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Article Type Subject	Issue	Core Competency
advertisement Internet / technology	information	semiotics / expression
Venn diagram animals	global ocean	logical thinking / problem solving
passage culture	multiculturalism	cultural understanding / global understanding
passage with bullet points relationships	security	interpersonal relationship / teamwork
line chart health & body	life	physical and mental wellness / self-advancement
passage with numbers gender equality	gender equality	moral praxis / citizenship
passage health & body	morality	moral praxis / citizenship
line chart education	information	logical thinking / problem solving
passage with numbers culture	information	logical thinking / problem solving
bar chart economy / finance	information / technology	information and technology literacy / media literacy
passage science	information / technology	planning and execution / innovation and adaptation
bar chart economy / finance	international education	logical thinking / problem solving
passage with bullet points science	morality	semiotics / expression
passage with numbers gender equality	human rights	cultural understanding / global understanding
table Internet / technology	information / technology	information and technology literacy / media literacy
passage customs	global ocean	cultural understanding / global understanding
passage geography & places	international education	cultural understanding / global understanding
infographics economy / finance	information	planning and execution / innovation and adaptation
passage with numbers Internet / technology	information / technology	information and technology literacy / media literacy
passage gender equality	gender equality	moral praxis / citizenship

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Article Type Subject	Issue	Core Competency
table food	life	physical and mental wellness / self-advancement
passage with numbers science	technology	logical thinking / problem solving
passage Internet / technology	technology	information and technology literacy / media literacy
passage culture	global ocean	cultural understanding / global understanding
passage psychology	information / life	physical and mental wellness / self-advancement
timeline Internet / technology	technology	information and technology literacy / media literacy
passage with numbers environment & conservation	environment	logical thinking / problem solving
passage with numbers society	career planning	logical thinking / problem solving
bar chart gender equality	gender equality	moral praxis / citizenship
book foreword animals	outdoor education	physical and mental wellness / self-advancement
passage geography & places	environment	cultural understanding / global understanding
passage science	morality	moral praxis / citizenship
scatter plot environment & conservation	environment	moral praxis / citizenship
passage with bullet points psychology	life	interpersonal relationship / teamwork
magazine article travel / famous or interesting places	outdoor education	physical and mental wellness / self-advancement
passage animals	global ocean	planning and execution / innovation and adaptation
line chart transportation / economy / finance	international education	planning and execution / innovation and adaptation
passage with bullet points safety	security	logical thinking / problem solving
website career	career planning	physical and mental wellness / self-advancement
passage animals	environment	planning and execution / innovation and adaptation

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53	Life After Death	p. 220
54	Left, Right, or Somewhere in the Middle?	p. 224
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57	Natural ñenius	p. 236
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Article Type Subject	Issue	Core Competency
line chart environment & conservation	international education / environment	moral praxis / citizenship
passage arts & literature	multiculturalism	cultural understanding / global understanding
passage science	technology	logical thinking / problem solving
pie chart education	family education	logical thinking / problem solving
passage health & body	life	physical and mental wellness / self-advancement
passage plants	environment	planning and execution / innovation and adaptation
passage with numbers language & communication	multiculturalism	cultural understanding / global understanding
pie chart food	morality	moral praxis / citizenship
passage with numbers fun fact / phenomenon / psychology	information	information and technology literacy / media literacy
column psychology	life	physical and mental wellness / self-advancement
line chart gender equality	gender equality	moral praxis / citizenship
passage plants	environment	physical and mental wellness / self-advancement
passage science	life	physical and mental wellness / self-advancement
spectrum politics / laws	rule of law	moral praxis / citizenship
passage science	life	physical and mental wellness / self-advancement
passage with numbers Internet / technology	information / technology	planning and execution / innovation and adaptation
magazine article architecture	technology	planning and execution / innovation and adaptation
flow chart environment & conservation	environment	moral praxis / citizenship
passage with numbers sports	multiculturalism	cultural understanding / global understanding
passage with numbers culture	life	cultural understanding / global understanding

How to Use This Book?

1 The wide variety of topics maintain readers' interest while broadening their knowledge.

UNIT 13 Environment & Conservation

33 An Unusual Summer

Extreme heat waves can destroy crops, causing economic loss for farmers.

Western Canada and the Northwestern United States are areas known for their cold, wet climates. However, in the summer of 2021, these areas were hit by an extreme heat wave. It was so intense that it caused cables to melt, the road surface to deform, and car windows to shatter. Hundreds of people died due to the effects of the extreme heat.

Starting in late June and lasting to mid-July, the heat wave set new records for the hottest temperature recorded in many areas. The village of Lytton in British Columbia recorded a high of 49.6 degrees Celsius, the highest temperature ever recorded in Canada. Previously, the temperature in Canada had not exceeded 45 degrees Celsius. The city of Portland, in the US state of Oregon, recorded record-breaking temperatures for three days in a row (as shown in the graph below).

The 100 Hottest Days in Portland, Oregon, From 1940 to Mid-2021

Source: Portland International Airport weather station data, NOAA

Environment Conservation

UNIT 13 Internet / Technology

23 A Parallel Universe

Mark Zuckerberg introduced the social media giant Facebook as Meta.

In October 2021, the social media giant Facebook was rebranded as Meta. Founder Mark Zuckerberg explained the name as being a sign of the company's commitment to realizing the "metaverse". Suddenly the question on everyone's lips was "What on earth is the metaverse?"

The term was first coined back in 1992 by science-fiction author Neal Stephenson in his novel *Snow Crash*. In the novel, the Metaverse is the successor to the Internet. It is a virtual reality world populated by digital versions of its users. Today, virtual reality, augmented reality, and interactive online spaces are a reality. The idea of a functioning metaverse is no longer a concept resigned to the pages of a sci-fi novel. Soon enough, by combining aspects of social media, online gaming, augmented reality, and virtual reality, the Internet may well evolve into such an immersive digital reality.

According to Zuckerberg, in a future where the metaverse is a reality "you'll be able to do almost anything you can imagine." You'll be able to "get together with friends and family, work, learn, play, shop, create... In this

The metaverse is likely to be far more transformative for everyone's life than the Internet.

Internet Technology

UNIT 08 Education

8 Hacking Human Memory

It isn't frustrating when you learn something in class only to find that you've almost completely forgotten it in just a few days? No matter how hard you pay attention while learning the thing, inevitably it disappears over time. The 19th century German psychologist Hermann Ebbinghaus evidently felt the same way, as he resolved to research the matter. Thanks to him, we now have a reliable way to hack our memories so that facts you learn actually stick.

To figure out the mechanisms of memory, Ebbinghaus performed some experiments. He gave himself a list of nonsense syllables to learn and tried to recall them after increasingly longer periods of time. He found that, without review, our recollection of learned facts gradually declines as more time elapses. This can be visualized in what is known as the "forgetting curve" (see below).

The Forgetting Curve

Source: Hermann Ebbinghaus (1850-1909)

Education

2 Many articles include examples of reference sources and visual materials, which provide additional information relevant to the main text.

UNIT 14 Food

48 Such a Waste!

Developed countries are where the problem of food waste is most prevalent.

What percentage of the food produced globally do you think goes to waste each year? Five percent? Ten percent? In fact, it is over 30%! That is 1.3 billion tons, most of it perfectly edible. Think about all the people starving in the world and then look at that figure again. It boggles your mind, doesn't it? According to a United Nations report, if just 25% of that wasted food were saved, world hunger could be made a thing of the past.

The worst offenders when it comes to food waste are developed countries such as the United States. The chart below shows just how much of each food category is typically wasted. Wasting so much food doesn't

Food Waste, by Category
Estimated Amount of Food Waste in the U.S.

Pie chart

UNIT 13 Internet / Technology

1 Keeping a Daily Record

Daily Thoughts Diary App

The Daily Thoughts Diary App is the most popular and user-friendly diary app on the market. It's available now for all smartphones and tablet operating systems!

Why use the Daily Thoughts Diary App?

- Record all your most personal daily thoughts and experiences in a private environment. The password protection feature will help keep your secrets safe from prying eyes.
- Never worry about losing your diary entries! The Daily Thoughts Diary App will sync all entries to the cloud, so you can access them even if you've lost or damaged your mobile device. You can also write in the app off-line and sync the next time you get a connection. This way you can write your entries anytime, anywhere.
- Lots of personalization tools help you decorate the Daily Thoughts Diary App according to your personality. You can add stickers and change the background color and fonts. This way your diary will feel unique to you!
- Find your most important entries easily. There's no need to scroll back through hundreds of pages. The app's tagging and keywords tools make it easy to find the significant days in your life. Tags include: "Birthdays," "Friendship Moments," "School Successes," "Best Day of the Month," and many more.

Advertisement

UNIT 14 Environment & Conservation

58 Locking Up CO₂ for Good

Carbon Capture Flowchart

CAPTURE
CO₂ is captured from a power station/industrial plant before it is released into the atmosphere.

TRANSPORTATION
The CO₂ is processed and compressed before being transported via pipeline, ship, or truck.

STORAGE
The CO₂ is piped underground and injected into geological formations.

UTILIZATION
The CO₂ can be used for agricultural purposes or to produce products such as dry ice, building materials, fuels, and useful chemicals.

Reducing CO₂ emissions is absolutely vital in the fight against global warming. Currently, global annual CO₂ emissions stand at around 35 billion tons—an increase of around 10 billion since 2000. Power generation and heavy industry are major contributors to this figure. Now, there is a method that can be used to drastically reduce the amount of CO₂ that these processes release into the atmosphere. It is called carbon capture, and it is so promising that in 2020, the United States Department of Energy awarded \$72 million in funding to support its development.

Carbon capture is a three-step process. This process is detailed in the flowchart.

Flow chart

3

Each article is followed by five comprehension questions and a vocabulary practice in order to test readers' understanding of the text.

Reading Comprehension

UNIT 43
QUESTIONS

1. What is this passage about?
(A) The childhood of René Laënnec.
(B) Why the stethoscope is the most important medical tool.
(C) How René Laënnec invented the stethoscope.
(D) Ways to listen to the heart and lungs.

2. Write a sentence from the second paragraph that explains why Laënnec invented the stethoscope. Copy the whole sentence.

3. What does the proverb "necessity is the mother of invention" most likely mean?
(A) New inventions can save us from embarrassing situations.
(B) When we really need to do something, we find a way to do it.
(C) Most inventions are made by women, not men.
(D) Physicians are the best inventors of medical devices.

4. Use words and phrases from the passage to complete the following paragraph.

Laënnec wanted to avoid the (1) _____ of placing his ear against women's bodies to listen to their heart and chest. A game played by (2) _____ inspired him to invent the first stethoscope. The first version of the stethoscope was not made with (3) _____ like the modern versions used today. Laënnec used his invention to research diseases like (4) _____.

5. Mark the following statements **T** (true), **F** (false), or **NG** (information not given).

Statement	T / F / NG
(1) Laënnec could hear a woman's heartbeat better with a tube of paper than placing his ear on her chest.	
(2) Stethoscopes are used on both humans and animals.	
(3) Some physicians now use electronic stethoscopes.	
(4) Laënnec's original design of the stethoscope is the same design medical professionals use today.	
(5) The word "stethoscope" comes from two French words.	

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Multiple choice

Short answer

Multiple choice

Short answer

True/False

Vocabulary Practice

UNIT 2
VOCABULARY PRACTICE

A MATCHING

Match the beginnings of sentences on the left with the endings on the right.

1. Sharks and lobsters	(A) she has become a little chubby.
2. Clare took the doorknob	(B) inhabit ponds and rivers.
3. Frogs and trout	(C) and rear of the airplane.
4. Since Lisa started eating more,	(D) she started on the external ones.
5. It is easy to spot her in a crowd,	(E) are marine animals.
6. There are toilets in the front	(F) characteristics of mammals.
7. Once she had painted the walls inside the house,	(G) as she has a very distinct haircut.
8. Hair and warm blood are	(H) and rotated it to the left.

B COMPLETION

Complete the sentences with the words below and change their forms when necessary.

illustrate	species	layer	breed
conserve	downwards	patch	refer

1. Tigers need a large area in which to live, hunt, and _____. Without that, they could be in danger of becoming extinct.

2. This particular area of coral reef has over one thousand different _____ of fish as well as numerous kinds of sea turtles.

3. To protect the planet from climate change, it is important to both _____ resources and use sustainable energy.

4. That cake was made in alternating _____ of cake, cream, and different kinds of fruit placed on top of each other.

5. After realizing she was too high, Mindy decided to climb _____ a little way until she felt safer.

6. When Peter talks about his father, he often _____ to him by his name rather than calling him Dad.

7. There is a red _____ of skin on my back where it got burned by the sun at the beach.

8. During the meeting, Ken used a few graphs to _____ his point about the sales team not meeting its targets.

Part A Matching

Part B Completion

Keeping a Daily Record



Daily Thoughts Diary App

The Daily Thoughts Diary App is the most popular and user-friendly diary app on the market. It's available now for all smartphone and tablet operating systems!

FREE VERSION



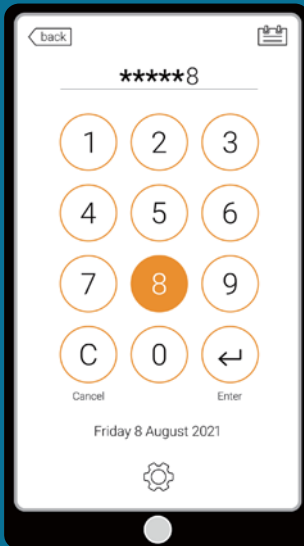
PRO VERSION – \$3.99



Why use the Daily Thoughts Diary App?

- 1 • Record all your most personal daily thoughts and experiences in a private environment. The password protection feature will help keep your secrets safe from prying eyes.
- 2 • Never worry about losing your diary entries! The Daily Thoughts Diary App will sync all entries to the cloud, so you can access them even if you've lost or damaged your mobile device. You can also write in the app off-line and sync the next time you get a connection. This way, you can write your entries anytime, anywhere.
- 3 • Lots of personalization tools help you decorate the Daily Thoughts Diary App according to your personality. You can add stickers and change the background color and fonts. This way your diary will feel unique to you!
- 4 • Find your most important entries easily. There's no need to scroll back through hundreds of pages. The app's tagging and keywords tools make it easy to find the significant days in your life. Tags include "Birthdays," "Friendship Moments," "School Successes," "Best Day of the Month," and many more.

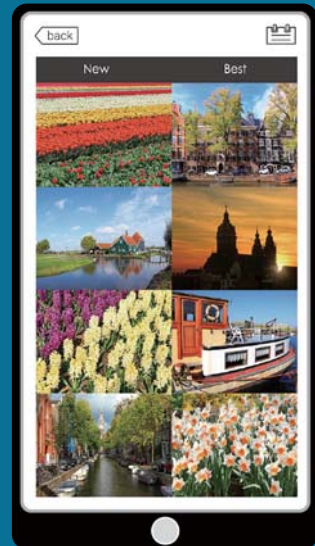
Password Protection to Keep Your Diary Safe



Import Information From Your Calendar App



Import Photos and Other Media



UNIT

1 2 3 4 5 6 7 8 9 10 11 12

Here are some of the app's amazing features.

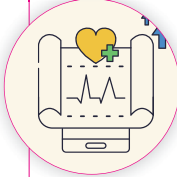
Free version (ad-supported)



Daily reminders
prompting you to write
so you keep up the habit



Night mode so you
can read and write
comfortably in the dark



Import information
from your weather,
calendar, and fitness apps

Pro version (\$3.99)



**More than 50
customizable themes** to
liven up your diary's look



No ads so you don't get
distracted while writing



**Import photos and other
media** so you can make each
entry as rich as possible



Export your diary as a
Word or PDF file so you can
keep your diary backed-up

Download the **Daily Thoughts Diary App** today and keep your diary
with you wherever you go!

1. What form does the passage take?

- (A) A review. (B) An invitation. (C) An advertisement. (D) A report.

2. Which phrase in the passage means “people who want to know your private business”?

3. Read the following people’s requirements for a diary app. Which features offered by the Daily Thoughts Diary App fulfil those requirements?

Person	Requirement	Relevant Feature
Liam	Likes to write in his diary after lights out, but doesn’t want to damage his eyes.	The app’s _____.
Tony	Likes to re-read his favorite entries often, so needs to be able to find them easily.	The app’s _____.
Maya	Wants peace of mind that if she breaks her phone, she won’t lose her diary.	The app’s ability to _____.

4. Read Laura’s review of the app.

Laura, London



What a terrific app! I love the daily reminders that help me remember to write. And I love being able to add videos of my cats to my entries. It’s such a cool feature!

What version of the app does Laura most likely have?

5. What is the author’s purpose in the final line? (Download the **Daily Thoughts Diary App** today and keep your diary with you wherever you go!)

- (A) To emphasize how cheap the app is.
 (B) To emphasize how convenient the app is.
 (C) To emphasize how cool the app is.
 (D) To emphasize how new the app is.

VOCABULARY PRACTICE

A AT

Match the words or phrases on the left with their definitions on the right.

- | | |
|---------------------|---|
| _____ 1. import | (A) something that causes someone to remember something |
| _____ 2. back up | (B) a written or electronic piece of information |
| _____ 3. tablet | (C) a flat electronic device, midway between a smartphone and a notebook computer |
| _____ 4. version | (D) to continue doing something |
| _____ 5. reminder | (E) to make a copy of information on your computer |
| _____ 6. entry | (F) to load images or other files from another source |
| _____ 7. distracted | (G) a form of something that is different from other forms of that thing |
| _____ 8. keep up | (H) unable to concentrate |

B COMPLETION

Complete the sentences with the words below and change their forms when necessary.

□□□□ □□	significant	□□□□ □	□□□□□□
□□□□□□□□	□□	□ □□□	□□□□□

- Every time James wakes up on Saturday mornings, he stays in bed and ends up _____ through social media until noon.
- Many people like to modify their social media pages with different _____, which change the colors and pictures that are visible.
- Vicky felt upset because she was the only person not _____ in the photos taken during the school trip.
- Although he had enjoyed many important achievements in his life, he felt that winning the Nobel Prize was the most _____.
- The thought of a polluted planet filled with plastic waste _____ my mother to bring a reusable cup everywhere she goes.
- The park was beautifully _____ with all kinds of colorful lanterns, and at night it attracted lots of visitors.
- When Nancy switched to a new smartphone, she forgot to _____ the chat history in her old one, so now she is unable to retrieve it.
- Throughout history, various _____ of communication have been developed, affecting how we interact.

2

A Flipper-Footed Family

1?

The pinnipeds are a group of mammals that includes seals, sea lions, and walruses. The word “pinniped” means flipper-footed and refers to the fact that these mammals all have front and rear flippers instead of arms and legs. Unlike other marine mammals such as dolphins and whales, **these mammals** are also able to spend long periods of time on land.

2?

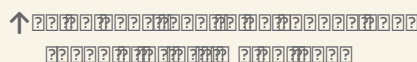
In addition to flippers, all pinnipeds have long streamlined bodies that allow them to swim through the water efficiently. They also subsist on a diet of fish, squid, and shellfish, regularly diving for long periods in order to hunt. Often inhabiting cold environments, pinnipeds are naturally quite chubby. Beneath their skin is a thick layer of fat, known as **blubber**, which not only helps them conserve heat but also helps them stay afloat.

2?

So how to tell pinnipeds apart? Walruses are by far the easiest to distinguish as they are larger than most other pinnipeds and furless. But even more distinctive are their long tusks, which protrude downwards from their upper jaws. Seals and sea lions, however, are far more similar in appearance, but they can still be easily told apart as the Venn diagram on the next page illustrates.



↓ Pinnipeds, such as seals and sea lions, have front and rear flippers instead of arms and legs.



- No external ears, just holes
- Short, fur-covered front flippers with long claws
- Hind flippers point out and away from the body.
- Fur can be patterned with spots, rings, or patches.
- Communicate through soft grunts



- Small, visible external ears
- Long, skin-covered front flippers with short claws
- Hind flippers can rotate under the body, used for "walking" on land.
- Fur is not patterned.
- Communicate through loud barking and bellowing



?

Unfortunately, as many pinniped species depend on floating ice to rest on and breed, global warming poses a serious danger for them. Indeed, as things stand, their future survival in the wild remains highly uncertain. It is a real possibility that these charming creatures might soon be lost to us forever. What a terrible tragedy that would be.



_____ What is the passage mainly composed of?

- (A) A series of facts.
- (B) A series of steps in a process.
- (C) A series of events.
- (D) A series of problems and solutions.

What does the author mean by the phrase "the first paragraph"?

In the second paragraph, the author mentions two functions of blubber. What are they?

Blubber helps pinnipeds (1) _____ and (2) _____.

Joan is at the sea park. She hears loud barking noises coming from one enclosure. She guesses that she is approaching a seal enclosure. Is she correct?

☐ Yes ☐ No

Why? Provide evidence from the Venn diagram.

Because seals _____

_____ What is the author's tone in the final paragraph?

- (A) Optimistic.
- (B) Suspicious.
- (C) Concerned.
- (D) Enthusiastic.