# 1 Design

## DISCUSSION POINT

**Work with a partner. Discuss the questions.**

1 Which of the 10 principles are the most, and least, important?
2 Think of a product you use every day. Does it follow the principles of Dieter Rams?
3 Do you think about design or price when you shop for a new product?

## GLOSSARY

**aesthetic (adj)** attractive or beautiful to look at

**innovative (adj)** new and original

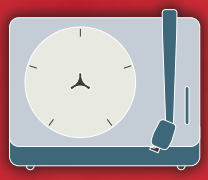
**principle (n)** a basic belief or idea that affects how something is done

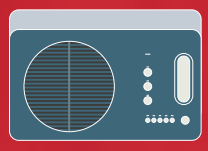
**thorough (adj)** complete; not missing any necessary parts or details

**unobtrusive (adj)** not attracting too much attention

## Dieter Rams'
*10 principles of good design*







### *Good design…*

1 is innovative
2 makes a product useful
3 is aesthetic
4 makes a product understandable
5 is unobtrusive
6 is honest
7 is long-lasting
8 is thorough down to the last detail
9 is environmentally friendly
10 is as little design as possible




A VIRTUAL FUTURE?

## BEFORE YOU WATCH

**1 Complete the sentences with the words below.**

gadget gimmicky headsets kit

1 VR (Virtual Reality) is _____ and expensive.
2 All VR _____ are heavy and uncomfortable.
3 VR is the must-have _____ of this generation.
4 VR requires far too much _____.

**2 Work with a partner. Do you agree with the sentences in Exercise 1? Why / why not?**

FREE SAMPLE

# UNIT AIMS

**LISTENING 1** Inferring from context
**LISTENING 2** Listening for key terms and definitions
**ACADEMIC SKILL** Reiterating other people's ideas

**VOCABULARY** Design vocabulary
**GRAMMAR** *Wish* when referring to present or future time
**SPEAKING** Talking about problems and solutions



A group of Fender American Performer Series electric guitars

## WHILE YOU WATCH

**Watch the video and choose *T* (True) or *F* (False).**

1 People travel to the Mobile World Congress in Spain to take part in an e-sports competition. T / F
2 Antonio Muñoz is at the event to present a new VR headset. T / F
3 The default sales kit includes one base station. T / F
4 Antonio Muñoz believes his VR headset is worth the money. T / F
5 Rob Kerr says that VR lets people have experiences that would be impossible without it. T / F

## AFTER YOU WATCH

**Work with a partner. Discuss the questions.**

1 Would you enjoy attending a technology show such as the Mobile World Congress? Why / why not?
2 What kind of games would you like to try? What virtual worlds would you like to visit?
3 What other uses could VR equipment have?

FREE SAMPLE

# PRINCIPLES OF GOOD DESIGN

## A VOCABULARY PREVIEW

**1 Match the words in bold with the correct definitions.**

| | | | |
|---|---|---|---|
| 1 | **come up with** (phr v) | **a** | to find the size, weight, or amount of something |
| 2 | **complex** (adj) | **b** | to be able to understand something or solve a problem |
| 3 | **device** (n) | **c** | to use or control a piece of equipment |
| 4 | **features** (n) | **d** | a machine or piece of equipment used for a specific purpose |
| 5 | **figure out** (phr v) | **e** | designed to be good at a doing a particular job |
| 6 | **functional** (adj) | **f** | involving lots of details or small parts that make it difficult to understand |
| 7 | **measure** (v) | **g** | to think of an idea, plan, or solution |
| 8 | **operate** (v) | **h** | important parts or pieces of something |

**2 Complete the sentences with the words in bold from Exercise 1.**

1 Good design should be simple, never too _____.
2 It's important for any mobile _____ to be attractive and easy to use.
3 If you can't _____ how something works, it's badly designed.
4 Today's cell phones have too many hidden _____.
5 Working in a group is the best way to invent products and _____ new ideas.
6 There is no easy way to _____ the success of a product's design.
7 You shouldn't need instructions to _____ new technology.
8 Buy products because they're _____, not because they look good.

**3 Work with a partner. Which sentences in Exercise 2 do you agree with, and why?**

## B BEFORE YOU LISTEN

Activating prior knowledge

**Look at the pictures of everyday objects. Do you think they are well-designed? Why / why not?**



Norman door



measuring jug



Braun calculator



coffee machine

FREE SAMPLE

## C GLOBAL LISTENING

**1** 1.1 **Listen to *Principles of good design,* and number the products in the order they are mentioned.**

| | |
|---|---|
| ____ measuring jugs | ____ coffee machines |
| ____ the Braun calculator | ____ microwaves |
| ____ TV remotes | ____ Norman doors |

**2** 1.1 **Listen to *Principles of good design* again, and choose the correct option to complete the sentences.**

1 Dieter Rams was a German ...
- **a** engineer.
- **b** scientist.
- **c** designer.

2 The Braun calculator is given as an example of ...
- **a** a poorly designed product.
- **b** a product designed by Rams.
- **c** a product that was designed in the 1970s.

3 Don Norman believes doors ...
- **a** shouldn't need written instructions.
- **b** should always have "push" and "pull" written on them.
- **c** should all have vertical handles.

4 Marta thinks her coffee machine ...
- **a** is simple, and easy to use.
- **b** is difficult to operate.
- **c** doesn't need such a complicated instruction manual.

5 Marta chooses to evaluate ... for her assignment.
- **a** a TV remote
- **b** a coffee machine
- **c** a measuring jug

Listening for text organization

### GLOSSARY

**evaluate (v)** to think carefully about something to decide how good or bad it is

**pioneer (v)** to do something for the first time

**vertical (adj)** standing or pointing up and down, not side to side

FREE SAMPLE

## D CLOSE LISTENING

Inferring from context

**Inferring** is the process of drawing conclusions based on information that is implied, but not said directly. By listening for **clues**—the speaker's or speakers' words and tone of voice, as well as your knowledge of the world—you can make inferences about the conversation.

The following are common types of inference questions in exams:

*Who are the speakers?*
*What are they talking about?*
*How does the speaker probably feel about ... ?*
*What did the speaker mean by ... ?*
*Why did the speaker say ... ?*
*What can you conclude about ... ?*
*It can be inferred that ...*

**1.1 Listen to *Principles of good design* again. Answer the questions.**

1 We can infer that the Braun calculator ...
- **a** is complicated.
- **b** has unnecessary features.
- **c** has a simple design.
- **d** is no longer in production.

2 We can infer that Don Norman ...
- **a** thinks designers can ignore the user of their products.
- **b** thinks doors are usually badly designed.
- **c** is interested in everyday items being simple to use.
- **d** thinks products should clearly state how they should be used.

3 Marta's kitchen jug was designed to be most useful for ...
- **a** holding dry food.
- **b** mixing powders.
- **c** measuring hot liquids.
- **d** displaying in the kitchen.

4 What can we infer about Marta?
- **a** She is a fast learner.
- **b** She admires her father's understanding of technology.
- **c** She is lazy.
- **d** She lives in university accommodation.

## E CRITICAL THINKING

**Work in a group. Discuss the questions.**

1 Have you experienced the problem with doors that Norman describes?
2 How would you design a door that does not require written instructions?
3 How do products in your classroom signal to the user how they should be held, pressed, turned, or moved?

FREE SAMPLE

# ACADEMIC SKILLS

## REITERATING OTHER PEOPLE'S IDEAS

In a discussion, it is useful to mention the ideas that other people have talked about, as well as giving your own ideas. There are several reasons for this:

- It shows that you have listened and understood what other people have said.
- It also shows others that you think their ideas are interesting and valuable.
- It helps other people understand the connection between what you are saying and what was discussed before.

Checking that you have understood what another person has said

*So, if I understand you correctly, you're suggesting that ...*

*Correct me if I'm wrong, but what you're saying is that ...*

Referring to what other people have said

*As John was explaining a moment ago, ...*

*Going back to Zahras's point earlier, ...*

*I completely agree with Abdullah that ...*

**1 Read the exchanges in which one student reiterates what another student has said. Complete the dialogues using the most appropriate phrases (a–d).**

**a** be cheaper in the future

**b** be terrible for the environment

**c** make children less creative

**d** decide which children could become great designers as adults.

**1** Student A: Imagine that all cars could travel on water as well as roads.

Student B: That would be fun but just think of all the additional resources to manufacture it, plus the extra energy it would use.

Student A: OK, so **correct me if I'm wrong, but what you're suggesting is** that manufacturing water-cars would _____. Is that right?

**2** Student A: I think that because children are creative, they are natural designers. But the ideas that schools focus on make them lose that creativity.

Student B: So, **if I understand you correctly, you're suggesting that schools** _____. Is that what you're saying?

**2 Work with a partner. Student A: speak for 20 seconds about one of the ideas below. You can argue for or against the idea. Student B, reiterate what your partner said using one of the phrases above.**

**1** Cars should be designed so that they can fly.

**2** Children should learn different types of design from a young age.

**3** We should honor designers in the way we honor other celebrities.



FREE SAMPLE

# THE REALITIES OF DESIGN

## A VOCABULARY PREVIEW

**1 Match the sentence halves to show the meaning of the words in bold.**

1 **Artificial** leather is much cheaper ...
2 **Computer-generated** imagery ...
3 **Feedback** on the new game ...
4 The program allows designers to **layer** text ...
5 People may see a **similarity** between the new design ...
6 Engineers used a computer **simulation** ...
7 Students build real **three-dimensional** models to ...
8 Laurence has agreed to **train** ...

**a** over the image.
**b** and the old one.
**c** than the real thing.
**d** explain their design.
**e** the new web designer.
**f** has generally been very positive.
**g** (CGI) has been common in movies for years.
**h** to demonstrate what the new aircraft would look like.

**2 Match the words in bold from Exercise 1 with the correct definitions.**

1 _____ (adj) having length, width, and depth
2 _____ (adj) created by a computer program
3 _____ (adj) made by people; not natural
4 _____ (v) to put one thing on top of another
5 _____ (n) the fact that two things are like each other
6 _____ (v) teach someone how to do a particular job or activity
7 _____ (n) a situation or activity in which people pretend that something is real
8 _____ (n) comments about how good something is, so that improvements can be made



Activating prior knowledge

## B BEFORE YOU LISTEN

**Work with a partner. Discuss the questions.**

1 What are the people in the picture doing?
2 How do you think the equipment the people are using is helping?

FREE SAMPLE

## C GLOBAL LISTENING

**1** 1.2 **Listen to *The realities of design*. Number the six topics in the order the speaker mentions them.**

**a** whether or not the story is true ____
**b** the importance of getting the client's reaction ____
**c** what the talk is about ____
**d** a story about an unsuccessful design ____
**e** how technology can enable people to understand architects' designs ____
**f** why architects' designs can sometimes be confusing for people ____

**2** **Identify which image (A or B) illustrates Luke's explanation of virtual reality.**

Virtual reality could just be computer-generated images to show a client what a building will look like. Or complete simulations the clients see with a virtual reality headset, experiencing three-dimensional views of the building as they move through it.







FREE SAMPLE

## D CLOSE LISTENING

Listening for key terms and definitions

Good speakers often provide definitions of key terms in order to help listeners follow the content of their presentation. English has many ways of signaling a definition. For example:

(Note: X = the term that is being defined)

| | |
|---|---|
| *By X, I mean ...* | *When I say X, what I mean is ...* |
| *X can be defined as ...* | *in other words ...* |
| *The definition of X is ...* | *what this means is ...* |

**1** 1.3 **Listen to an extract from *The realities of design*. Complete the definitions by writing one word in each blank.**

1 I want to talk to you about a golden rule of design, and _____ that I _____ a principle that's so important that it applies to all creative professionals.

2 It's most likely an urban myth, that is to _____, it's one of those stories that no one can really verify.

3 And it may be that the end product, in other _____, the final design, looks absolutely nothing like how the initial design did.

4 A floor plan can be _____ as a diagram, showing all the areas of the floor of a building from above.

5 When I _____ layering in the context of AR, _____ I mean is adding an image of something that doesn't exist onto something else that already does.

**2** 1.2 **Listen to *The realities of design* again. Choose *T* (true) or *F* (false) for the following statements.**

1 Luke's golden rule applies to different kinds of designers. T / F

2 In Luke's story, the client and architect worked together at all stages of the house design. T / F

3 Luke uses the story as a warning about the dangers of poor communication. T / F

4 If a design needs to change, this shows that the designer is incompetent. T / F

5 Architects should always show their clients technical drawings, such as plans. T / F

6 Luke is positive about how AR and VR can help both designers and clients. T / F




## E CRITICAL THINKING

**Work with a partner. Suggest three designed objects which VR (virtual reality) or AR (augmented reality) could help people envisage and understand.**

FREE SAMPLE

# CRITICAL THINKING

## Developing and applying evaluation standards

Creating and applying a clear set of standards can help you logically evaluate anything from products to arguments.

For example, think about when you were choosing your current phone. You probably asked yourself questions like—Is it good value for money? Does it have all of the features I want?

This approach could equally be applied to an argument—Does the speaker provide sufficient evidence? Are the sources reliable? Is their conclusion logical?

Taking this methodical approach to evaluation is a simple way to think critically about ideas you're presented with.

**1 Work with a partner. Look back at *Principles of good design* on page 11. Discuss the questions.**

1 What do each of the principles mean?

2 What do you think Rams used the principles for?

**2 Work with a partner. Discuss which of Rams' principles are most / least important for the following products:**

phone lightbulb car computer shoes

**3 Work in a group. Make a list of five principles you could use to evaluate a house or apartment. Then use these principles to evaluate where you live. According to your standards, who has the best house or apartment?**



An interior view of an apartment in the Corbusier House in Berlin, Germany

FREE SAMPLE

## VOCABULARY DEVELOPMENT

### WORDS TO TALK ABOUT DESIGN

**1 Match the sentence halves to show the meaning of the words in bold.**

| | | | |
|---|---|---|---|
| **1** | Most countries use metric **measurements**, | **a** | that it can be used to make thousands of different things. |
| **2** | Let me talk you through | **b** | when machines were first used to make products in large quantities. |
| **3** | April 22 is Earth Day, when people celebrate our planet, and honor | **c** | that will never go out of fashion. |
| **4** | Plastic is such a **flexible** material | **d** | incredibly clear and bright **images**. |
| **5** | The cameras on the latest phones produce | **e** | but the United States uses "imperial" units like inches and pounds. |
| **6** | The **Industrial** Revolution in the 18th and 19th centuries was the time | **f** | the key **elements** of our design. |
| **7** | The Chanel Suit is a **classic** design | **g** | **environmentally friendly** companies that produce goods without causing pollution. |
| **8** | The first step in the design **process** is defining a need; | **h** | that is, thinking of a product or service that should, but does not yet exist. |

**2 Match the words in bold from Exercise 1 with the correct definitions.**

**1** _____ (n) the size, or amount of something, expressed in numbers, or standard units such as millimeters, or ounces

**2** _____ (adj) connected with the production of goods in factories, especially using machines

**3** _____ (adj) able to change, bend, or move easily; or be used for different purposes

**4** _____ (adj) not harmful to the air, water, earth, etc.

**5** _____ (adj) popular for a very long time because it is very good

**6** _____ (n) a basic part of something

**7** _____ (n) a set of actions done in a particular order for the purpose of making, or doing something

**8** _____ (n) a picture in a magazine, on a computer, etc.

FREE SAMPLE

## ACADEMIC WORDS AND IDIOMS

**1 Match the words and idioms with the correct definitions.**

| | | | |
|---|---|---|---|
| 1 | **alter** (v) | **a** | money that someone earns |
| 2 | **contrast** (n) | **b** | to change |
| 3 | **eventually** (adv) | **c** | seem to be correct |
| 4 | **fly in the face of** (id) | **d** | a large difference |
| 5 | **income** (n) | **e** | to talk, or do things with other people |
| 6 | **extract** (v) | **f** | a thing that replaces another, similar thing |
| 7 | **off the top of my head** (id) | **g** | after a long period of time |
| 8 | **ring true** (id) | **h** | without thinking carefully or checking facts |
| 9 | **status** (n) | **i** | to contradict; to be the opposite of what is expected |
| 10 | **substitute** (n) | **j** | the amount of respect or importance that a person or thing has |
| 11 | **interact** (v) | **k** | to remove something from a particular place |

**2 Complete the sentences with the words and idioms from Exercise 1. Change the form if necessary.**

1 Once I form an opinion, or belief, it is very hard for me to _____ my thinking.

2 I love shoes with colors that have a lot of _____, such as black and white, or red and yellow.

3 _____, after I finish my education, I would like to have a large family.

4 When I'm asked a tricky question, I prefer to try and answer _____, rather than admit I don't actually know.

5 In my chosen profession, most people can expect to earn a decent _____ after they finish their education.

6 I know that this _____ common sense, but I often buy something I don't need simply because the price is reduced!

7 When I travel, I make a great effort to _____ with local people by chatting with them and trying to speak their language.

8 I think that the jobs with the highest _____ are those with the highest pay.

9 If something I read online doesn't _____, I always try and verify whether it's just fake news.

10 I usually don't use real sugar in my coffee. I prefer to use a _____ like sucralose, or aspartame.

11 Scientists have managed to _____ a kilometer of rock from an underwater mountain.

**3 Work with a partner. Which of the sentences in Exercise 2 are true for you?**

### ACADEMIC IDIOMS

#### *FLY IN THE FACE OF*

This idiom is often used to describe a revolutionary new idea. It suggests that this idea was very different to the way other people thought.

*In the 1540s, the Polish scientist Copernicus proved that the Earth goes around the Sun. This **flew in the face of** the accepted idea in those days that the Sun went around the Earth.*

The idiom can sometimes also be used to suggest that you disapprove of an idea.

*The judge's decision to release this dangerous criminal from prison a year early **flies in the face of** justice.*



FREE SAMPLE

## SPEAKING MODEL

You are going to learn about *wish* when it is used to talk about present time, talking about problems and solutions, and using intonation to make declarative statements. You are then going to use these to design a new product in a group.

### A ANALYZE

**Work with a partner. Read the model and answer the questions below.**

**Alex:** Let's start by identifying a problem that needs to be solved. And then we'll try to come up with a product, or process for solving it. Does anyone have an idea?

**Lizzie:** Well, off the top of my head I suppose I could say the rain is a problem. Where I live, it rains a lot, and I always get soaking wet.

**Alex:** That problem has been solved. Get an umbrella.

**Lizzie:** But umbrellas are terribly designed. They're constantly breaking, even when they're brand new. So you need a new one.

**Sevban:** Right, well, throwing away brand new things because they don't work just flies in the face of the whole idea of being environmentally friendly, doesn't it?

**Lizzie:** Definitely. Umbrellas are dangerous too. I wish someone would invent an umbrella that doesn't break, turn inside out in a strong wind, or poke people in the eye.

**Sevban:** What you're saying rings true actually. I often get hit by umbrellas; it's so annoying!

**Lizzie:** And it's a real pain to close most umbrellas. You have to use both hands, and it's hard to fold them up properly.

**Alex:** So, we need to design a safe, resistant umbrella that's easy to close up. Any ideas?

**Lizzie:** I think we could solve the first problem if the umbrella frame were made of plastic instead of aluminum. It's flexible, so the umbrella would bend instead of breaking in the wind. A product like that would be longer-lasting, and much more environmentally friendly.

**Alex:** What about making it easier to close?

**Sevban:** I have an idea. You know how a lot of umbrellas have a button you can push so it opens instantly? What if our umbrella had a button you could press to close it instantly? All we'd need is a simple mechanism ...

**Alex:** You could do it with one hand. That would be really useful.

1 What problem is the group trying to solve?
2 What three issues do the students have with umbrellas?
3 What solutions do they come up with?
4 How do the speakers invite each other to share ideas?
5 What phrases do the speakers use to show their frustration with umbrellas?

### B DISCUSS

**Work with a partner. Discuss the questions.**

1 What other solutions can you think of to solve the problems mentioned?
2 Are there any other ways to avoid getting wet in rain without an umbrella?

FREE SAMPLE

## GRAMMAR

### *Wish* when referring to present or future time

We use *wish* + past simple to talk about things we want to change in the present:

*I wish this coat had pockets.*

*Stella wishes she were a designer.*

We use *wish* + *would / could* + base form to talk about things we want to change in the near future:

*I wish someone would invent a better umbrella.*

*I wish we could find a more environmentally friendly solution.*

**1 Complete the sentences with the correct form of the verb or modal + verb in parentheses.**

1 Today is Tuesday. I wish it _____ (be) Saturday so that I could stay home.

2 I don't have my classmate's number. I wish I _____ (have) it so I could invite her to a party.

3 Rada wishes she _____ (can fly) home for the winter break, but she can't afford to buy a ticket.

4 These shoes hurt my feet. I wish they _____ (be) half a size larger.

5 My neighbors are too noisy. I wish they _____ (move).

6 I'm going to be late to work. I wish the bus _____ (come).

**2 Work with a partner. Answer the questions. Use *wish* in your responses.**

1 Think of an object you use every day. Do you wish you could change, or improve it? How?

2 What career will you have in the future? What career do you wish you could have, or be?

3 Think about the design of your classroom, or school building. What do you wish were different? What do you wish the room or building had?

4 What skill do you wish you had, or what do you wish you knew how to do?

5 Imagine that you had your choice of a personal trainer, a personal chef, or a personal driver. Which one do you wish you had?

6 Do you like the place where you live? Do you wish you lived somewhere else? Explain.

FREE SAMPLE FREE SAMPLE

## SPEAKING SKILL

Talking about problems and solutions

We use the following phrases to talk about problems and solutions:

| Talking about problems | Talking about solutions |
|---|---|
| *One problem is ... The second is ...* | *Why don't we / you ... ?* |
| *The biggest issue is that...* | *How about* verb+*ing?* |
| *The (main / obvious) problem / challenge / difficulty / issue is ...* | *The (best) solution is ...* |
| *I have (several / a lot of) problems with ...* | *I suggest we / you ...* |
| *It's a (big / serious) problem.* | *What if we / you ...* |

**1 Work with a partner. Take turns describing the problems below and suggesting solutions.**

1 You go to bed late, so you have trouble waking up in the morning.

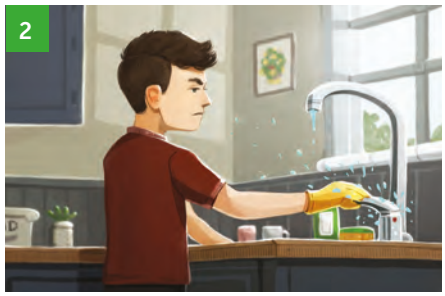
2 You and two friends want to travel from Florida to Toronto together, but can't afford a flight.

3 You only have 30 minutes for lunch, but there aren't any cafés or restaurants nearby.

4 Your city has a growing number of homeless people and no money to house them.

**2 Work in a group. Look at the poorly designed objects. Use language from above to describe or identify the problems. Then suggest one or more solutions.**







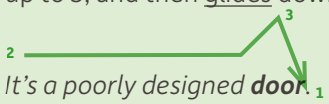
FREE SAMPLE

# PRONUNCIATION FOR SPEAKING

## Using intonation to make declarative statements

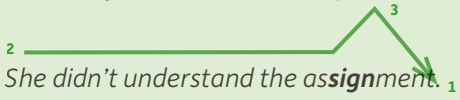
Statements, i.e., sentences that give facts, or information, as opposed to questions, or commands, typically have a "2–3–1" intonation pattern in English. This means the speaker's voice begins on level 2 ("neutral"), jumps up to 3 ("high") on the last stressed syllable, and then steps down to 1 ("low"). There are two specific rules concerning the pronunciation of declarative statements:

**1** If the last stressed syllable is also the last syllable, the speaker's voice jumps up to 3, and then glides down to 1 on that syllable:




*It's a poorly designed **door**.*

**2** If the last stressed syllable is before the last syllable, the voice jumps up to 3 on that syllable, and then steps down to 1:




*She didn't understand the as**sign**ment.*

**1** 1.4 **Listen to the declarative statements. Notice the last stressed syllable. Draw the intonation contours according to the rules above.**

1 The instructions weren't clear.

2 Don Norman is an American designer.

3 The kitchen has a lot of fancy tools.

4 Virtual reality is used to train surgeons.

5 Arachnophobia is a fear of spiders.

6 Someday soon there may be augmented cooking lessons.

**2** **Work with a partner. Choose the last stressed syllable of each statement. Draw the intonation contour. Then practice saying the statement.**

1 I have a real problem with umbrellas.

2 Plastic is flexible.

3 The product is environmentally friendly.

4 I have an idea.

FREE SAMPLE

## SPEAKING TASK

Design and present a new product that solves a problem.

### Brainstorm

Work in a group. Make a list of problems or needs you have encountered in your everyday life or in an area such as the ones below.

| | | | | |
|---|---|---|---|---|
| education | health | entertainment | fashion | communication |
| business | sports | science | media | engineering |

### Plan

Design a product to solve one of the problems you listed in the Brainstorm step. It can be an object, a service, or an AR or VR program. As much as possible, your design should match the criteria for good design. Use drawings or models to help you understand the problem. Don't criticize, but work together to come up with more new ideas.

### Speak

Practice your presentation. Try to answer the following questions in your presentation.

What is the problem?

What are the weaknesses of existing solutions?

What is your new product, and how will it solve the problem?

### Review

Present your product to the class. Speak for two minutes.

### Reflect

Work with a partner. Discuss the questions.

1 How does a well-designed product make our lives easier? In contrast, how does a poorly designed product create problems for us? Give examples.

2 Would you enjoy having a career as a designer? Why / why not?

FREE SAMPLE FREE SAMPLE

## WORDLIST

*** very frequent ** frequent * not frequent

**Vocabulary preview**

artificial (adj) **
come up with (phr v)
complex (adj) ***
computer-generated (adj)
device (n) ***
feature (n) ***
feedback (n) **
figure out (phr v)
functional (adj) **
layer (v) ***
measure (v) ***
operate (v) ***
similarity (n) **
simulation (n) *
three-dimensional (adj)
train (v) ***

**Vocabulary development**

classic (adj) **
element (n) ***
environmentally friendly (adj)
flexible (adj) **
image (n) ***
industrial (adj) ***
measurement (n) **
process (n) ***

**Academic words and idioms**

alter (v) **
contrast (n) ***
extract (v) **
eventually (adv) ***
fly in the face of (id)
income (n) ***
interact (v) *
off the top of my head (id)
ring true (id)
status (n) ***
substitute (n) *

## ACADEMIC WORDS AND IDIOMS REVIEW

**Complete the sentences using the words and idioms below.**

altered fly in the face of income off the top of my head ring true substitute

1 In most recipes, milk can be used as a _____ for cream.
2 _____, I'd say the population of London is maybe about 9 million, but I'll have to check that in case I'm wrong.
3 The company hasn't _____ its social media strategy for ten years.
4 Her excuse for not submitting her homework on time simply didn't _____. I think she just forgot!
5 This unusual house built on water _____ conventional house design.
6 Many people find that their _____ rises as they progress in their career.

## UNIT REVIEW

| | |
|---|---|
| Listening 1 | ☐ I can infer meaning from context. |
| Listening 2 | ☐ I can listen for key terms and definitions. |
| Academic skill | ☐ I can reiterate other people's ideas. |
| Vocabulary | ☐ I can use design vocabulary. |
| Grammar | ☐ I can use *wish* when referring to present or future time. |
| Speaking | ☐ I can talk about problems and solutions. |

FREE SAMPLE

SCIENTIFIC AMERICAN

# Spark *creativity*

## with THOMAS EDISON'S NAPPING TECHNIQUE

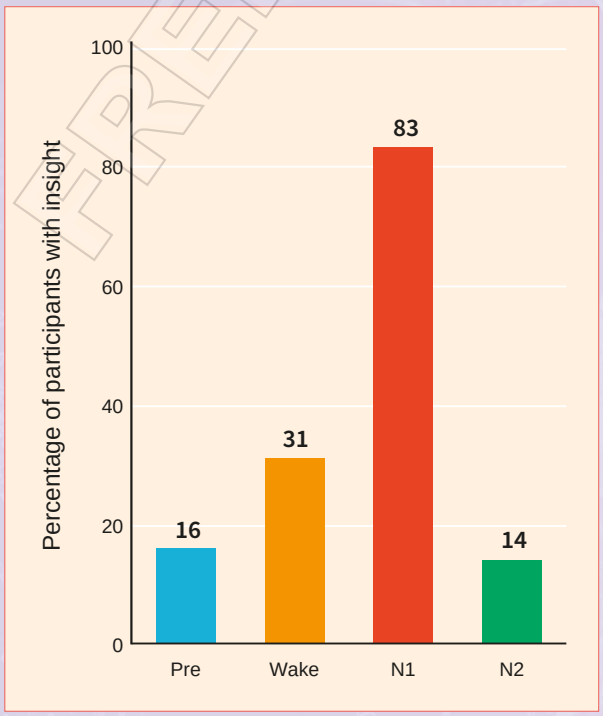
Thomas Edison was famously opposed to sleeping. In an 1889 interview published in *Scientific American*, the inventor of the lightbulb claimed he never slept more than four hours a night. Sleep was, he thought, a waste of time.

Yet Edison may have relied on slumber to spur his creativity. The inventor napped while holding a ball in each hand, presuming that, as he fell asleep, the orbs would fall to the floor and wake him. This way he could remember the sorts of thoughts that come to us as we are nodding off.

Sleep researchers now suggest that Edison might have been on to something. A study published recently in *Science Advances* reports that we have a brief period of creativity and insight just as we begin to drift into sleep, a sleep phase called N1, or nonrapid-eye-movement sleep stage 1. The findings imply that if we can harness that haze between sleep and wakefulness—known as a hypnagogic state—we might recall our bright ideas more easily.

Inspired by Edison, Delphine Oudiette of the Paris Brain Institute and her colleagues presented 103 participants with mathematical problems that had a hidden rule that allowed them to be solved much faster. The 16 people who cracked the clue right away were then excluded from the study. The rest were given a 20-minute break period and asked to relax in a reclined position while holding a bottle in their right hand. If it fell, they were then asked to report what they had been thinking prior to letting go.

Throughout the break, subjects underwent polysomnography, a technology that monitors brain, eye, and muscle activity. This helped to determine which subjects were awake rather than in N1 or if they were in N2—the next, slightly deeper phase of our sleep.




After the break, the study subjects were presented with the math problems again. Those who had dozed into N1 were nearly three times more likely to crack the hidden rule as others who had stayed awake throughout the experiment—and nearly six times more likely to do so as people who had slipped into N2. This "eureka moment," as the authors call it, did not occur immediately. Rather it happened after many subsequent attempts to solve the math problem, which is consistent with previous research on insight and sleep.

FREE SAMPLE

## GLOSSARY

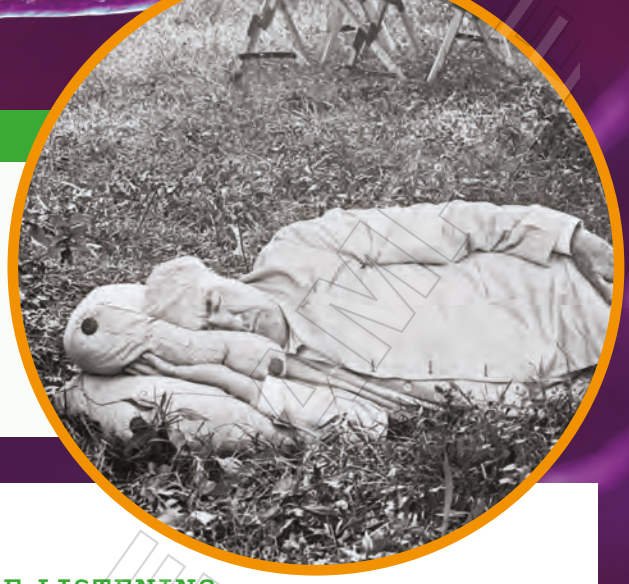
**insight (n)** an idea that helps you to understand something

**nap (n); doze (n)** a short or light sleep

**nod off (v)** fall asleep (often by accident)

**nonrapid-eye-movement (phr)** during sleep, when the eyes are still; compare this to rapid eye movement, when the eyes move quickly from side to side

**slumber (n)** sleep



# INTEGRATED SKILLS

You will read a text about napping and analyze a diagram. You will then hear a short audio related to the topic. There are some questions to help you with language and the main ideas. Finally, you will summarize the points in both texts.

## A CLOSE READING

**Read the *Scientific American* text about napping and look at the diagram. Are the statements *T* (True) or *F* (False)?**

1 Thomas Edison napped with balls in his hands because he thought sleep was a waste of time. T / F

2 Participants in the experiment were told to solve mathematical puzzles while dozing. T / F

3 Polysomnography can detect how deeply somebody is asleep. T / F

4 The research shows that twice as many people have insights when in N1 than awake. T / F

5 The eureka moment usually took place while the participants were in N1. T / F

## B READING ANALYSIS

**Work with a partner. Discuss the diagram. Talk about:**

- the difference in percentage of participants who could solve the puzzle after they dozed into N1 compared with those who solved the puzzle right away.
- the difference in percentage of participants with insight following N2 slumber and those who didn't nod off at all throughout the experiment.

## C CLOSE LISTENING

**1 Listen to a podcast about the same research. Complete the summary with one word in each blank.**

1 Salvador Dali refreshed his mind using a technique called _____ with a _____.

2 He woke up when it fell and clanged on a _____. He believed this technique revived his _____ and psychic being.

3 Delphine Oudiette has great ideas in the zone between _____ and _____.

4 Unlike Dali's technique, in Oudiette's experiment the participants held a plastic _____.

5 Oudiette thinks losing control of your _____ could be helpful for _____.

6 Oudiette would like to teach people to use this creative _____ spot.

## D LISTENING ANALYSIS

**Discuss the questions with a partner.**

1 What information about the experiment was mentioned in the podcast but not the article?

2 What information about the experiment was mentioned in the article but not the podcast?

## E INTEGRATED SPEAKING

**Work with a partner. Summarize the points made in the podcast and add information from the reading text and the graph. Write notes to support you as you summarize the points made. Include the following topics:**

- Edison's and Dali's techniques
- What happened during the experiment
- What the experiment showed.

FREE SAMPLE

# 2 Thought

## DISCUSSION POINT

**Work with a partner. Discuss the questions.**

1 Why do you think Millennials are more forgetful than their parents?
2 Which of these facts surprised you the most?
3 What other "amazing facts" do you know about the human brain?

## GLOSSARY

**brainwaves (n)** activity in the brain

**participant (n)** a person who takes part in an experiment

**visual (adj)** connected to seeing

## YOUR AMAZING BRAIN

On average, people have **70,000 thoughts** per day.

The hippocampus—the part of the brain involved in processing emotions—is **larger** in women than in men.

New cells are born in the brain throughout a person's life. **You're never too old to learn!**

Naps, meditation, and taking walks make your brain **more productive**.

Because of multitasking and lack of sleep, Millennials (born between **1981** and **1996**) are **more forgetful** than their parents.

The same part of the brain processes **physical** and **mental** pain. That's why a "broken heart" hurts!

Your brain has enough memory to store **three million hours** of television.

The **size** of your brain is not related to your intelligence. Einstein's brain was smaller than average!

**Each time** you have a new thought, a new connection is made between the cells of your brain.




BRAIN READING COMPUTERS

## BEFORE YOU WATCH

**Discuss the questions. Then watch the video to check your ideas.**

1 Look at the title of the video. How do you think a computer can read brains?
2 If computers can actually read brains, what could be the practical use of this technology?

FREE SAMPLE

# UNIT AIMS

**LISTENING 1** Understanding the structure of a formal argument
**LISTENING 2** Listening for repair and elaboration
**ACADEMIC SKILL** Anticipating opposing views
**VOCABULARY** Words to describe the brain and mind
**GRAMMAR** Concession
**SPEAKING** Responding to an argument



Neurologists reviewing MRI brain scans

## WHILE YOU WATCH

**Watch the video and answer the questions.**

1 Where is this research being conducted?
2 What is the purpose of the research project?
3 What does the technology allow investigators to do?
4 How is the research original according to Professor Nestor?
5 Has EEG data ever been used in a criminal trial?

## AFTER YOU WATCH

**Work with a partner. Discuss the extent to which you agree with the opinions.**

"It would be wonderful to be able to use EEG technology to see what people are really thinking."

"There's no way a criminal court could convict someone because EEG technology suggested they had been seen committing a crime. It just wouldn't be fair."

FREE SAMPLE

# BRAIN TRAINING

## A VOCABULARY PREVIEW

**1 Read the sentences. Match the words in bold with the correct definitions.**

1 The study explores the **claim** that Internet use damages people's memory.
2 Major changes in brain **function** occur during the teenage years.
3 The conclusions are based on a **sample** of over 1,000 volunteers.
4 Test subjects were given just five minutes to complete a memory **task**.
5 **Evidence** suggests that multitasking is actually inefficient.
6 I think all advertising companies are **dishonest**.
7 We didn't buy the toy because of **criticism** that it was not safe for children.
8 Many people believe that some apps have the **potential** to make them smarter.

**a** (n) something that needs to be done
**b** (n) a statement that something is true, even though you have not proved it
**c** (n) a process that happens inside the body, or something that part of the body does
**d** (n) a group of people who participate in a study or experiment
**e** (n) facts or signs used to help prove something
**f** (n) comments that show you think something is bad or wrong
**g** (n) the possibility to develop or achieve something in the future
**h** (adj) not truthful

**GLOSSARY**

**anecdotal (adj)** based on someone's personal experience, rather than facts that can be checked

**neuroscience (n)** the scientific study of the brain and nerves in the body that control feelings

**2 Work with a partner. Discuss the questions.**

1 Do you believe claims that exercise can improve your memory? Why / why not?
2 What kind of things can have a negative effect on brain function?
3 Are you good at multitasking (i.e., doing several tasks at the same time)?
4 There is evidence to suggest that use of mobile technology has a negative effect on our memory. Do you think this is true? Why / why not?
5 Are you good at receiving criticism? Why / why not?
6 Are ten people a big enough sample size for a scientific test? Why / why not?
7 Why would someone make a dishonest claim?
8 What are some of the potential benefits of artificial intelligence (AI)?

FREE SAMPLE

## B BEFORE YOU LISTEN

Activating prior knowledge

**Work with a partner. Discuss the questions.**

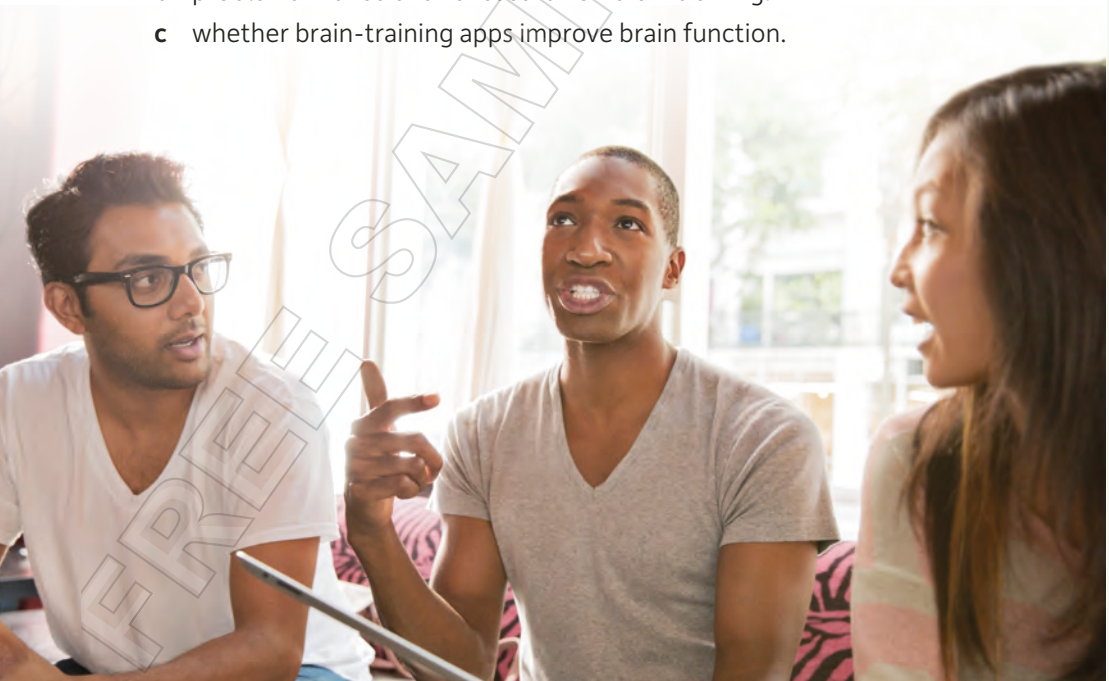
1 What activities can make our brains work faster or more efficiently?
2 Do you think brain-training apps and games can make people more intelligent? Why / why not?
3 What experience do you have with these types of apps and games?

## C GLOBAL LISTENING

Listening for main ideas

**2.1 Listen to *Brain training*. Choose the best option to complete the sentences.**

1 Steve doesn't think there is any evidence that ...
   **a** brain-training apps make you more intelligent.
   **b** brain-training apps make you better at games.
   **c** brain-training apps help you master new concepts.
2 Anna believes there is a lot of research to support ...
   **a** a link between brain-training apps and improved focus.
   **b** a link between brain-training apps and improved brain function.
   **c** a link between brain-training apps and improved memory.
3 Anna and Steve agree that brain-training apps ...
   **a** don't deliver what they promise.
   **b** aren't as effective as physical exercise.
   **c** have the potential to make you more intelligent.
4 The conversation is about ...
   **a** claims made in brain-training advertisements.
   **b** problems with scientific research on brain training.
   **c** whether brain-training apps improve brain function.



FREE SAMPLE

## D CLOSE LISTENING

Understanding the structure of a formal argument

In formal discussions and debates, speakers try to persuade listeners to agree with their point of view by presenting a **formal argument**. Formal arguments consist of two parts—a claim and supporting evidence.

**A claim** is the speaker's main idea or opinion. Phrases that signal a claim include:

*I'm (not) convinced that ... / I'd argue that ... / My position is that ...*

All claims should be supported by **evidence** such as references to scientific research, statistics, or quotations from experts.

**1** 2.1 **Listen to *Brain training* again. Write *Steve* or *Anna* next to the claim they make.**

1 There were issues with the brain-training research that showed positive results. _____

2 A large group of scientists claims brain training does work. _____

3 Most of the studies showing positive results were poorly designed. _____

4 Brain training has the potential to make our brains work better. _____

5 It's dishonest to sell brain-training apps that don't work. _____

**2** 2.1 **Listen again. Match the supporting evidence (a–f) with the claims made in Exercise 1 (1–5).**

**a** Some studies compared brain-training apps with watching DVDs. ____

**b** Companies marketing the apps earn over $25 million dollars a year. ____

**c** Improvement doesn't seem to transfer into the real world. ____

**d** 132 studies showed brain training can improve brain function. ____

**e** Some of the best scientists in the world are working to develop tasks that make people smarter. ____

## E CRITICAL THINKING

**Work in a group. Discuss who you think "won" the discussion, Steve or Anna. Explain your reasoning.**

FREE SAMPLE

# ACADEMIC SKILLS

## ANTICIPATING OPPOSING VIEWS

As you know, there is more to academic study than learning facts. You also need to suggest theories, offer explanations, and make evaluations. Whereas facts cannot really be debated, theories, explanations, arguments, and evaluations can be.

In academic discussions, referring to other ideas about the topic, including ideas that you disagree with, demonstrates that you have considered different views. It also makes your own claims seem more cautious and academic.

a) Contrast your idea with other people's experience or opinion:

*Everybody thinks of Einstein as a genius, but much of his career was unremarkable.*

b) Acknowledge that your idea might be surprising for other people:

*I know this seems hard to believe, but being highly confident about your own intelligence can actually make you less able to think rationally.*

c) Present an argument and your counterargument:

*Some people say kids shouldn't start school until they're 6 or 7. Well, the fact is that starting young improves a child's grades in the long term.*

**1 Look at the example extracts (1–5) from an academic discussion. Identify which technique above (a–c) the speaker is using to anticipate opposing views.**

1 Now this may come as a surprise, but sometimes people who know nothing about a subject are able to make better decisions than so-called experts. ___

2 We're actually learning new things every day of our lives, even if it doesn't always seem like it. ___

3 Now, it could be argued that computer games improve your cognitive ability. Well, that's not what the evidence says; research suggests that gaming makes you less able to learn. ___

4 It may seem hard to believe that what you eat can have any impact on your brain's performance, but I'm going to argue that it does. ___

5 A lot of people think that you can't train yourself to be a better thinker. Well, I'm not one of them. ___

**2 Work with a partner. Prepare to give a short talk about one of the two topics below. Anticipate any opposing views that your partner might have.**

**Student A: The impact of certain foods on the brain**

- Healthy fats: improved memory
- Processed food: mental health probs
- Nuts: reduced brain decline
- Leafy green vegetables: contain iron, which can reduce fatigue

**Student B: How the brain is affected by lifestyle**

- Crosswords: improved memory
- Too much time: depression.
- Very loud music: forgetfulness

FREE SAMPLE

# SCREEN TIME

## A VOCABULARY PREVIEW

**1 Match the sentence halves to show the meaning of the words in bold.**

| | | | |
|---|---|---|---|
| **1** | Listening to music doesn't **affect** my | **a** | than just memorizing facts. |
| **2** | I don't think using mobile devices has a | **b** | negative **impact** on my memory. |
| **3** | I can work more **efficiently** if I | **c** | **interfere** with my concentration. |
| **4** | I think storage **capacity** is the key | **d** | turn off my cell phone while studying. |
| **5** | In my opinion, the ability to communicate is the most | **e** | essays before I hand them in to my professor. |
| **6** | I write several **versions** of my | **f** | important **characteristic** of a good student. |
| **7** | In my country, schools emphasize **critical thinking** more | **g** | thing to consider when buying a computer. |
| **8** | When I am working, I don't allow anything to | **h** | ability to concentrate while studying. |

**2 Match the words in bold from Exercise 1 with the correct definitions.**

**a** _____ (n) amount of something that can be stored, e.g., on a computer or in the brain

**b** _____ (n) an effect or influence on something

**c** _____ (v) to disturb, prevent something from happening

**d** _____ (v) to change or influence something

**e** _____ (n) the ability to analyze and evaluate information without emotion

**f** _____ (adv) in a good way that doesn't waste time or energy

**g** _____ (n) corrected, or changed forms of an original document, story, etc.

**h** _____ (n) quality or feature that is a typical part of someone or something

**3 Work with a partner. Are any of the sentences in Exercise 1 true for you? Why?**

## B BEFORE YOU LISTEN

Activating prior knowledge

**Work with a partner. Discuss the questions.**

1 What electronic devices with screens are most important to you?
2 Do you spend more or less than the average amount of time looking at screens?
3 Is a person likely to be affected by spending too much screen time? How?

FREE SAMPLE

## C GLOBAL LISTENING

Listening for main ideas

**1** 2.2 **Listen to *Screen time*. Number the topics in the order they are discussed.**

____ **a** what the lecture will be about
____ **b** further work that needs to be done
____ **c** definition and examples of screen time
____ **d** why phones can be hard to put down
____ **e** statistics about people's daily screen habits
____ **f** ways in which electronic devices help people
____ **g** the impact of lots of screen time on the brain
____ **h** why people don't realize how much time they spend looking at screens

**2 Choose the sentence that best expresses the speaker's main point.**

**a** People should identify more ways in which screen time can benefit them.
**b** Screen time is damaging the mental health of the majority of young people.
**c** It's important to have better understanding of how the overuse of screens can affect people.
**d** Research shows that spending too much time in front of a screen can adversely affect intelligence.



FREE SAMPLE

## D CLOSE LISTENING

Listening for repair and elaboration

In presentations and lectures, speakers sometimes make a mistake and need to correct what they've said. This is called a **repair**. To identify repairs, listen for signals like these:

*Excuse me, what I meant to say was ... / Let me rephrase that.*

*Sorry, I meant ... / Perhaps I should have said ...*

At other times, speakers may need to give examples, provide more detail, or explain something in a different way to make their ideas clearer. This is called **elaboration**. To identify elaborations, listen for signals like these:

*To give an example ... / To be more precise ... / That is to say, ...*

*In other words ... / Basically, ...*

*What I mean by that is ... / In case you don't know, ...*

Listening for **repair** and **elaboration** will help you to identify specific details accurately.

**2.2 Listen to *Screen time* again. Choose *T* (True) or *F* (False).**

1 Watching a music video and playing video games are both examples of screen time. T / F

2 Checking social media messages is an effective way to have a break from typing an essay. T / F

3 British people spend an average of 12 minutes each time they look at their phone. T / F

4 The speaker gives two examples of ways smartphones benefit people. T / F

5 Research by the University of Florida studied the average length of interruptions to a person's work. T / F

6 The influence of high screen time on the brain may make a person less able to make plans. T / F

## E CRITICAL THINKING

**Work in a group. Discuss the questions.**

1 What do you think would be the easiest way to measure a person's average screen time, and what would be the most reliable?

2 To what extent do you agree with the lecturer's views about people's screen time? Do you act in the way the lecturer describes? What about people you know?

3 How can a person decide whether or not their screen time is excessive?

FREE SAMPLE FREE SAMPLE

## CRITICAL THINKING

### Appeal to popularity

Claiming that something is true because lots of people believe it is called an **appeal to popularity**. It is a flawed type of argument because in reality, it's possible for lots of people to believe something that isn't supported by facts or evidence. For example, many people used to believe that the Earth was flat—an idea later proven incorrect.

To properly evaluate an argument, we need to assess the evidence presented, not how popular something is.

**1** 2.3 **Listen to two extracts from *Brain training*. Decide whether the speakers make a valid argument or an appeal to popularity.**

**2** **Work with a partner. Choose the statements that illustrate an appeal to popularity.**

1. ☐ Companies that market brain games are earning more than $25 million a year for products that don't deliver what they promise. I think that's dishonest.
2. ☐ Studies show that people of all ages perform more poorly on cognitive tests when they multitask.
3. ☐ In one survey, 95% of college students reported reading assigned texts and watching television at the same time. I believe this proves that multitasking is not harmful.
4. ☐ The new SmartPhone 9 is the best cell phone on the market today, as shown by the fact that more than 20 million people have bought it since it came out in 2021.
5. ☐ Surveys show that 21% of adults, and 24% of teens are connected to the Internet almost constantly. Scientists are very interested in finding out what effect all this Internet use is having on people's brains.

**3** **Work in a group. Discuss the questions.**

1. Think of three examples when the majority of the population believed something that turned out to be false.
2. Can you think of any examples of appeals to popularity in advertising? Why is this such a common strategy?
3. What's the best way to respond to this type of argument in a discussion or debate?

FREE SAMPLE FREE SAMPLE

## VOCABULARY DEVELOPMENT

### WORDS TO DESCRIBE THE BRAIN AND MIND

**1 Match the words in bold with the correct definitions.**

1 Studies suggest that drinking water improves **concentration**.
2 Sharing can be a difficult **concept** for children to understand.
3 Stress has a negative impact on **short-term memory**.
4 According to the author Malcolm Gladwell, people need 10,000 hours of practice in order to **master** a skill.
5 **Mental** health issues can be difficult to identify.
6 I disagree with your **observation** that it's hard to read and listen to music at the same time.
7 Turning off my cell phone helps me to **focus** when I'm writing an academic paper.
8 Dr. Shapiro is a **psychologist** who specializes in the behavior of young children.

a (v) to pay close attention to something
b (v) to learn how to do something extremely well
c (adj) relating to the brain or mind
d (n) giving all of your attention to something
e (n) an idea, thought, or theory
f (n) a professional who studies how the mind affects human behavior
g (n) the ability to remember recent events or information for a short period of time
h (n) a comment about something seen or heard

**2 Work with a partner. Discuss the questions.**

1 What has a negative effect on your concentration when you're studying?
2 Is it hard for you to focus in a noisy room?
3 Which skills would you like to master?
4 Which foods do you think can improve people's short-term memory?
5 Which activities in your daily life require the most mental effort?
6 Why do you think it's become more common to seek help from psychologists these days?
7 How do you feel when a professor makes an observation about your coursework?
8 What is a concept you find difficult to understand?.

FREE SAMPLE FREE SAMPLE

## ACADEMIC WORDS AND IDIOMS

**1 Match the words and idioms with the correct definitions.**

1 **boil down to** (id)
2 **contemporary** (adj)
3 **context** (n)
4 **contradict** (v)
5 **diverse** (adj)
6 **establish** (v)
7 **identify** (v)
8 **intelligence** (n)
9 **revenue** (n)
10 **take-home message** (id)

**a** to be so different from another piece of information, that both cannot be true
**b** the ability to understand things quickly and apply knowledge to a high level
**c** to be the main reason for something
**d** to recognize something and understand exactly what it is
**e** containing lots of variety
**f** the general situation in which something happens
**g** modern, relating to the present time
**h** the money generated by a business
**i** the main idea that you learn from something
**j** find out or prove

**2 Complete the sentences with the words and idioms in bold from Exercise 1.**

1 In general, digital technology is having a negative effect on _____ society.
2 Testing and exams are the best way to measure a person's _____.
3 Cell phones should never be used in an educational _____.
4 Brain-training companies are more concerned about increasing their _____ than about making people smarter.
5 It's always more important to understand the _____ from the lecture than to remember all the details.
6 In some cultures, it's not acceptable to _____ your lecturer, as this shows a lack of respect.
7 It's important to _____ potential weaknesses in your own arguments.
8 Most disagreements between people _____ a simple lack of communication.
9 Surveys are the best way to _____ what people think about something, as most people answer survey questions truthfully.
10 Studying at a _____ university with students from all over the world enables you to learn a lot about other cultures.

**3 Work with a partner. Which of the sentences in Exercise 2 do you agree with? Why?**

### ACADEMIC IDIOMS

#### *BOIL DOWN TO*

When you are cooking, you can heat a liquid in order to reduce it to its basic ingredients. For example, you can heat sugar and water so that the unnecessary water boils away, and you are left with syrup. In the same way, when there is a lot of information to consider, we can remove unnecessary information to concentrate on one main idea.

*How much I enjoyed different subjects at school all **boiled down to** whether I liked the teacher.*

FREE SAMPLE

## SPEAKING MODEL

You are going to learn about concessions, responding to an argument, and word stress in statements of contradiction. You are then going to use these to hold a debate about the use of technology in education.

### A ANALYZE

**Work with a partner. Read an extract from a debate and answer the questions below.**

**Evan:** Look, I think it's better to type notes with a laptop than to write everything by hand. Basically it all boils down to speed. Most people can type much faster than they can write, so by typing, you're working more efficiently, and you can even write down almost every word the professor says. That way you can be sure not to miss anything. And another thing is that writing for a long time can be physically tiring. Typing on a laptop causes much less muscle strain.

**Jay:** Well, I agree with your observation that typing is more comfortable than writing by hand, but I think there's a problem with your first argument. It's true that typing enables us to write down almost everything the professor says, but that isn't necessarily a good thing because recording every word doesn't require us to interact with the information in ways that help us master it. In fact, I was just reading a contemporary research paper on note-taking. And the take-home message from that was that students who took notes by hand understood concepts better. And they were able to apply them more successfully than students who typed their notes. The researchers' explanation was that because handwriting is slower and we can't write everything, we're forced to listen, think, and summarize the information, and this mental effort helps comprehension, and memory. In contrast, it's easy to type automatically, without any critical thinking. So, the fact that handwriting is slower turns out to be an advantage, while the fact that typing is faster is actually a disadvantage.

1 What is Evan's claim and what reasons does he provide to support it?
2 What is Jay's claim and what reasons does he provide to support it?
3 Which speaker did a better job of supporting their position, in your opinion?

### B DISCUSS

**Work with a partner. Discuss the questions.**

1 Do you usually take lecture notes by hand or on a device such as a laptop? Why?
2 After this class, will you change your method of taking lecture notes? How?
3 Is it possible to use technology in ways that encourage interaction with information in order to remember it better? How?

FREE SAMPLE

## GRAMMAR

### Concession

In discussions and debates you can make arguments more persuasive by agreeing with part of your opponent's position, then contrasting it with your own.

We use the following to make concessions:

| | |
|---|---|
| Conjunctions | ***Although*** / ***Even though*** / ***Though*** *tablets are useful, there is no evidence that they improve academic performance.* |
| *may / might + but* | *Using mobile devices* ***might*** *improve engagement,* ***but*** *there is nothing to suggest it improves performance.* |
| Adverbials | *Cell phones can affect concentration.* ***Nevertheless*** / ***Nonetheless****, they play an important role in modern education.* |

**1 Match the two halves to form sentences.**

| | | | |
|---|---|---|---|
| **1** | While it's true that smartphones have made our lives easier, | **a** | I don't believe they make you smarter. |
| **2** | Although brain-training apps can be fun to play, | **b** | research suggests this actually has a negative effect on their understanding of the subject. |
| **3** | That may be true, | **c** | but modern students expect to use technology in the classroom. |
| **4** | Students enjoy using mobile devices in the classroom. | **d** | they have had a negative impact on our memory. |
| **5** | Even though many students prefer to take notes on their laptops, | **e** | Nevertheless, research shows that the highest-performing schools in the world have lower levels of computer use. |

**2 Rewrite the sentences using the words in parentheses.**

**1** Students enjoy using mobile devices in the classroom. Studies show this has a negative effect on exam performance. (although)

**2** Some students are easily distracted by the Internet. Others find it a useful research tool. (while)

**3** Modern websites are more interesting. They actually have a negative effect on our memory. (may / but)

**4** Technology can have a powerful impact on learning. Most teachers think cell phones are a distraction in class. (Nevertheless)

**5** Students say technology has improved their education. Much more research is needed to prove this is true. (Even though)

FREE SAMPLE

## SPEAKING SKILL

Responding to an argument

A key part of speaking in a debate is responding to your opponent's claims and arguments. There are three common ways to do this:

1 Point out the weakness of your opponent's evidence, sources, or logic.
*Those studies were poorly designed. There is no evidence to support that claim.*

2 State an opposing claim or opposing argument and provide evidence to support it.
*I think the opposite is true. According to [source], ...*
*I disagree. Research shows ...*

3 Concede your opponent's point is partly correct, then contrast it with your own.
*You may have a point there, but ... / That may be true, but ...*

**1** **2.4 Listen to five short dialogues and complete the sentences.**

1 **A:** A professor at Stanford University, Clifford Nass, says that listening to music with words can interfere with a person's ability to focus on reading and writing tasks.
**B:** _____, lots of studies have shown that listening to classical music can help boost concentration.

2 **A:** I think students take better lecture notes when they use a laptop instead of writing by hand.
**B:** _____ to support that idea. In fact, the sources I've read say that students remember information better if they take notes by hand.

3 **A:** Online courses are super-convenient, don't you agree?
**B:** _____, but I think face-to-face courses are a lot more interesting.

4 **A:** This article says that lost or damaged brain cells aren't replaced in adults.
**B:** That research is way _____. Scientists have known for a long time that some parts of the brain can continue to produce new cells even into old age.

5 **A:** Kids are spending too much time playing games online. It's a waste of time.
**B:** _____. Studies have shown that online games can increase teamwork among children and promote creativity.

**2** **Work with a partner. Take turns responding to the statements below using techniques from the Speaking skill box.**

1 Brain-training apps make you more intelligent.
2 Cell phones have a negative impact on our memories.
3 Laptops make it easier to take notes.

FREE SAMPLE

# PRONUNCIATION FOR SPEAKING

## Stress in statements of contradiction

In English, the last content word of a phrase, clause, or short sentence normally gets the strongest stress:

*The professor spoke **SOFT**ly.* *I prefer taking notes by **HAND**.*

However, a speaker may shift away from the basic stress pattern to **contradict** something a previous speaker has said:

***A:*** *I think multitasking is an efficient way to do several tasks at the same time.*

***B:*** *I disagree. There's lots of research proving that multitasking **ISN'T** efficient because it slows you down.*

Note that in contradictions, speakers use *do / does / did* in affirmative statements:

***A:*** *The researchers didn't say that cell phones cause lower test results.*

***B:*** *Actually, they DID say that. They said there is a possible relationship between the two.*

**1** 2.5 **Listen to an extract from the conversation from *Brain training*. Complete the sentences with one word. Why does the speaker stress these words?**

1 First of all, there's a pretty big group of researchers who claim brain training _____ work.

2 One website published a list of 132 studies showing that brain training _____ improve brain function.

**2** 2.6 **Read the dialogues. Predict which word Speaker B will stress most strongly. Then listen to choose your predictions.**

1 **A:** These statistics aren't correct. The numbers are too large.
**B:** They are correct. I reviewed them myself and I'm sure they're right.

2 **A:** We don't need to remember numbers anymore because we can store them on our cell phones.
**B:** I think we do need to remember them. What if you lose your cell phone?

3 **A:** Taking notes by hand is inefficient because we can't write everything.
**B:** Researchers say that's a good thing because it forces you to think about what you choose to write.

4 **A:** It's not good for young children to learn two languages at the same time. It confuses them.
**B:** It doesn't confuse them. In fact, it makes them smarter!

FREE SAMPLE

## SPEAKING TASK

Debate the positive and negative effects of technology on academic performance.

### Brainstorm

Work in a group of four. Discuss the effects of technology on education. Think about the following:

access to information  potential for teaching outside the classroom
dependency on technology  effects on our memory
use of media in the classroom  collaboration

### Plan

Divide each group into two pairs.

**Pair 1:** Present the positive effects of technology on academic performance.

**Pair 2:** Present the negative effects of technology on academic performance.

With your partner, plan for the debate by following these steps:

1 Choose the three best arguments from the brainstorming session to support your position.
2 Find evidence (e.g., reasons, facts, expert quotations, findings from research, etc.) to support each argument.
3 Try to predict the opposing team's arguments. Decide how you will respond: by conceding, or by presenting counter-arguments.

### Speak

Get back into your group of four and hold your debate. After each argument is presented, allow time for concession or counter-arguments. Use concession language from page 41 and remember to use the correct intonation when contrasting ideas.

### Review

Work as a class to discuss the result of the debates. Choose one member of your group to summarize the main points presented in your debate. Compare ideas.

### Reflect

Work with a partner. Discuss the questions.

1 Does technology have a positive or negative effect on your studies?
2 How will you try to change your "technology habits" in the future?

FREE SAMPLE

## WORDLIST

*** very frequent ** frequent * not frequent

**Vocabulary preview**

affect (v) ***
capacity (n) ***
characteristic (n) **
claim (n) ***
critical thinking (n)
criticism (n) ***
dishonest (adj) *
efficiently (adv)
evidence (n) ***
function (n) ***
impact (n) ***
interfere (v) **
potential (adj) ***
sample (n) ***
task (n) ***
version (n) ***

**Vocabulary development**

concentration (n) ***
concept (n) ***
focus (v) ***
master (v) *
mental (adj) ***
observation (n) ***
psychologist (n) **
short-term memory (n)

**Academic words and idioms**

boil down to (id)
contemporary (adj) ***
context (n) ***
contradict (v) *
diverse (adj) **
establish (v) ***
identify (v) ***
intelligence (n) **
revenue (n) **
take-home message (id)

## ACADEMIC WORDS AND IDIOMS REVIEW

**Complete the sentences using the words and idioms above.**

boil down to | contradict | diverse | establishing | identify | take home message

1 The speaker talked about the many impacts that tech has on our lives, but her _____ was that technology can threaten our mental health.
2 The findings were unexpected, as they seem to _____ earlier studies into teenage brain development.
3 Which course you should choose at college will all _____ what career you want to pursue.
4 It took years of painstaking research to _____ the cause of the disease.
5 This blog covers a _____ range of issues, from sports to high tech.
6 _____ what makes some people addicted to their phones may be impossible.

## UNIT REVIEW

| | |
|---|---|
| Listening 1 | ☐ I can understand the structure of a formal argument. |
| Listening 2 | ☐ I can listen for repair and elaboration. |
| Academic skill | ☐ I can anticipate opposing views. |
| Vocabulary | ☐ I can use words to describe the brain and the mind. |
| Grammar | ☐ I can use phrases to show concession. |
| Speaking | ☐ I can respond to an argument. |

FREE SAMPLE