

# FUSION

Workbook

Neil Wood

5



# FUSION

## Workbook

Neil Wood

# 5



When you see this, go online  
and find out more.

# Contents

|               |                                   |    |
|---------------|-----------------------------------|----|
|               | <b>Starter unit</b>               | 4  |
| Unit <b>1</b> | <b>All in the mind</b>            | 8  |
| Unit <b>2</b> | <b>The scientific method</b>      | 16 |
| Unit <b>3</b> | <b>Our home</b>                   | 24 |
| Unit <b>4</b> | <b>Artificial intelligence</b>    | 32 |
| Unit <b>5</b> | <b>Healthy body, healthy mind</b> | 40 |
| Unit <b>6</b> | <b>Creativity</b>                 | 48 |
| Unit <b>7</b> | <b>The numbers game</b>           | 56 |
| Unit <b>8</b> | <b>Interaction</b>                | 64 |
| Unit <b>9</b> | <b>Relationships</b>              | 72 |

Extra resources:

|                                         |     |
|-----------------------------------------|-----|
| <b>Practical English</b>                | 80  |
| <b>Grammar and Vocabulary reference</b> | 89  |
| <b>Irregular verbs list</b>             | 109 |



# Starter unit

## Reading

### 1 Answer the questions.

- 1 Where did each pair meet?  
.....
- 2 Why was understanding the double helix important?  
.....
- 3 How did Ben and Jerry change the ice cream business?  
.....
- 4 What did Page and Brin figure out?  
.....

## Vocabulary Adjectives: qualities

### 2 ★ Choose the correct option.

- 1 The doctors at the hospital are all **dedicated** / **outgoing** professionals.
- 2 When I told Sam I'd lost my weekend job, he was **enthusiastic** / **sympathetic**.
- 3 Jenna is always so **responsible** / **enthusiastic** that she makes everyone else feel positive, too.
- 4 Anya is very **outgoing** / **responsible** and would never take unnecessary risks.
- 5 Chris is always willing to listen and help – he's the most **responsible** / **supportive** colleague I know.

### 3 ★★ Complete the sentences with the adjectives.

dedicated enthusiastic outgoing responsible supportive

- 1 Lauren is very ..... and loves meeting people.
- 2 My brother loves Jay Z. He's a ..... fan.
- 3 We trust Ashley to look after the store when we go away – she's so .....
- 4 Tom's parents were really ..... when he wanted to be an actor – they always encouraged him.
- 5 Megan is so ..... about her job – she loves it.

## Three historic partnerships

### James Watson and Francis Crick

If the American scientist James Watson hadn't met his British colleague Francis Crick in the early 1950s, scientific history might have been very different. Both were dedicated researchers, and at the Cavendish Laboratory in Cambridge, U.K., they worked together to understand the structure of the DNA molecule. They built on the work of two other scientists, Maurice Wilkins and Rosalind Franklin, who were supportive of their ideas. Subsequently, they were able to describe the structure known as the *double helix* – the structure which forms the basis of all life. In 1962, Watson, Crick, and Wilkins were awarded the Nobel Prize. Sadly, Rosalind Franklin had died in 1958.



### Ben Cohen and Jerry Greenfield

If you like ice cream, you're probably familiar with the names Ben and Jerry. Ice cream is big business in the U.S. Ben Cohen and Jerry Greenfield, who had been friends since school, started their business in the 1970s in a renovated gas station in Vermont, in the northeastern U.S. They changed the industry by inventing innovative ice cream flavors that quickly became famous worldwide. Ben and Jerry were also responsible employers who were interested in the welfare of their staff and set up programs to help with childcare and college tuition. They were sympathetic to their employees' opinions, allowing them to evaluate their bosses and express their ideas and concerns.



### Larry Page and Sergey Brin

If there was no Google, our Internet browsing experience would be very different. The search engine was developed by Larry Page and Sergey Brin, who met when they were computer science PhD students at Stanford University, in California. Page was working on a project to discover how web pages could connect to each other. Brin was enthusiastic, and together, the two figured out an algorithm to connect web pages that was better than anything in existence at the time. As a result, the first version of Google was completed in 1996. Over the next 20 years, Google became the world's largest search engine.





## Grammar Conditionals

### 4 ★ Match 1–4 to A–D.

- 1 If you want to work in the technology sector, .....
  - 2 If I had more money, .....
  - 3 If I'd known at 14 what I know now, .....
  - 4 If you ask anyone what they can't live without, .....
- A I would have studied different subjects in school.  
 B they'll probably say the Internet.  
 C you need to intern with the big tech companies.  
 D I'd probably buy a new car.

### 5 ★★ Correct the underlined mistakes.

- 1 If Rosalind Franklin didn't die, she might have won the Nobel Prize, too. ....
- 2 If I had the opportunity, I will study genetics. ....
- 3 If Sergey Brin hadn't gone to Stanford, he hadn't met Larry Page. ....
- 4 If you used Google, you're one of more than a billion people worldwide. ....
- 5 If you will eat a lot of ice cream, you'll probably put on weight. ....

### 6 ★★★ Complete the sentences with the correct conditional form of the verbs in parentheses.

- 1 If Crick and Watson hadn't met, someone else ..... (discover) the structure of DNA.
- 2 I ..... (buy) you lunch if you want.
- 3 If Larry Page ..... (keep) the original name for Google, it would have been called BackRub.
- 4 We wouldn't be able to map the human genome if we ..... (not understand) DNA.
- 5 If scientists ..... (examine) DNA from a crime scene, they can identify who was there.

## Extra vocabulary

### 7 ★ Match the nouns to the definitions.

aggression compassion joy trust

- 1 a belief that someone won't lie to you .....
- 2 feelings of anger that can lead to violence .....
- 3 a feeling of great happiness .....
- 4 feeling sorry for someone .....

### 8 ★★ Complete the sentences with the nouns.

affection bravery intelligence sympathy

- 1 He received a medal for .....
- 2 Passing the test requires .....
- 3 Su loves her dog, and shows her a lot of .....
- 4 When my parents divorced, my friends were very kind and treated me with .....

## Vocabulary consolidation

### 9 ★★★ Complete the social media post with the correct nouns and adjectives.

So, today is the day we move to a new house. ☹️ As you know, I'm not very (1) ..... about the idea of moving. You have been such a great bunch of friends. You were so (2) ..... when my grandmother was sick, and you shared my (3) ..... when she got well again. I'm a little nervous about starting a new school. Hopefully, someone will show the "new girl" some (4) ..... Seriously, I will miss you all. But I know you're all (5) ..... Facebook users, so I'm not worried about staying in touch! Stacey

## Vocabulary Expressions with *have* and *take*

### 10 ★ Choose the correct option.

- 1 This designer **has** / **takes** an eye for color.
- 2 The view will **have** / **take** your breath away.
- 3 Thanks for a great party – we **had** / **took** a ball.
- 4 I **have** / **take** no idea what you're talking about.
- 5 I watched a movie to **have** / **take** my mind off work.

### 11 ★★ Complete the text with the expressions.

a good nose for an open mind  
it easy it from me note of

If you want to be a journalist, first, you need to have (1) ..... a story. When you're doing research, it's important to have (2) ..... – but don't believe everything you read or hear. When you're interviewing someone, listen carefully and take (3) ..... everything they say. Take (4) ..... you never know what might be important. Finally, it's hard work, so you need to be able to switch off and take (5) .....



## Grammar Present perfect simple and continuous

### 12 ★ Choose the correct option.

- 1 I'm so glad you've **arrived** / **been arriving** – I've **waited** / **been waiting** for you for ages.
- 2 Tom has **worked** / **been working** on his essay all week, but he hasn't **finished** / **been finishing** it yet.
- 3 Have you **checked** / **been checking** your messages recently? I've **tried** / **been trying** to get in touch with you all morning.
- 4 My mom has **tried** / **been trying** for months to get my dad to take a vacation – now he's finally **agreed** / **been agreeing**.

### 13 ★★ Complete the sentences with the correct present perfect simple or continuous form of the verbs in parentheses.

- 1 I ..... (think) about applying to study medicine, but I ..... (not make) a decision yet.
- 2 Dani ..... (send) out about 50 job applications, but she ..... (not have) a single interview.
- 3 I ..... (watch) a great detective series. It's the last episode today, and I ..... (still / not guess) who the killer is.
- 4 Do you think Laura ..... (find) a new bike yet? I know she ..... (already / try) a lot of models.
- 5 Kenan ..... (only / play) the guitar for a year, but he ..... (already / post) three of his songs online.

### 14 ★★★ Complete the sentences so they are true for you.

- 1 I've already ..... today.
- 2 I've never .....
- 3 I've been ..... recently.
- 4 I've been ..... for .....
- 5 I haven't been .....
- 6 I haven't ..... yet.
- 7 I've ..... since .....

## Vocabulary Expressions with *get* and *make*

### 15 ★ Complete the sentences with the correct form of the verbs *get* or *make*.

- 1 It's important to ..... involved in school clubs.
- 2 I need to ..... permission to work after school.
- 3 How can I ..... a good impression at my interview?
- 4 ..... mistakes is part of the learning process.
- 5 I want to do a job that ..... a difference.

### 16 ★★ Complete the text with the correct form of the expressions.

get better    get the feeling    get things done  
make an effort    make the most of

I've really (1) ..... with my studies this semester. My teachers have been very supportive, and I (2) ..... that I'm making progress. This is my last chance to (3) ..... and improve my test scores before my final year. I need to (4) ..... the time I have left. Having Ella as my "study buddy" has really helped. It's really made me motivated to study, and now I feel I'm really (5) .....!

## Vocabulary consolidation

### 17 ★★★ Complete the dialogue with the correct form of the verbs *get*, *have*, *make*, or *take*.

- A** You're always saying I (1) ..... a good nose for business, right? Well, I've just started a business. It's a website to help teens find employment.
- B** Cool. But what do your parents think? Did you (2) ..... their permission?
- A** Of course – they don't mind. They think it'll (3) ..... a good impression on my college applications.
- B** I'd love to (4) ..... involved. Can I help you?
- A** Sure. Want to see the website I've built?
- B** Wow, that looks so professional! (5) ..... it from me, this is going to be really popular.



Vocabulary Verbs + prepositions

- 18 ★ Choose the correct option.
- 1 The best way to prepare **for / on / to** your tests is to concentrate **from / in / on** one subject at a time.
  - 2 Ali is interested **in / on / to** medical school; she wants to specialize **for / in / on** tropical medicine.
  - 3 I've participated **from / in / on** a lot of competitions, but I've never succeeded **in / on / to** winning one.
  - 4 Many old people depend **for / on / to** their children to care **for / from / on** them.
  - 5 I can't decide **in / on / to** which college to apply to. I think I'd benefit **from / for / on** some advice.

- 19 ★★ Complete the sentences with the verbs + prepositions in the box.

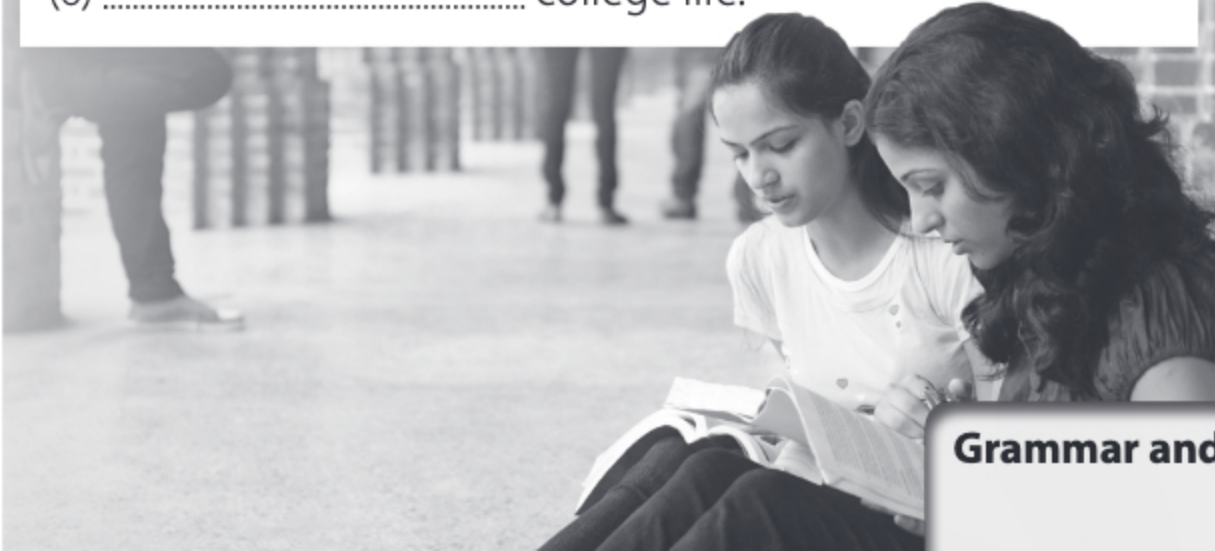
benefit from   care for   concentrate on  
decide on   interested in

- 1 It's hard to ..... studying when it's so noisy.
- 2 A good way to ..... something important is to make a list of pros and cons.
- 3 I'm not ..... politics.
- 4 Listen to Dad's advice – you'll ..... his experience.
- 5 I often ..... my baby brother.

- 20 ★★★ Complete the text with the correct verb + preposition combinations.

St Martin's > The interview process

If we select you for an interview, please make sure you (1) ..... the interview carefully. If you (2) ..... being accepted, we will ask you to confirm which subjects you plan to (3) ....., so please consider this before your interview. However, success at an interview doesn't only (4) ..... academic skills. We also hope you will (5) ..... the social life of the college, so please be prepared to talk about how you can (6) ..... college life.



Language point Future continuous and future perfect

- 21 ★★ Complete the sentences with the correct future perfect or future continuous form of the verbs in parentheses.
- 1 By this time next year, I ..... (leave) school, so I ..... (look) for a job.
  - 2 Some scientists think the world's oil supplies ..... (run) low by 2050; others predict that we ..... (discover) new oil reserves by then.
  - 3 Jo ..... (not apply) for a job at the new mall; she thinks she ..... (find) a different job by the time they advertise.
  - 4 I ..... (work) on my assignment all weekend, but I know I ..... (not finish) it before Sunday evening.
  - 5 Katya ..... (already / leave) on Saturday morning, so she ..... (not join) you for the party in the evening.

Grammar consolidation

- 22 Complete the text with the correct conditional, present perfect, or future form of the verbs in parentheses.
- I've (1) ..... (go) to our local park since I was a little kid. Recently, there (2) ..... (be) an increase in the trash in the park. If you go in there, you (3) ..... (see) it – it's everywhere! My friends and I (4) ..... (always / hate) trash, so we decided to do something about it. For the last month, we (5) ..... (pick up) trash one day a week after school. We (6) ..... (collect) a lot of trash so far! And if I had a dollar for every piece of trash we've collected, I (7) ..... (be) rich. We (8) ..... (do) another clean-up soon, so hopefully we (9) ..... (clean up) all the trash by the time we finish.

Writing task

- 23 Write a paragraph (about 150 words) about some rules that you think are important in life.



## Vocabulary Adjectives: feelings

1 ★ Match the adjectives to pictures 1–6.

ashamed eager exasperated  
miserable thrilled valued



1 .....



2 .....



3 .....



4 .....



5 .....



6 .....

2 ★★ Match the adjectives to the definitions.

content devastated envious  
fulfilled upbeat vulnerable

- 1 happy and satisfied that you are doing something useful with your life .....
- 2 weak and easily hurt .....
- 3 happy and satisfied with what you have .....
- 4 positive and enthusiastic .....
- 5 wanting to be in the same situation as someone else .....
- 6 extremely shocked and upset .....

3 ★★★ Write sentences about your own feelings and experiences using the adjectives.

ashamed content devastated eager envious  
exasperated fulfilled miserable valuable valued

- 1 .....
- 2 .....
- 3 .....
- 4 .....
- 5 .....

## Extra vocabulary

4 ★★ Complete the text with the nouns.

analysis data evidence research survey theory

(1) ..... carried out by the Harwood Institute in the U.S. suggests that people in richer countries aren't necessarily happier than those in poorer countries. Psychologists conducted a nationwide (2) ..... with Americans from all parts of society, to test the (3) ..... that wealth and material possessions alone don't make people content or fulfilled. Their (4) ..... of the (5) ..... provided clear (6) ..... that what makes people happy in the long term are strong social relationships and a sense of community.



# Grammar Stative and dynamic verbs

## 1 ★ Choose the correct option.

- Dan ... six programming languages.  
A knows B is knowing
- The workload this semester ... me really stressed.  
A makes B is making
- If you ... that money will make you happy, you're wrong.  
A believe B are believing
- The scientists ... more research now.  
A do B are doing
- I ... my literature class – it's so interesting.  
A like B am liking
- Being happy ... on how you think, not what you have.  
A depends B is depending

## 2 ★★ Complete the sentences with the correct form of the verbs in parentheses.

- We need to find out what everyone ..... (want) to do this weekend.
- I've written about half of my essay, but I ..... (have) difficulty thinking of a way to finish it.
- My brother ..... (think) about taking a year out before starting college next year.
- My uncle ..... (own) three houses.
- Currently, the number of people applying to study in other countries ..... (increase) dramatically.
- You ..... (see) a lot more ads online these days.

## 3 ★★★ Read the blog post. Then complete it with the correct form of the verbs.

believe enjoy have love  
respect say think understand

Just a quick update to let you all know how much I (1) ..... my visit to southern Mexico. I (2) ..... the food here – especially all the fresh fruit. And the people are so friendly – I don't know if they (3) ..... when I speak Spanish, but they always make me feel welcome! People often (4) ..... it can be dangerous to travel around a foreign country on your own, but I (5) ..... that if you don't take risks, and you (6) ..... the culture, you'll be fine. Anyhow, no problems so far. I (7) ..... such a good time over the past month that I (8) ..... about staying a couple more weeks.

## Consolidation

### 4 Complete the article with the adjectives and choose the correct option.

ashamed content envious  
exasperated upbeat vulnerable

Solomon is a refugee from West Africa who I first met in a reception center in southern Italy. He speaks three languages and (1) **has / 's having** a degree in engineering, but when I saw him again in Pisa, he was selling souvenirs to tourists on the street. He (2) **was remembering / remembered** me immediately and gave me a big smile. When I asked him how he had been, he was surprisingly (3) ..... "Everything is fine. When I first arrived, I felt really scared and (4) ....., you know? And it took so long to get my papers – I was (5) ..... by the wait, but now things (6) **are getting / get better**."



I asked Solomon how he was acclimating to his new home and job. Another smile. "I'm supporting myself with this job. It's nothing to be (7) ..... of. It's true that things can be tough. Like, I (8) **see / 'm seeing** all the people around me – they (9) **are having / have** so much, and sometimes I'm (10) ..... of them. But I (11) **'m knowing / know** I'm lucky. And I (12) **believe / am believing** that I have a future here."

Solomon still faces some difficult challenges, but in a way, he seems to be (13) .....





# Vocabulary Verbs with prefixes

1 ★ Write the verbs in the correct column.

achieve appear consider create do estimate  
inform interpret load mine place rate

| mis- | over- | re- | under- |
|------|-------|-----|--------|
|      |       |     |        |

2 ★★ Complete the sentences with the correct form of the verbs. There are two extra verbs.

misinform misinterpret overdo overload  
reappear re-create underestimate undermine

- That isn't what the writer means. I think you've ..... the message of the book.
- If you constantly get low grades, it can ..... your confidence.
- That theory isn't true – you have been .....
- Psychologists often use a laboratory to ..... the right conditions for an experiment.
- You're working too hard – don't ..... it!
- It's important not to ..... the problems caused by loss of short-term memory.

3 ★★★ Answer the questions with your own ideas. Use the underlined words in your answers.

- What decision do you wish you could reconsider?  
.....
- Why do some people underachieve in school?  
.....
- Which band or singer do you think is most overrated?  
.....
- What kinds of things do you misplace?  
.....
- Have you ever underestimated someone? Who?  
.....
- Do you sometimes overdo it? Why / Why not?  
.....

## Extra vocabulary

4 ★★ Complete the paragraph with the words.

edge know-how nerd savvy smarts

What does it take to create a successful app? One thing is for sure: it isn't enough to be a computer (1) ..... You have to have commercial sense as well. Take the case of Snapchat, the image-messaging and multimedia mobile app. The original prototype was created in 2011 by students at Stanford University, in the U.S.: Evan Spiegel, Bobby Murphy, and Reggie Brown. They all had the (2) ..... – they were all excellent students. But it took a combination of skills to get Snapchat started – Spiegel had the business (3) ..... and originally presented the idea as a final class project, but they also needed someone who was tech (4) ..... to write the source code. That's where Bobby Murphy came in. Working together, they created a highly successful app which had the unique features that gave it the (5) ..... over the competition.





# Grammar Simple vs. continuous forms

- 1 ★ Choose the correct option.
- 1 My sister **always loses** / **is always losing** her cell phone! It's so annoying!
  - 2 I've **done** / **been doing** research for my project all weekend – I hope I can finish it by Monday.
  - 3 Courtney **wrote** / **was writing** more than 20 applications before she got her summer job.
  - 4 When you arrived, I **showed** / **was showing** Sarah this study program, so I couldn't talk to you.
  - 5 Brandon **doesn't go** / **isn't going** to the extra math class every Thursday. He's really good at math.
  - 6 My father **has run** / **has been running** the New York City marathon three times.

- 2 ★★ Complete the sentences with the correct form of the verbs in parentheses.
- 1 Joaquin ..... (study) in the U.S. when he was diagnosed with HSAM.
  - 2 Most people ..... (forget) their dreams soon after they wake up.
  - 3 My family ..... (travel) to India when I was two – that's my earliest memory.
  - 4 Our lab ..... (test) a new DNA analysis technique over the last few weeks.
  - 5 At the moment, I ..... (try) to complete my assignment.
  - 6 Researchers ..... (just / find) a treatment to slow down memory loss in old people.

- 3 ★★★ Complete the sentences so they are true for you.
- 1 I get annoyed with ..... because he / she .....
  - 2 In the last few weeks, .....
  - 3 Last week, .....
  - 4 While .....
  - 5 Currently, .....

# Consolidation

- 4 Read the text. Then complete the text with the words in the box and the correct form of the verbs in parentheses.

misinform   misinterprets   overrated  
reappear   underestimated

Most people think memory is like a video in your head – that what you see is what actually (1) ..... (happen) in the past. But recent research suggests that we may have (2) ..... the power of false memory. False memory is when the mind creates events from the past that didn't really happen, or when it (3) ..... things that *did* happen, so that they appear different.

Our team (4) ..... (carry out) research into false memory for the past three years. In that time, we (5) ..... (interview) more than 100 recent victims of crime about their experiences. The results have been surprising.

For example, we (6) ..... (interview) someone who was in a nightclub when he saw a man attack another man. When he gave a description to the police, he told them the attacker (7) ..... (wear) a silver jacket. However, when the police showed him the video from the club's security cameras, he changed his statement. The video clearly (8) ..... (show) that the man's jacket was black. The police (9) ..... (accept) that the witness didn't (10) ..... them intentionally – basically, he was suffering from false memory.

So, is the power of memory (11) .....? We want to find out how accurate memory is in times of stress, and whether, after time, true memories will (12) ..... Over the last three months, we (13) ..... (talk) to the people again to see if there is any change in what they previously told us.

