelerating aging.

 - There are several things people can do to preserve their CDs at home.

- 5 Work with a partner. Discuss the questions.
- Why is it important for the Library of Congress to understand CD preservation?
 - What other items might the Preservation Research and Testing department of the Library of Congress be researching and testing?
 - What kinds of conditions might negatively affect old books, CDs, films, etc.? How might they go about testing these items under different conditions?

DISCUSSION

- 6 Discuss the questions with your partner.
- France offered suggestions on ways to preserve your CDs. Do you follow any of her suggestions? Will you pass the advice along to anyone else? If so, who?
 - What are some other items that are usually preserved in national libraries or museums?
 - Is there value in preserving items in their original format? Why not transfer the information to a new form of technology and discard the original thing?
 - Can we really learn from the past? Or do we learn just as much when we focus on the present and the future?

UNDERSTANDING MAIN IDEAS

UNDERSTANDING DETAILS

MAKING INFERENCES

READING

READING 1

PREPARING TO READ

USING YOUR KNOWLEDGE

- 1 You are going to read an article about storing records. Look at the list of information and records—in text, audio, and visual form—about your life. Add six more examples of your own. Then check where you store each type of thing. Compare your answers with a partner.

	in a box or drawer	on my phone/tablet	in the cloud	I throw them away.
old school records				
family photos				
bank statements				
selfies from vacation				
medical records				
receipts from major purchases				
music				

2 With your partner, discuss these questions.

- 1 Think about items in the chart in Exercise 1. How long do you think these records will last? Do you think your grandchildren will be able to access them? Your great-grandchildren? Why or why not?
- 2 Look at the title of the article on page 20. What does the word *digital* mean there? Give some examples of digital devices that you use. What are some digital devices that are no longer widely used—perhaps devices that your parents used?
- 3 The Dark Ages is the term used to refer to Europe from about the 5th to the 10th century. We have very few records from this time, so it is difficult to find out about how people lived then. How do you think *digital* could be related to *the Dark Ages*? What do you think the title means?

3 Read the sentences and write the words in bold next to the definitions.

- 1 The designers of the new phone have made a **deliberate** effort to make the device easy for anyone to use.
- 2 It is a common **practice** to name a baby after a parent or grandparent.
- 3 I am upset because my computer crashed, and I have not been able to **recover** the files on it.
- 4 We can't plan for everything, so we will have to handle problems as they **emerge**.
- 5 Your computer files are **vulnerable** if you don't protect them with a strong password.
- 6 All of the devices have the **capacity** to update information over Wi-Fi.
- 7 Problems with security **prompted** software designers to make major changes to the new version of the program.
- 8 The closet was filled with boxes of **memorabilia** from my childhood and my parents' early years of marriage.

- a _____ (adj) not well protected; able to be harmed
- b _____ (n) a regular or widespread habit or behavior
- c _____ (v) to cause to do something
- d _____ (v) to get something back
- e _____ (n) ability
- f _____ (adj) intentional
- g _____ (n) a collection of items connected to a person or event
- h _____ (v) to become known

UNDERSTANDING KEY VOCABULARY

Are We Living in the Digital Dark Ages?

1 Imagine these scenarios: (1) 2040: A box of **memorabilia**, including floppy discs and VHS tapes¹, is found in the attic of an old house with a label that says, “Records and early videos of Bill Gates (1975–1985).” (2) 2050: You find an envelope labeled “bank records” in your grandmother’s desk. Inside the envelope, there is an old CD marked with the date 1998, your great-grandfather’s name, and the words “all overseas bank accounts.”

2 If these stories were really to happen, the people who found these items would be very excited—at least at first. Their excitement would be quickly followed by frustration because it would be very difficult for them to access the information on the discs and tapes. Even if the records were still in good condition, it would be very hard to find a device that could read them. Compare these discoveries to one that might have occurred around the turn of the twentieth century: a box of old letters and photographs on a high shelf at the back of a closet. The information these items contain would be immediately accessible because you would only need your eyes.

3 Computers and digital technology have vastly expanded our **capacity** to store all kinds of information, but how long will our access to this stored information last? In fact, the people who found the discs and tapes in our scenarios would be lucky because discs and tapes are physically real. Information on the Web is much more **vulnerable**; it is completely digital and can disappear in a flash. This is a problem that began to worry technology experts in the early 2000s. They became concerned

that, without better ways of preserving information, future generations might look back on our times as the “digital dark ages.” If current **practices** continue, future generations may not have access to the digital record of our lives and our world.

4 Vint Cerf, a vice president at Google, argues that this could happen if we do not take steps quickly. He uses the term “bit rot” to describe how our digital records may slowly but surely become inaccessible. In our scenarios, for example, we may no longer have the devices, such as video and CD players, to access the records. Most software and apps that were used to create documents and websites ten or twenty years ago are already out of date, and in another sixty years they may not even be available. The problem is particularly challenging with interactive apps and websites. We can read letters from long ago, but will we be able to read a Twitter feed or access a Snapchat exchange a hundred years from now?

5 This problem has **prompted** technology experts like computer scientist Mahadev Satyanarayanan of Carnegie Mellon University to take action. He has found a way to store everything that is needed to interpret a record—the record itself as well as the original operating system and the application it used—all together in the cloud. Using this approach, he has been able to **recover** and preserve digital records that might otherwise have been lost forever.

6 Both Cerf and Satyanarayanan stress the importance of **deliberate** preservation. In the past, you could throw a bunch of photos into a box without having to decide what to save and what to throw away. With digital records, however, you need to make an active decision about what to keep. Satyanarayanan says it is likely that important records—government documents, big news stories, etc.—will be transferred to new forms of storage technology as they **emerge**. It is the records of everyday life, the ones we do not yet know we will value, that may disappear into the digital dark ages.

¹floppy discs and VHS tapes (n) early forms of electronic media storage