



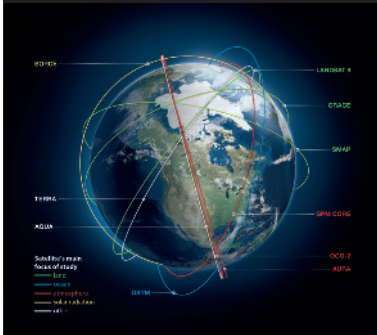



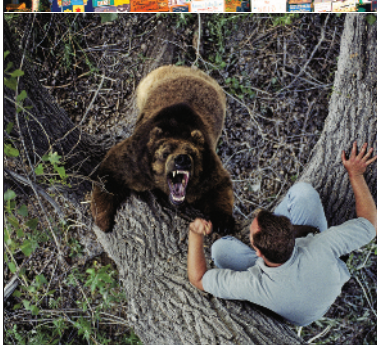


# Scope and Sequence

# Pathways Reading and Writing: Level 3

ACADEMIC SKILLS						
	Unit Title and Theme	Reading Texts and Video	Reading	Critical Thinking	Writing	Vocabulary Extension
	<b>1</b> <b>SOCIAL RELATIONSHIPS</b> <i>page 1</i> ACADEMIC TRACK: Behavioral Science	<b>Reading 1</b> The Ape in the Office <b>VIDEO</b> Elephant Orphans <b>Reading 2</b> Gender in the Wild	<b>Focus</b> Identifying Main and Supporting Ideas  Predicting, Understanding Purpose, Summarizing, Categorizing, Inferring Meaning, Understanding Main Ideas, Understanding Details	<b>Focus</b> Analyzing Evidence  Evaluating Evidence, Reflecting, Synthesizing	<b>Skill Focus</b> Writing Body Paragraphs  <b>Language for Writing</b> Making Comparisons  <b>Writing Goal</b> Writing two body paragraphs comparing animal and human behavior	<b>Word Link</b> <i>pre-</i>
	<b>2</b> <b>SCIENCE AND INVESTIGATION</b> <i>page 25</i> ACADEMIC TRACK: Technology/Genetics	<b>Reading 1</b> Tech Detectives <b>VIDEO</b> Secrets in the Ice <b>Reading 2</b> King Tut's Family Secrets	<b>Focus</b> Identifying a Sequence of Events  Predicting, Understanding Main Ideas, Understanding Details, Categorizing, Inferring Meaning	<b>Focus</b> Analyzing Levels of Certainty  Evaluating, Synthesizing	<b>Skill Focus</b> Writing a Summary  <b>Language for Writing</b> Paraphrasing  <b>Writing Goal</b> Writing two summaries	<b>Word Link</b> <i>-ist</i>
	<b>3</b> <b>CITY SOLUTIONS</b> <i>page 49</i> ACADEMIC TRACK: Sociology/Urban Studies	<b>Reading 1</b> Living on an Urban Planet <b>VIDEO</b> Farming Underground <b>Reading 2</b> The Urban Visionary	<b>Focus</b> Analyzing Visual Information  Predicting, Summarizing, Understanding Main Ideas, Identifying Pros and Cons, Understanding Purpose, Inferring Meaning	<b>Focus</b> Analyzing Quotes  Justifying Your Opinion, Evaluating, Synthesizing	<b>Skill Focus</b> Writing Introductory and Concluding Paragraphs  <b>Language for Writing</b> Using the Simple Past and the Present Perfect  <b>Writing Goal</b> Writing a problem-solution essay about how a city solved a problem it faced	<b>Word Partners</b> Expressions with <i>income</i>
	<b>4</b> <b>DANGER ZONES</b> <i>page 73</i> ACADEMIC TRACK: Earth Science	<b>Reading 1</b> Sensing Disaster <b>VIDEO</b> Hurricanes <b>Reading 2</b> Yellowstone's Smoking Bomb	<b>Focus</b> Understanding Referencing and Cohesion  Predicting, Summarizing, Understanding a Process, Understanding Main Ideas, Understanding Details, Inferring Meaning, Understanding Visual Information	<b>Focus</b> Inferring  Applying, Analyzing Evidence	<b>Skill Focus</b> Writing a Process Essay  <b>Language for Writing</b> Using Parallel Structures  <b>Writing Goal</b> Writing a process essay about how people can prepare for a natural hazard	<b>Word Forms</b> Changing Nouns and Adjectives to Verbs with <i>-en</i>
	<b>5</b> <b>THE TRAVEL BUSINESS</b> <i>page 99</i> ACADEMIC TRACK: Economics/Business	<b>Reading 1</b> The New Face of Tourism <b>VIDEO</b> Galápagos Tourism <b>Reading 2</b> Geotourism in Action	<b>Focus</b> Analyzing Causes and Effects  Predicting, Understanding Key Terms, Understanding Main Ideas, Understanding Purpose, Identifying Arguments, Skimming, Understanding Details, Inferring Meaning	<b>Focus</b> Evaluating Arguments  Synthesizing, Evaluating/Justifying	<b>Skill Focus</b> Writing a Cause-Effect Essay  <b>Language for Writing</b> Using <i>if ... , (then) ...</i>  <b>Writing Goal</b> Writing a cause-effect essay about the positive and negative effects of tourism on a place	<b>Word Forms</b> Adjectives and Nouns ending in <i>-ive</i>

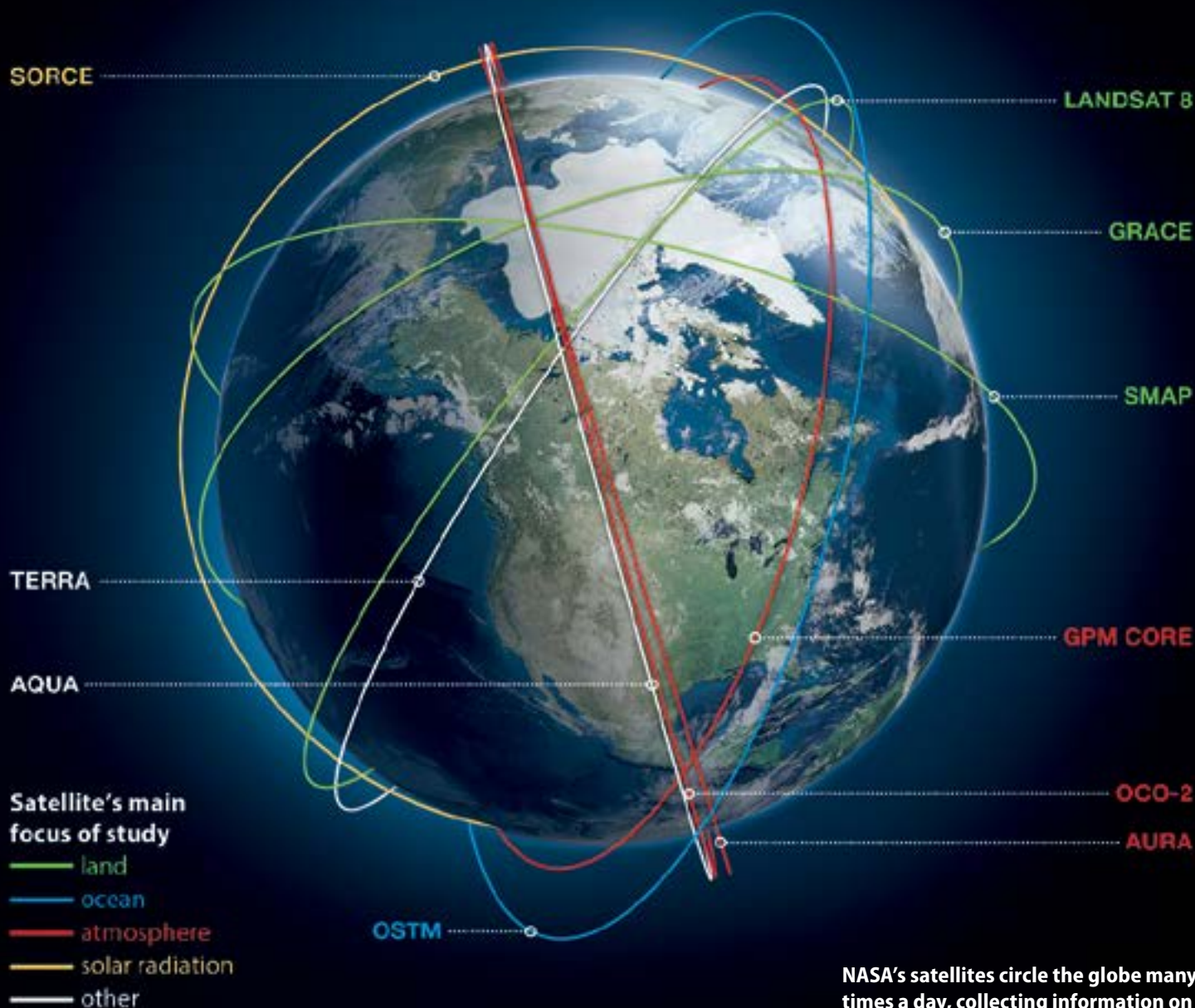
# Scope and Sequence

ACADEMIC SKILLS						
	Unit Title and Theme	Reading Texts and Video	Reading	Critical Thinking	Writing	Vocabulary Extension
	<div>6</div> <div>INFORMATION DESIGN</div> <div>page 123</div> <div>ACADEMIC TRACK: Design/Communication</div>	<div>Reading 1</div> <div>The Rise of Visual Data</div> <div>VIDEO</div> <div>Painting with Numbers</div> <div>Reading 2</div> <div>Visual Culture</div>	<div>Focus</div> <div>Identifying Arguments and Counterarguments</div> <div>Predicting, Summarizing, Understanding Details, Interpreting Visual Information, Inferring Meaning, Understanding Main Ideas, Understanding Supporting Ideas</div>	<div>Focus</div> <div>Evaluating Visual Data</div> <div>Evaluating Infographics, Applying, Synthesizing</div>	<div>Skill Focus</div> <div>Writing a Persuasive Essay</div> <div>Language for Writing</div> <div>Describing Visual Information</div> <div>Writing Goal</div> <div>Writing a persuasive essay and using visual data to support arguments</div>	<div>Word Link</div> <div>mis-</div>
	<div>7</div> <div>GLOBAL CHALLENGES</div> <div>page 147</div> <div>ACADEMIC TRACK: Environmental Science</div>	<div>Reading 1</div> <div>A Need for Change</div> <div>VIDEO</div> <div>The Snow Guardian</div> <div>Reading 2</div> <div>Eight Steps to a Sustainable Future</div>	<div>Focus</div> <div>Understanding Appositives</div> <div>Predicting, Understanding Main Ideas, Understanding Details, Interpreting Visual Information, Understanding Problems and Solutions, Inferring Meaning</div>	<div>Focus</div> <div>Inferring Attitude</div> <div>Evaluating</div>	<div>Skill Focus</div> <div>Writing an Opinion Essay</div> <div>Language for Writing</div> <div>Using Adjective Clauses</div> <div>Writing Goal</div> <div>Writing an opinion essay about the best way to ensure a sustainable future</div>	<div>Word Partners</div> <div>Expressions with cut</div>
	<div>8</div> <div>MEDICAL INNOVATIONS</div> <div>page 171</div> <div>ACADEMIC TRACK: Health/Medicine</div>	<div>Reading 1</div> <div>The Healer of Córdoba</div> <div>VIDEO</div> <div>Healthcare Innovator</div> <div>Reading 2</div> <div>Medical Frontiers</div>	<div>Focus</div> <div>Understanding Passive Sentences</div> <div>Predicting, Summarizing, Identifying Main Ideas, Sequencing, Understanding Details, Inferring Meaning, Understanding Referencing</div>	<div>Focus</div> <div>Inferring Purpose</div> <div>Reflecting, Applying, Synthesizing</div>	<div>Skill Focus</div> <div>Evaluating Information Online</div> <div>Language for Writing</div> <div>Introduction to Quoting and Citing Sources</div> <div>Writing Goal</div> <div>Writing a research-based essay about a medical innovation and its significance</div>	<div>Word Partners</div> <div>Antonyms</div>
	<div>9</div> <div>WORLD LANGUAGES</div> <div>page 195</div> <div>ACADEMIC TRACK: Anthropology/Linguistics</div>	<div>Reading 1</div> <div>The Future of English</div> <div>VIDEO</div> <div>Enduring Voices</div> <div>Reading 2</div> <div>Vanishing Voices</div>	<div>Focus</div> <div>Understanding Predictions</div> <div>Predicting, Understanding Main Ideas, Understanding Details, Inferring Meaning, Interpreting Visual Information, Understanding Effects, Understanding Certainty</div>	<div>Focus</div> <div>Applying Ideas</div> <div>Synthesizing, Analyzing Arguments</div>	<div>Skill Focus</div> <div>Planning an Essay Using a T-Chart</div> <div>Language for Writing</div> <div>Presenting Counterarguments</div> <div>Writing Goal</div> <div>Writing a persuasive essay about whether everyone in the world should speak the same language</div>	<div>Word Partners</div> <div>adjective + language</div>
	<div>10</div> <div>SURVIVAL INSTINCT</div> <div>page 219</div> <div>ACADEMIC TRACK: Psychology</div>	<div>Reading 1</div> <div>Deadly Summit</div> <div>VIDEO</div> <div>Survival Lessons</div> <div>Reading 2</div> <div>Breath of Life</div>	<div>Focus</div> <div>Identifying Adverbial Phrases</div> <div>Skimming, Summarizing, Understanding Main Ideas, Sequencing, Inferring Meaning, Predicting, Understanding Details</div>	<div>Focus</div> <div>Interpreting Figurative Language</div> <div>Reflecting, Applying, Synthesizing</div>	<div>Skill Focus</div> <div>Writing a Descriptive Narrative Essay</div> <div>Language for Writing</div> <div>Using Past Forms for Narratives</div> <div>Writing Goal</div> <div>Writing a narrative essay about someone who survived a dangerous situation</div>	<div>Word Forms</div> <div>Adjectives ending in -ed and -ing</div>



# INFORMATION DESIGN

# 6



NASA's satellites circle the globe many times a day, collecting information on aspects of the Earth's environment.

## ACADEMIC SKILLS

- READING Identifying arguments and counterarguments
- WRITING Writing a persuasive essay
- GRAMMAR Describing visual information
- CRITICAL THINKING Evaluating visual data

## THINK AND DISCUSS

- 1 What does the infographic above show?
- 2 What are some other ways in which information and data can be presented visually?

## EXPLORE THE THEME

**A** Look at the information on these pages and answer the questions.

1. What does the infographic show?
2. Do you think it's an effective infographic? Why or why not?

**B** Match the words and phrases in blue to their definitions.

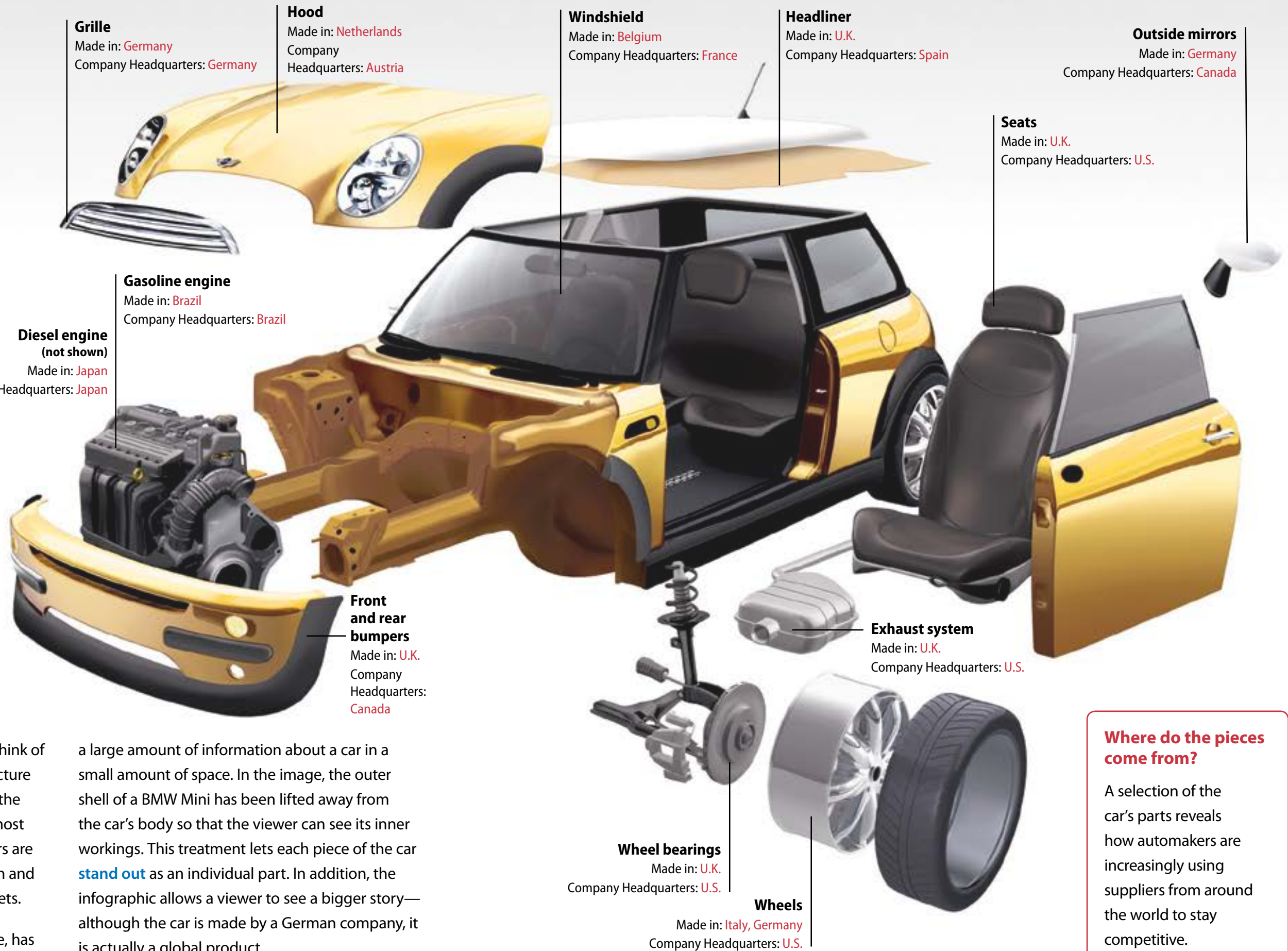
- \_\_\_\_\_ (v) to communicate
- \_\_\_\_\_ (v) to be noticeable or easy to see
- \_\_\_\_\_ (v) to understand the meaning of something

# UNDER THE HOOD

When you think of infographics, you might think of pie charts and line graphs—or you might picture more complex images such as the globe on the previous page. But infographics can take almost any form. With a single infographic, designers are now able to **convey** complicated information and help us **interpret** the meaning of vast data sets.

The infographic on these pages, for example, has a 3-D design that allows a viewer to understand

a large amount of information about a car in a small amount of space. In the image, the outer shell of a BMW Mini has been lifted away from the car's body so that the viewer can see its inner workings. This treatment lets each piece of the car **stand out** as an individual part. In addition, the infographic allows a viewer to see a bigger story—although the car is made by a German company, it is actually a global product.



### Where do the pieces come from?

A selection of the car's parts reveals how automakers are increasingly using suppliers from around the world to stay competitive.



# Reading 1

## PREPARING TO READ

### BUILDING VOCABULARY

- A** The words in **blue** below are used in Reading 1. Read the sentences. Then match the correct form of each word to its definition.

Good journalists aim to present the news in an **objective** manner without inserting their own opinions into their reports.

People with poor **vision** correct their eyesight by wearing glasses or contact lenses.

In order to make their products seem more effective, companies might **deliberately** include **misleading** information in their advertisements.

One **downside** to using information from the Internet is that the source may not be reliable.

Most people have strong opinions about whale hunting. Not many people are **neutral** about the issue.

When writing a report, it's important to check that the points make sense and don't contain **faulty** logic.

- \_\_\_\_\_ (n) a disadvantage
- \_\_\_\_\_ (adv) on purpose or intentionally
- \_\_\_\_\_ (n) the ability to see
- \_\_\_\_\_ (adj) containing mistakes; inaccurate
- \_\_\_\_\_ (adj) based on facts, not personal bias
- \_\_\_\_\_ (adj) not having an opinion about something
- \_\_\_\_\_ (adj) making someone believe something that is not true

### USING VOCABULARY

- B** Discuss these questions with a partner.

- What do you think are the **downsides** to using information from the Internet?
- What kinds of **misleading** information have you seen online?

### BRAINSTORMING

- C** What are some benefits of infographics for people working in business, education, or journalism? Discuss with a partner.

### PREDICTING

- D** Skim the first sentence of each paragraph in the reading passage. What do you think the passage is about? Check your idea as you read.
- the purposes of different types of infographics
  - the history of data visualization
  - the pros and cons of using infographics



Facebook CEO Mark Zuckerberg presents a graphic showing the global connections of Facebook users.

2.01

- Visual data—charts, maps, and infographics—are more prevalent<sup>1</sup> than ever. Every day, we are exposed to visual data in print, in online media, and in the apps we use. Why is visual data so common today? And are there any **downsides** to living in a world of visual data?

## THE POWER OF VISUALS

- The human brain can **interpret** a complex concept more quickly when it is presented visually than when it is explained on printed text. A 2014 study at the Massachusetts Institute of Technology (MIT), for example, showed that humans can interpret an image of a “smiling couple” after seeing it for only 13 milliseconds—nearly 10 times faster than the blink of an eye. To explain all the details of the “smiling couple” in writing would take significantly longer. As Mary Potter, professor of brain and cognitive sciences at MIT, explains, “What **vision** does is find concepts. That’s what the brain is doing all day long—trying to understand what we’re looking at.”

<sup>1</sup>Something that is **prevalent** is widespread or common.

C Data visualization journalist and educator Alberto Cairo thinks that “words alone are not powerful enough to communicate effectively ... you also need visuals.” Visual data is most effective when there is an “aha” moment—when the information provides “spontaneous insight.” These visuals immediately create understanding of complex concepts. Cairo cites a chart (Figure 1) that shows the sudden rise in global temperatures as an example of this. With its sharp curve upward, the chart quickly conveys how rapidly our planet is warming.

D Visual data also appears to make information seem more credible. A study carried out at Cornell University in New York showed that 67 percent of participants believed information when they read it in a document without a graph. However, when a graph was included, 96 percent believed the same information. Alberto Cairo agrees that “a message looks more scientific when you put charts in it.” He points out that visual data can also mislead, because it makes textual information look more serious and academic than it perhaps is.

THE PITFALLS OF VISUAL DATA

E Even though graphs may look credible, they can be misleading, especially if faulty logic is used to present information. Figure 2, for example, shows the rise and fall of the performance of athletes who appeared on the cover of *Sports Illustrated* magazine. The graph appears to imply there is a cause-effect relationship between two events: being on the cover of the magazine leads to poor performance afterward.

F In fact, athletes usually appear on magazine covers when they are at the peak of their performance. After this stage, it is most probable that athletes’ performance will eventually decline. So, although there may be a correlation between two events, that does not mean that one event has a direct effect on the other.

G Another way charts can mislead is when a scale is inappropriate. Figure 3 illustrates the effectiveness of two drugs, and there seems to be a big difference between them. However, the difference looks greater than it really is.

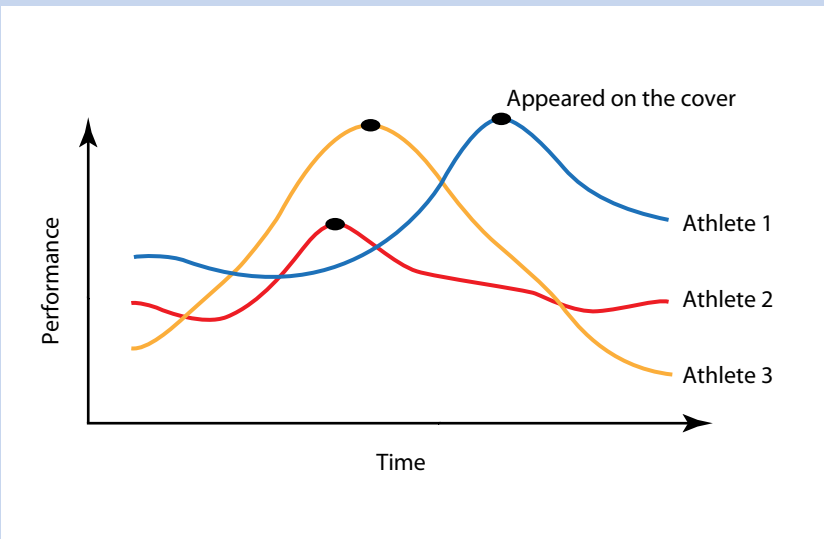


Figure 2: Performance of athletes before and after appearing on the cover of *Sports Illustrated* magazine

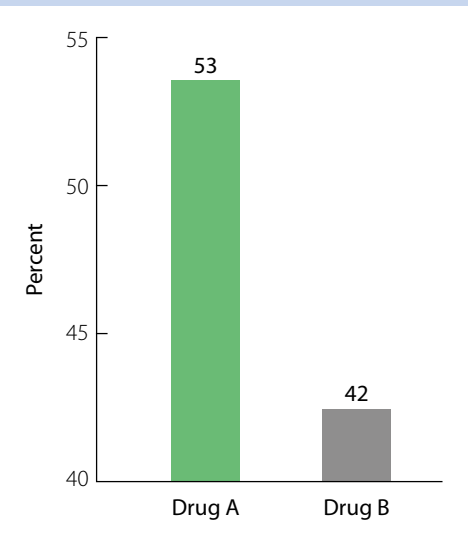


Figure 3: Effectiveness of Drug A

This is because the numbers on the vertical axis go only from 40 percent to 55 percent—making it look like Drug A is five times more effective than Drug B. In fact, the difference between the two drugs is only about 10 percent. In addition, the color of the bar for Drug A makes that data stand out more and seem more important—and positive—than Drug B.

H Some visuals may be unintentionally misleading. Others, however, may be deliberately designed to influence the viewer. According to Cairo, deliberately misleading visuals are designed to make a point, not to objectively present facts. While he thinks this may be valid in advertising or PR, it’s not a good example of objective journalistic communication. Cairo believes that while designers may never be able to approach information in a completely neutral way, they should at least try: “That is what journalism is.”

VISUALIZING THE FUTURE

I According to Geoff McGhee—a data visualizer at Stanford University—new forms of visual data are pushing the boundaries of what we can process. Unlike traditional visual data, these new types of visuals use thousands of data points, such as the map showing global connections on Facebook (the first image in this reading passage). Many of these modern visualizations feature a huge number of thin, overlapping,<sup>2</sup> and semi-transparent<sup>3</sup> lines. The 3-D effect allows viewers to “see through” points to look at others behind.

J Some journalists worry that complex visualizations such as these may make beautiful data art, but risk confusing readers instead of enlightening them. For Alberto Cairo, the key issue with visualization is not complexity or beauty, but whether the public is reliably informed. When creators of visual data are balanced and honest, he says, “great visualizations change people’s mind for the better.”

<sup>2</sup>When two lines are overlapping, part of one line covers part of the other line.  
<sup>3</sup>If something is semi-transparent, you can see through it, but not completely.

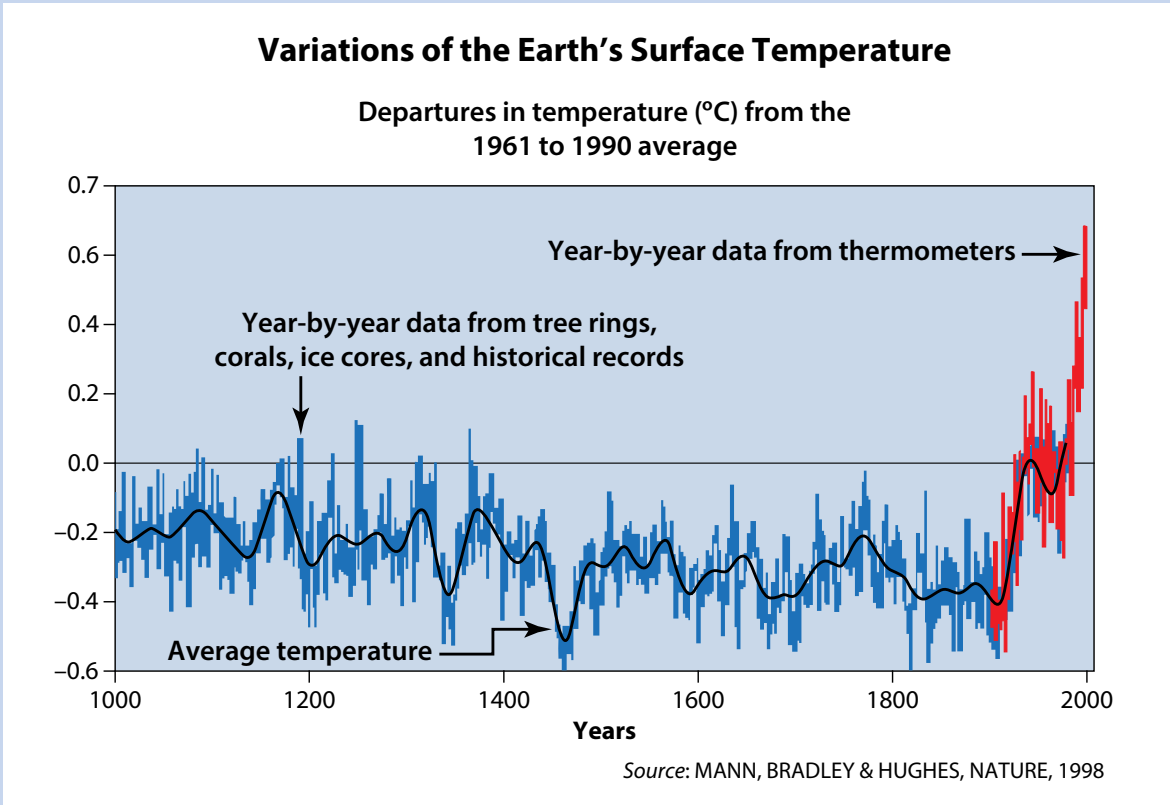


Figure 1: Average global temperature over 1,000 years

UNDERSTANDING THE READING

- SUMMARIZING
- A

Read the first sentence of a summary of the passage. Check (✓) three other sentences to complete the summary.  
*Infographics are more common today, but data visualizers should take into consideration certain issues.*

☐

1. Visual data is not as effective as text, but it is more interesting to look at and makes information seem more trustworthy.

☐

2. It is easier and faster to interpret large amounts of information through visual data than through text.

☐

3. There are many benefits to using visual data, but charts and graphs can be misleading.

☐

4. Most infographics on the Internet unintentionally use incorrect data.

☐

5. In the future, infographics will be easier to create and less confusing than they are now.

☐

6. Data visualization may become more complex in the future, but it is important that it remains clear and accurate.

- UNDERSTANDING DETAILS
- B

Write answers to these questions. Then share your answers with a partner.

1.

According to Alberto Cairo, when is visual data most effective?

2.

What does Cairo think is one benefit of including charts in a document?

3.

What ways of presenting visual data can result in inaccurate information? List three ways.

4.

What is a main difference between modern infographics and traditional charts such as line graphs?

- INTERPRETING VISUAL INFORMATION
- C

Read the descriptions below. Match each one to a figure from the passage (1–3).

☐

a. the y-axis has a misleading scale

☐

b. shows a trend that is increasing

☐

c. presents a misleading comparison

☐

d. illustrates performance levels over time

☐

e. shows the relative success of two products

☐

f. provides quick insight into complex information

☐

g. implies an incorrect cause-effect relationship

☐

h. allows various data to be compared against an average

- D

Find and underline the following words in **bold** in the reading passage. Use context to identify their meanings. Match the sentence parts to complete the definitions.
1. Paragraph D: If something is **credible**, \_\_\_\_

a. it is not done on purpose.

2. Paragraph E: If you **imply** something, \_\_\_\_

b. it is believable or trustworthy.

3. Paragraph F: If there is a **correlation** between two things, \_\_\_\_

c. you suggest it without stating it directly.

4. Paragraph H: If something is done **unintentionally**, \_\_\_\_

d. there is a meaningful connection between them.

**CRITICAL THINKING** In order to **evaluate visual data**, ask yourself: Does the infographic show an accurate representation of relationships between two or more things, or is it biased to show one perspective? Is the scale misleading or exaggerated in some way? Is the creator of the infographic neutral?

- E

Study the two graphs below. How are they different?

INFERRING MEANING

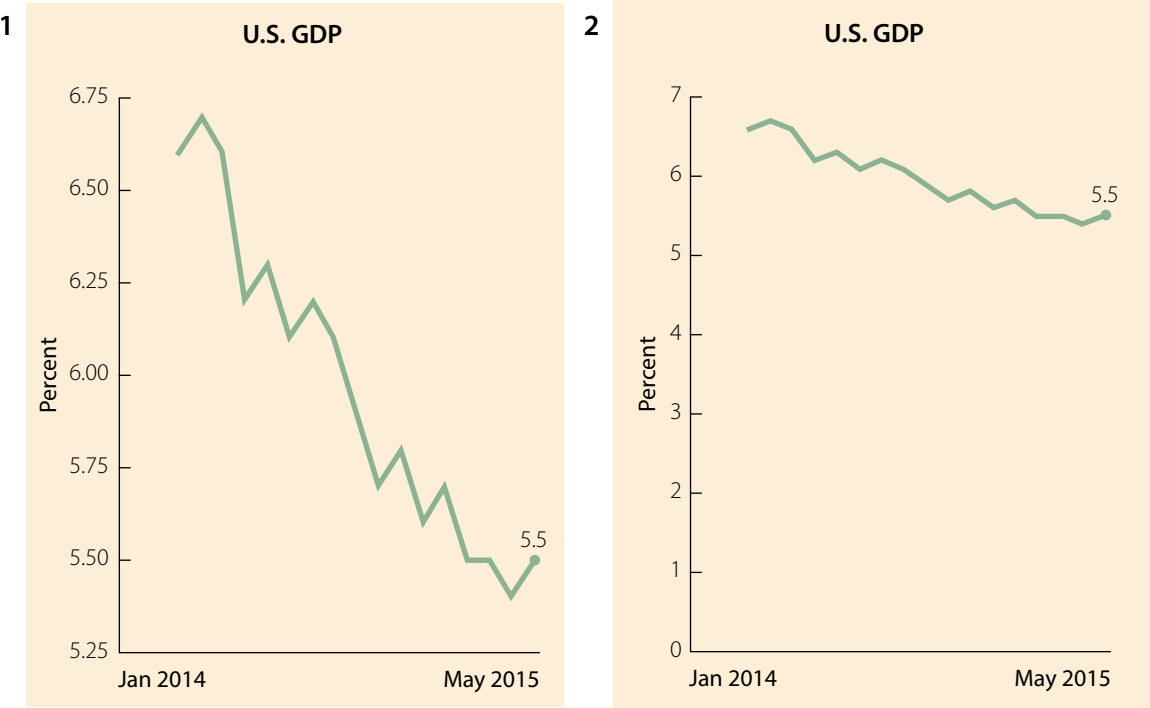
CRITICAL THINKING:  
EVALUATING  
VISUAL DATA

Which scale would be more suitable for each situation below?

\_\_\_\_\_ a. for looking in detail at the monthly changes in the U.S.’s GDP

\_\_\_\_\_ b. for comparing with another country’s GDP in the same time period

Falling Gross Domestic Product (GDP) in the United States



Source: U.S. Bureau of Labor Statistics

- F

Look back at Units 1–5 and find an infographic that you think best follows the principles of objective design. Find another infographic that you think could be improved. Discuss your reasons with a partner.

CRITICAL THINKING:  
EVALUATING  
INFOGRAPHICS



DEVELOPING READING SKILLS

READING SKILL Identifying Arguments and Counterarguments

Writers often acknowledge counterarguments—the arguments on the other side of the issue—in addition to presenting their own arguments. Concession words and phrases are often used to signal counterarguments. Some examples are *while*, *even though*, *though*, and *although*.

COUNTERARGUMENT WRITER’S ARGUMENT  
*While it may seem difficult to make good infographics, anyone can create them with the right software.*

IDENTIFYING ARGUMENTS

**A** Find the following concession words and phrases in the reading passage. Then underline the writer’s argument and draw two lines under the counterargument.

- 1. even though (paragraph E)
- 2. although (paragraph F)
- 3. while (paragraph H)
- 4. while (paragraph H)

IDENTIFYING ARGUMENTS

**B** Choose the correct paraphrase of each main argument in exercise A. Then share your answers with a partner.

- 1. a. Graphs that look impressive sometimes contain inaccurate information.  
b. Misleading information is sometimes included to make charts attractive.
- 2. a. More evidence is needed to show that the two events affect each other.  
b. Two events that are connected are not necessarily in a cause-effect relationship.
- 3. a. Deliberately misleading visuals are used in advertising or PR to help make a point.  
b. It is unacceptable for journalists to include misleading information in visual data.
- 4. a. It is important for graphic designers to present information in the most neutral way possible.  
b. It is impossible for graphic designers to be completely neutral about the issues they write about.

IDENTIFYING COUNTERARGUMENTS

**C** Match each argument (a–c) to a counterargument (1–3).

- |  |  |
|--|--|
| 1. While including charts and graphs is useful in reports, _____ | a. a screen with nothing but text on it is uninteresting and unattractive. |
| 2. Although charts and graphs may not always be necessary, _____ | b. charts and graphs can communicate a lot of information in small spaces. |
| 3. Though they sometimes seem simple, _____                      | c. they should be used only if they relate to the points made.             |

Video

Jer Thorp created this graphic to show exoplanets—planets outside of our solar system—discovered by the Kepler space telescope.

PAINTING WITH NUMBERS

BEFORE VIEWING

**A** Read the caption above and discuss the answers to these questions with a partner.

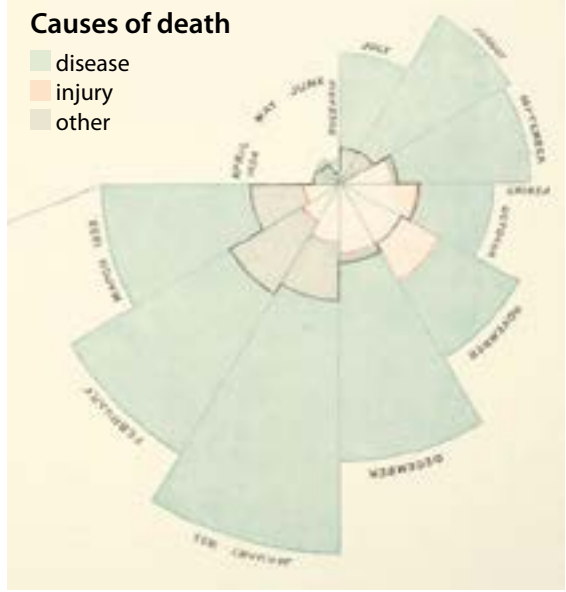
PREDICTING

- 1. What might the different sizes and colors of the circles represent?
- 2. What do you think the locations of the circles represent?

**B** Read the information about data artists. In what ways are Thorp’s and Nightingale’s infographics similar? Discuss your answer with a partner.

LEARNING ABOUT THE TOPIC

Jer Thorp is a data artist—someone who combines art and science to better communicate complex information. According to Thorp, an early example of an infographic was by Florence Nightingale—a nurse during the Crimean War (1853–1856). One of her graphics (right) showed that, contrary to popular belief, most soldiers were dying of treatable diseases rather than from injuries during the war. Her work reduced soldiers’ deaths by over 60 percent, and is an example of how infographics can change public opinion.





**C** The words in **bold** below are used in the video. Read the sentences. Then match the correct form of each word to its definition.

Police use maps to **plot** the **incidence** of crimes in an area. This can help them identify areas that need extra security.

A complicated issue can be explored from different **angles**.

One **strategy** to creating an effective infographic is to use objective data.

- 1. \_\_\_\_\_ (n) the number of times an event happens
- 2. \_\_\_\_\_ (v) to mark data on a map or chart
- 3. \_\_\_\_\_ (n) a particular perspective of something
- 4. \_\_\_\_\_ (n) a way of doing something to achieve a goal

WHILE VIEWING

UNDERSTANDING  
MAIN IDEAS

- A** ▶ Watch the video. What benefits of using visual data are mentioned?
- ☐ 1. It makes data easier to remember.
  - ☐ 2. It simplifies complex data.
  - ☐ 3. It helps us see things we’ve never seen before.
  - ☐ 4. It makes data more interesting.

UNDERSTANDING  
DETAILS

- B** ▶ Watch the video again. Complete the sentences about what each graphic shows.
- 1. John Snow’s map shows where people \_\_\_\_\_
  - 2. The “Just Landed” visualization shows \_\_\_\_\_

AFTER VIEWING

REACTING TO  
THE VIDEO

- A** Read the quote from the video about Thorp’s “ooh-aah” approach to creating graphics. Then discuss the questions with a partner.
- “The first thing I want people to do is I want them to say ‘ooh’ when they see the visualization, but that ‘ooh’ is useless unless there’s an ‘aah.’ I want that learned moment that comes from really being able to discover something that you didn’t understand before.”
- 1. What makes people say “ooh” about an infographic?
  - 2. What makes people say “aah”?

CRITICAL THINKING:  
APPLYING

- B** Work in a small group. Choose three infographics in this book. For each, decide if there is a balance of “ooh” and “aah.”

Reading 2

PREPARING TO READ

**A** The words and phrases in **blue** below are used in Reading 2. Complete the sentences with the correct form of the words or phrases. Use a dictionary to help you.

BUILDING  
VOCABULARY

context	propose	publication	have to do with	reliance
universal	nevertheless	statistic	emphasize	gesture

- 1. \_\_\_\_\_ such as comics and magazines tend to have more images, compared to journal articles that usually contain more data and \_\_\_\_\_.
- 2. Sometimes, speakers use simple \_\_\_\_\_ while giving a speech, especially when they want to \_\_\_\_\_ certain points and draw people’s attention to them.
- 3. People who create infographics may not be totally neutral about the data they are using. \_\_\_\_\_, Alberto Cairo thinks that they should try to present the data in the most objective way possible.
- 4. Although it is helpful to include visuals in an essay, you should make sure that they are suitable for the \_\_\_\_\_ in which they are used.
- 5. When you see a chart or graph, ask yourself: what does it \_\_\_\_\_ the topic?
- 6. Visuals such as photos and infographics are like a(n) \_\_\_\_\_ language—there is little \_\_\_\_\_ on text to convey meaning.
- 7. Data artist Jer Thorp \_\_\_\_\_ that we can use the “ooh-aah” approach when evaluating the effectiveness of visual information.

**B** Discuss these questions with a partner.

USING  
VOCABULARY

- 1. What are some common **gestures** in your culture or country? What do they mean?
- 2. What are some topics that have **universal** appeal around the world?

**C** Work with a partner. What does the color red make you think of? What about the color green?

BRAINSTORMING

**D** Look at the images and read the first paragraph of the reading passage. What kinds of cultural differences in visual design do you think you will read about? Discuss with a partner. Then check your ideas as you read.

PREDICTING



The colors and other visual cues in signs are often influenced by cultural preferences.

# VISUAL CULTURE

2.02

When we think of language, we usually think of words, but visuals are also a part of communication. And like written language, visual symbols are not **universal**. An English speaker, for example, may place their hand near their chest as a **gesture** to mean “me,” while a Japanese speaker is likely to point at their nose to indicate the same. Similarly, the way visual information is used can vary depending on the cultural **context**.

Take the color of money. Charles Apple, an American visual journalist, was working for a newspaper in South Africa when green was **proposed** as a color for the business section. The newspaper preferred blue, however, and for a simple reason: not every country has green money.

And that’s not all. “In the United States, red usually has a connotation<sup>1</sup> of losses or deficits,” Apple says, “but that’s not true in all countries.” Xan Sabaris, a Spanish infographic artist who has worked for the Beijing-based *China Daily*, agrees: “For the Western culture, red has negative connotations. In China, it’s the opposite. You could see Chinese newspapers where stock market charts use green for negative values and red for positive ones.”

Shapes are influenced by culture, too. Antonio Farach, from Honduras, and Adonis Durado, from the Philippines, both work at the *Times of Oman*. Farach noticed how subtle details play a role. In

<sup>1</sup>A **connotation** is an idea that a word makes you think of, apart from its meaning.

Western cultures, he says, “rounded corners are more accepted than in Arabic countries. In typography, Arabs prefer blade-like typefaces ...”

Sometimes the differences are not so subtle. “The big difference is orientation,” says Durado. “Arabs write and read from right to left.” This sometimes means inverting, or flipping, images, but this can present challenges. “[N]ot all images can just be flipped,” says Durado, citing examples such as maps.

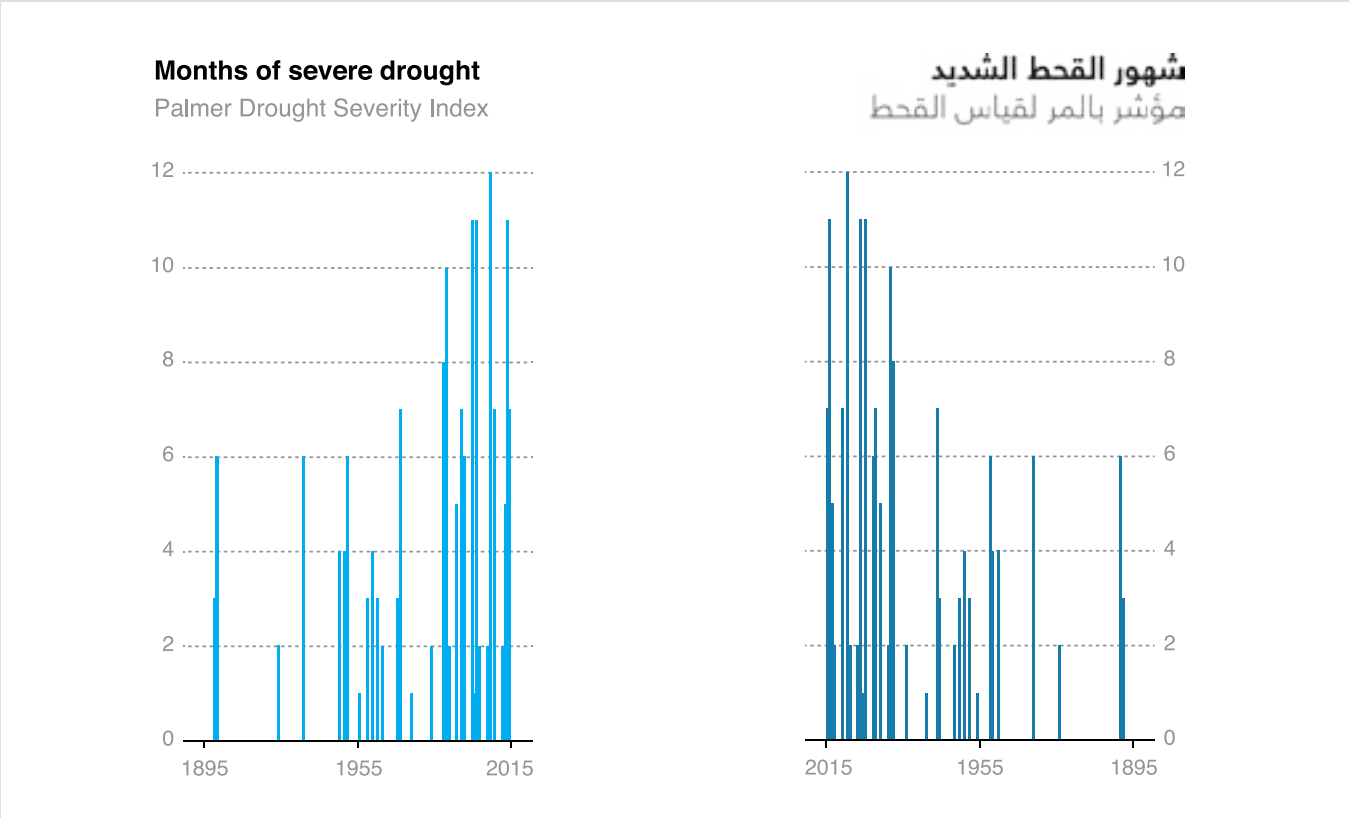
Konstantinos Antonopoulos, a Greek designer working for *Al Jazeera English* in Qatar, remarks how different **publications** within the same company often need different visuals for the same stories. *Al Jazeera Arabic*, for example, “has a strong visual language, spearheaded by the brilliant typography of the Arabic alphabet.” But the company may change the visuals for its publications in Turkey or the Balkans, for example. “[They] have their own visual languages,” Antonopoulos explains.

The color of money varies around the world.



Graphics director Alberto Lucas López moved from Spain to work for the *South China Morning Post* in Hong Kong. He thinks that some differences in style **have to do with** Chinese writing. “I could clearly see the parallelism<sup>2</sup> between the Chinese characters and the visual preferences,” he says. His

<sup>2</sup>Parallelism is a likeness or connection between two or more things.



▲ The same graph presented in English (left) and Arabic (right) editions of the same publication





theory is that Chinese visuals are heavily influenced by Chinese writing: complex symbols with many elements compressed in a reduced space. **Nevertheless**, López feels it’s important to respect these differences: “Sometimes we see as incorrect what is different from our view of clear structures, strict order, and synthesis. But it’s just a different visual culture.”

Cultural differences can also influence what gets designed in the first place. Felipe Memoria, a Brazilian designer working in New York, has noticed how sports reporting differs in Brazil and the United States. He speculates that in

contrast to Brazilians, Americans are “really into data.” The result: greater **reliance** on infographics—charts, **statistics**, and graphs—in American sports publications.

These journalists and designers have had to adapt, but they’re also making their contributions to the cultures they’ve adopted. Nick Mrozowski, an American designer who worked for many years in Portugal, **emphasizes** the positives of this exchange of ideas. He brought some of his American design preferences to the job, but, he says, “I’m also certain that I absorbed a great deal more from Portugal’s talented creatives than I left behind.”

UNDERSTANDING THE READING

**A** Check (✓) the three main ideas of the reading passage.

- ☐ 1. Different cultures use colors to mean different things.
- ☐ 2. Information should be presented in a visual style that is culturally appropriate.
- ☐ 3. Today’s designers of visual data are struggling to keep up with cultural changes.
- ☐ 4. People today generally prefer modern infographics to more traditional visual styles.
- ☐ 5. Cultural differences influence the amount and type of infographics that publications choose to include.

UNDERSTANDING  
MAIN IDEAS

**B** What points do the experts in the passage make? Answer the questions in your own words.

1. What does Charles Apple say about the use of the color green?

\_\_\_\_\_

2. What does Xan Sabaris point out about the color red?

\_\_\_\_\_

3. What challenges about creating visual data do Antonio Farach and Adonis Durado describe?

\_\_\_\_\_

4. What does Alberto Lucas López say about the connection between Chinese writing and visual data?

\_\_\_\_\_

5. What point does Nick Mrozowski make about his experience in Portugal?

\_\_\_\_\_

**C** Work with a partner. Based on the information from the passage, in which publication would you most likely find the following features (1–6)? Why? Discuss with a partner, using evidence from the passage to give reasons.

a. an American publication    b. a Chinese publication    c. an Arabic publication

- \_\_\_\_\_ 1. a diagram where information goes from right to left
- \_\_\_\_\_ 2. a line graph where red shows rising prices
- \_\_\_\_\_ 3. a financial report with green design elements showing profit
- \_\_\_\_\_ 4. graphics with a lot of data packed in a small space
- \_\_\_\_\_ 5. a sports article with a variety of data and infographics
- \_\_\_\_\_ 6. a font style that uses mostly sharp, blade-like edges

UNDERSTANDING  
SUPPORTING IDEAS

CRITICAL THINKING:  
APPLYING

**D** Find and underline the following words in **bold** in the reading passage. Use context to identify their meanings. Then match the sentence parts to complete the definitions.

1. Paragraph C: **Deficits** are \_\_\_\_

2. Paragraph E: **Orientation** refers to \_\_\_\_

3. Paragraph E: **Inverting** something means \_\_\_\_

4. Paragraph G: If something is **compressed**, it is \_\_\_\_

5. Paragraph H: If you are **into** something, you are \_\_\_\_
- a. losses.

b. very interested in it.

c. pressed tightly together.

d. turning it inside out or upside down.

e. the direction in which something is pointed.

CRITICAL THINKING:  
SYNTHESIZING

**E** Read the guidelines for selecting charts and graphs for an academic essay. Which do you think are most important? Rank them (1 = most important, 5 = least important). Then work in a group and add two more guidelines that you think are important.

- The chart/graph should ...
- \_\_\_\_ be visually interesting.
- \_\_\_\_ use simple typefaces.
- \_\_\_\_ be appropriate for your audience.
- \_\_\_\_ be based on logical data.
- \_\_\_\_ have an objective scale.

Additional guidelines:

CRITICAL THINKING:  
APPLYING

**F** Find a magazine or newspaper that is published in your country. Note answers to the questions below. Then discuss them with a partner.

1. What colors are mainly used in this publication? Why do you think this is?
- 
- 
2. List three things you notice about the design in this publication, e.g., the use of text and images, how the elements are arranged, etc. What impact do you think the designer wanted to create through these?
- 
- 
- 

# Writing

## EXPLORING WRITTEN ENGLISH

**A** Match each underlined phrase with the most suitable percentage amount (a–e).

NOTICING

1. The numbers on the vertical axis make it look like Drug A is five times more effective than Drug B.
2. As shown in Figure 1, about a third of the population did not vote.
3. Approximately half the class prefers to take tests on Mondays, as shown in Figure 1.
4. Figure 3 shows that more than a third of the students speak three languages.
5. The majority of the school’s students have part-time jobs, as shown in Figure 2.

- \_\_\_\_ a. 500 percent
- \_\_\_\_ b. 71 percent
- \_\_\_\_ c. 38 percent
- \_\_\_\_ d. 49.4 percent
- \_\_\_\_ e. 33 percent

### LANGUAGE FOR WRITING Describing Visual Information

When you include graphs and charts in an essay, label them sequentially (e.g., Figure 1, Figure 2, etc.) so they are easier to refer to. You can use the following phrases to refer to figures within an essay:

- Figure 1 shows (that) ...*
- As Figure 1 illustrates, ...*
- As seen/shown in Figure 1, ...*

Note: Use a comma before or after phrases that include *as*.

It can sometimes be easier for your reader to visualize the data if you use words and phrases instead of numbers (e.g., *a quarter* instead of *25 percent*). You can also use modifiers that round up or down important quantities from a chart (e.g., *less than twenty kilos* instead of *19.8 kilos*). Using words and phrases like these can make your message more meaningful and impactful.

Below are some words and phrases that express quantities.

- a quarter of*

*two-fifths of*

*approximately*

*about*

*more than*
- a third of*

*a half of*

*the majority of*

*almost all*

*nearly*
- two-thirds of*

*two times / five times more*

*twice / five times as much*

*less than*



**B** Look at the bar graph below. Then complete the sentences using the words and phrases in the box. One is extra.

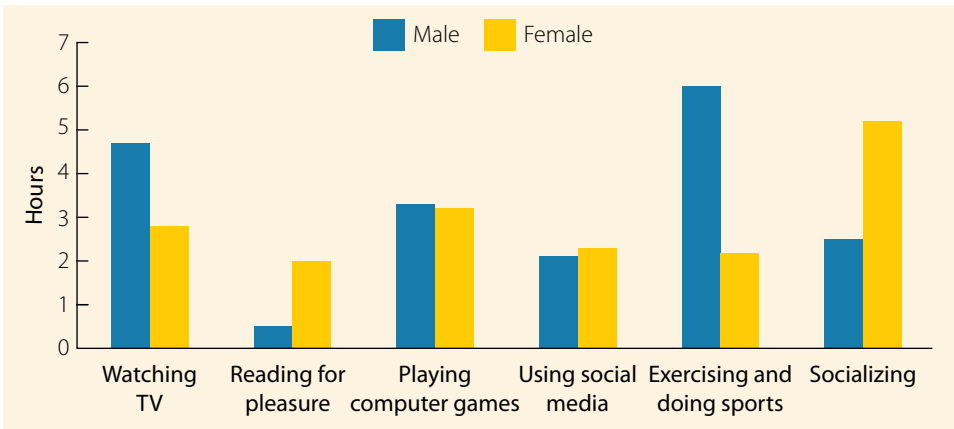


Figure 1: Time spent on the weekend by 18–24-year-olds

half more than      twice four times      a third less than

- As Figure 1 shows, women read for pleasure \_\_\_\_\_ as much as men.
- Men and women spend \_\_\_\_\_ three hours playing computer games.
- Women spend almost \_\_\_\_\_ as much time socializing as men, as seen in Figure 1.
- Women spend about \_\_\_\_\_ as much time as men exercising and doing sports, as illustrated in Figure 1.
- As shown in Figure 1, women watch \_\_\_\_\_ three hours of TV during the weekend.

**C** Write two more sentences about the graph in exercise B using words and phrases that express quantity.

- \_\_\_\_\_
- \_\_\_\_\_

**WRITING SKILL** Writing a Persuasive Essay

In a persuasive essay, you choose one side of an issue and persuade your reader to agree with your position. You present your position in your thesis statement and support it with reasons that show why you think it's correct.

The body paragraphs in a persuasive essay should include good reasons and convincing details that show why your position is correct. Convincing details include facts, direct quotes, and data based on evidence.

Charts and graphs that show the data you're referring to can make your arguments even stronger. They make your argument more credible and provide evidence that what you are saying is true. For example, if you are arguing that self-driving cars are more dangerous than traditional cars, a chart or graph that compares accident rates for each type of vehicle will make your argument more convincing.

The topics for your persuasive essay should not be:

- just factual (e.g., *Tigers are an endangered species.*).
- very subjective (e.g., *Tigers are more beautiful than leopards.*).
- too broad (e.g., *Animals should be protected.*).

The thesis statement in a persuasive essay should state your position about the topic. A good thesis statement should focus on a specific part of the topic. Compare these examples of thesis statements.

- *Keeping exotic animals as pets is a bad idea.* [too general]
- *Having exotic animals such as tigers and chimpanzees as pets is harmful for both the animals and the people who keep them.* [more specific]

**D** For each item (1–3), choose the better topic to use in a persuasive essay. Then discuss with a partner why the other topics are not good ones for a persuasive essay.

- High schools should require students to wear uniforms.
  - Some high schools require students to wear uniforms.
- Socializing in person is more fun than using social media.
  - Socializing in person is a better way to get to know people than using social media.
- Airports should be made safer than they are now.
  - Airports should screen passengers before they board planes.

**E** Imagine you are writing a persuasive essay on the topic of “We should eat insects instead of meat and fish.” Work with a partner to answer the questions below.

- Choose the more suitable thesis statement for the topic. Why do you think it's better?
  - Eating insects is generally better than eating meat and fish.
  - Eating insects rather than meat and fish is healthier and more environmentally friendly.
- Check (✓) two reasons that best support the thesis statement.
  - ☐ a. Insects are packed with nutrition.
  - ☐ b. We need protein in our diets.
  - ☐ c. Farmers care more for animals and fish.
  - ☐ d. Eating insects produces less waste than eating meat or fish.
- Check (✓) the four best details to include in the essay's body paragraphs. Why are the other details not as good?
  - ☐ a. Only 20 percent of an insect is thrown away.
  - ☐ b. More than half of a cow is wasted.
  - ☐ c. Eating meat is very wasteful.
  - ☐ d. Insects have as much protein as meat and fish.
  - ☐ e. Insects have 10 times as much vitamin B<sub>12</sub> as salmon.
  - ☐ f. People from some cultures enjoy eating insects.

WRITING TASK

**GOAL** You are going to write a persuasive essay on a topic of your choice. Use at least one chart, graph, or other visual data to support your argument.

BRAINSTORMING

- A** Choose one of the topics below for your essay or write your own topic idea.
- ☐ Self-driving cars are the best solution to transportation problems.
- ☐ University education should be free.
- ☐ Hunting of whales should be banned.
- ☐ \_\_\_\_\_

Decide your position on the topic. List reasons for your position and some counterarguments. Look for visual data to support at least one of your reasons. Use the online search terms below or add your own.

distracted drivers' accidents graph   global tuition fees chart   whale-hunting graph

PLANNING

- B** Follow these steps to make notes for your essay.
- Step 1** Choose the two best reasons for your position. Decide which infographic(s) you will use to support your argument.
- Step 2** Write your thesis statement in the outline and note your two best reasons.
- Step 3** Add details that explain your reasons. Include details about the visual data.
- Step 4** Write a summary statement for your conclusion.

OUTLINE

Introductory Paragraph

Thesis Statement: \_\_\_\_\_

\_\_\_\_\_

Body Paragraphs

Reason 1: \_\_\_\_\_

Details: \_\_\_\_\_

\_\_\_\_\_

Reason 2: \_\_\_\_\_

Details: \_\_\_\_\_

\_\_\_\_\_

Concluding Paragraph

Summary Statement: \_\_\_\_\_

\_\_\_\_\_

REVISING PRACTICE

The draft below is a persuasive essay about whether people should eat insects rather than meat and fish. Add the sentences (a–c) in the most suitable spaces.

a. As resources become scarce and the global population increases, perhaps someday more people will consider sitting down for a meal of crickets and worms.

b. One reason insects make a good food source is that consuming them produces much less waste than eating meat or fish.

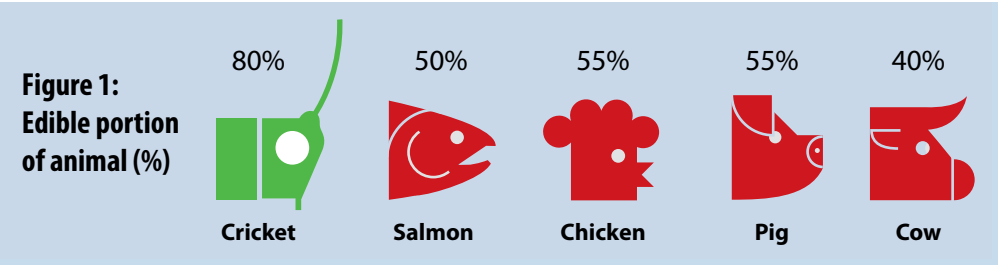
c. As illustrated in Figure 2, crickets have as much protein as salmon, chickens, and cows.

A

Does a meal of fried crickets and marinated worms sound tasty to you? While insects are already a desirable source of protein in some parts of the world, they are not very popular worldwide. However, there are good reasons for eating insects instead of meat and fish.

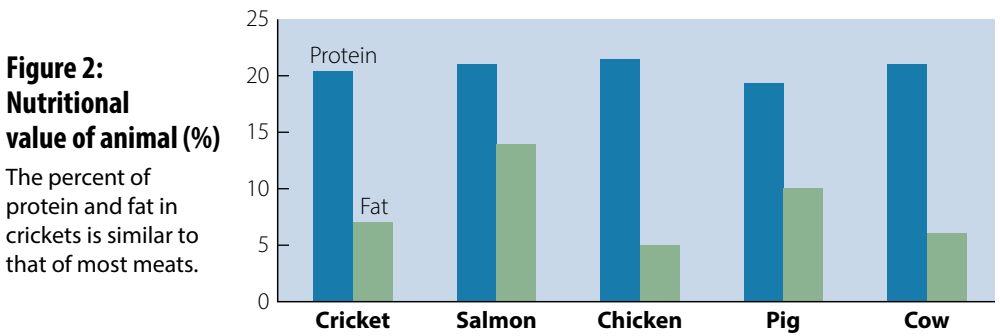
B

\_\_\_\_\_ When we eat chicken or beef, we generally only eat the muscles and throw away the rest. As Figure 1 shows, the majority of a cricket's body can be used as food—only one-fifth is wasted. Conversely, with most other protein sources, such as fish, chicken, and cattle, much more of the animal is wasted. Only about half of a salmon or a chicken is used as food, and less than half of a cow is consumed. This means the majority of the animal's body is thrown away.



C

Another reason we should eat insects is that they are packed with nutrition. Many insects are rich in protein. \_\_\_\_\_ They also contain much less fat, making them a healthy choice. In addition, insects such as crickets are a good source of vitamins and minerals. They have 10 times as much vitamin B<sub>12</sub> as salmon, almost five times as much magnesium as beef, and more calcium than milk.



D

It's clear that there are benefits to replacing meat and fish with insects. In addition to being less wasteful and equally nutritious, insects are available all over the world and they reproduce rapidly. \_\_\_\_\_

FIRST DRAFT

- C** Use the information in the outline to write a first draft of your essay.



**D** Now use the questions below to revise your essay.

- ☐ Does your thesis statement clearly state your position on the issue?
- ☐ Did you include enough facts and data to support your reasons?
- ☐ Do you have at least one infographic to support your reasons?
- ☐ Does your concluding paragraph have a summary statement?

**EDITING PRACTICE**

Read the information below.

When describing visual data, remember to:

- use a comma before or after phrases that include *as* (e.g., *As Figure 2 shows*, ...).
- capitalize the “F” in “Figure” when referring to specific graphs or diagrams.
- make sure there is a noun-verb agreement after expressions describing quantity (e.g., *a third of*, *a quarter of*, *a majority of*, etc.).

Correct one mistake with language for describing visual data in each of the sentences (1–5).

1. Much of the animal is wasted: less than half are used for food.
2. A quarter of people spends more than four hours a day online.
3. As figure 1 illustrates, approximately a third of the animal is wasted.
4. Two-fifths of the students studies in the school library.
5. As Figure 3 shows more than half of the class prefers to use their phones to take notes.

**E** Follow these steps to write a final draft.

1. Check your revised draft for mistakes with describing visual data.
2. Now use the checklist on page 253 to write a final draft. Make any other necessary changes.

**UNIT REVIEW**

Answer the following questions.

1. What are two things that designers should keep in mind when they create infographics?

2. What are some concession words and phrases that signal counterarguments?

3. Do you remember the meanings of these words? Check (✓) the ones you know. Look back at the unit and review the ones you don’t know.

Reading 1:

- ☐ convey
- ☐ deliberately
- ☐ downside
- ☐ faulty
- ☐ interpret AWL
- ☐ misleading
- ☐ neutral AWL
- ☐ objective AWL
- ☐ stand out
- ☐ vision

Reading 2:

- ☐ context AWL
- ☐ emphasize AWL
- ☐ gesture
- ☐ have to do with
- ☐ nevertheless AWL
- ☐ propose
- ☐ publication AWL
- ☐ reliance AWL
- ☐ statistic AWL
- ☐ universal