

Unit 4 Innovation

4a The Boring Company

Listening future transportation

- 1 ▶ 28 Why do you think someone would name their company "The Boring Company"? What does this have to do with future transportation? Listen to a radio feature and check your answers.
- 2 ▶ 28 Listen again and answer the questions. According to the speaker:
- what are the three possibilities for overcoming an obstacle?

 - what can building new roads be compared to, and why?

 - what is the problem with building "roads in the air"?

 - what is the problem with building roads underground?

 - how would cars travel in Elon Musk's proposed underground system?

 - how would he make the tunneling process cheaper?

 - what technology might the Hyperloop tunnel use in the future?

 - how fast can pods travel in this system?

- 3 ▶ 28 Complete these sentences and phrases used by the speaker. You have been given the first letter and a definition of the missing words. Listen again and check your answers.
- We've already tried going around it by building **b**_____ roads around our cities ...
= roads that take you around the edge of a city
 - ... have an impact on those below when **d**_____ falls from a height.
= pieces of broken material, e.g., rock
 - And given his amazing record ... he could **p**_____ this off.
= make something a success
 - His latest **v**_____, The Boring Company, proposes building a network of tunnels ...
= a business enterprise or project involving risk
 - ... so that there would be nothing to block them or **h**_____ them up.
= delay
 - ... Hyperloop project, has already been **t**_____ and tested ...
= experimented with and shown to work

vacuum (n) /'vækjuəm/ a space that has had all the air removed from it
sled (n) /sled/ a small vehicle that slides over the ground



Grammar future probability

- 4 ▶ 28 Complete the statements made by the speaker with these words. Then listen again and check your answers.

could good chance likely might possibly should

- ... such solutions are never _____ to work because ...
 - ... rather than removing the problem, you _____ just be moving it somewhere else.
 - ... collisions or accidents in the air _____ also have an impact on those below ...
 - And given his amazing record ..., there's a _____ that he could pull this off.
 - Musk's idea is that ... his techniques _____ reduce the cost enormously.
 - In his mind, also, is the idea that in the future, the tunnels will _____ use vacuum technology ...
- 5 Rewrite the sentences from Exercise 4 so that they have the same meaning. Use the words in bold.
- probably**

 - chances**

 - possible**

 - may well**

 - likely**

 - could**

- 6 Complete the answers to these questions about future transportation using the correct form of the words in parentheses.

Do you think that there's any chance this idea of Elon Musk's will become a reality?

It¹ _____ (could). I think he² _____ (almost certainly / come up with) a working model. Then it will be a question of whether city authorities are willing to support it. I think that some more forward-looking ones³ _____ (probably / be) supportive of it.

And, just leaving aside that possibility, what do you think our city streets will look like thirty years from now?

I think most of us⁴ _____ (likely / drive) electric vehicles. We're already moving in that direction. So we⁵ _____ (should / have) cleaner air in our cities. But there⁶ _____ (probably / be) some gas cars on the streets, too.

Why do you say that?

Because the oil companies are incredibly powerful. And that⁷ _____ (be / unlikely / change).

Wordbuilding -able

- 7 Form the correct (positive or negative) adjective from the verb in parentheses to complete these sentences. The negative adjectives can begin with *un-*, *in-*, *ir-*, or *non-*.

- I think it's _____ (do). The question is: Is it _____ (desire)?
- I'm afraid the price is _____ (negotiate).
- They're an advertising agency and they have this terrible slogan: "Imagine the _____ (imagine)!"
- I felt so bad about breaking her plate. She said it was rare and virtually _____ (replace).
- There are problems with the plan, but I don't think they are _____ (surmount).
- I can't go through another dental procedure. The pain was _____ (tolerate).

- 8 Complete these sentences with a suitable adjective ending in *-able*.

- If you don't like the shirt, I'm sure you can take it back to the store. Things are usually _____ within two weeks of buying them.
- These new glasses are supposed to be _____, but I sat on them and they snapped in half!
- The tap water is _____ in the sense that it's safe. But it tastes awful.
- How far is the station from here? Is it _____, or should I get a bus or taxi?
- The label on this tablecloth says " _____," but I actually put it in the washing machine and it came out fine.
- I'm afraid I won't be _____ for the next few days; my hotel has no Wi-Fi.

4b DIY innovators

Reading future transportation



- Read the article about DIY innovators and match the headings (a–d) with the four paragraphs (1–4).
 - What drives innovation ____
 - An unidentified need ____
 - Making do with bits and pieces ____
 - There's an inventor in all of us ____
- Read the article again and complete these sentences using one word in each blank.
 - The mistake we make about technology is that we think it is something only _____ can be involved with.
 - Thomas Jefferson's clock was unusual for its time because it could tell you the _____.
 - The invention of eyeglasses for chickens solved something most people didn't think was a _____.
 - Most DIY inventors are not really motivated by _____.
 - In the Great Depression, some people created homemade versions of gadgets that they couldn't _____.
 - Robert Goddard is an example of a scientist who did _____ using old household objects.

DIY (abbrev) /,di: aɪ 'waɪ/ do it yourself
peck (v) /pek/ (of a bird) strike quickly with the mouth
hose (n) /həʊz/ a flexible water pipe
scaffold (n) /'skæfəʊld/ a supporting structure used when repairing a building
piston rings (n) /'pɪstən rɪŋz/ metal rings that go around the cylinder of an internal combustion engine

DIY innovators

- In today's electronic convenience age, many of us imagine that technology is something that brainy scientists in state-of-the-art laboratories create for us. But that isn't really a true reflection of how technology comes about—now or in the past. The strict definition of technology is designing a device to perform a particular task. Seen like that, we are all innovators because we have all, at one time or another, improvised our own solutions to specific problems. It's just that some of us take it further than others. The United States' third president, Thomas Jefferson, filled his home with DIY gadgets. In his living room, for example, he had a homemade clock which, using a pair of cannonballs on ropes, told him both the hour of the day and the day of the week. He made himself a swiveling seat—an early version of the type of office chair many of us sit on today—and built an automatic signing machine so that he **didn't need to hand-sign** his letters.
- DIY inventions rarely catch on because often the inventor is providing a solution to something that is not generally perceived to be a problem. What was the inventor of glasses for chickens thinking? Obviously he thought there needed to be some way to prevent chickens from pecking at each other's eyes. But he **should have realized** that they were never going to become a best-seller. Similarly, the self-tipping hat, which used parts of a clock to tip a man's hat when a lady passed him in the street, **must have seemed** to fill a need that was obvious to the inventor.
- While a few DIY innovators in the past **might have been motivated** by money and the dream of making their fortune, others have been motivated by necessity. World War II servicemen in North Africa who **needed to wash** took empty oil drums and hoses, mounted them on scaffolds built from scrap wood, and created improvised showers. Others have been motivated by economic hardship. During the Great Depression of the 1930s, some people **had to build** their own devices and equipment, because they couldn't afford new items in the stores. Cecil Burrell, when he wanted tables for his patio, made them from old piston rings from industrial engines.
- But DIY can extend to professional scientists, too. Dr. Robert Goddard, who pioneered modern rocketry in the 1920s and 1930s, built much of his test equipment and rockets from bits and pieces he found lying around: clock parts, tobacco tins, etc.

- Look at the words in bold from the article. Circle the correct definition (a or b).

- a **swiveling** seat
a turning b with arms
- rarely **catch on**
a work b become popular
- to **tip** a man's hat
a take off b raise
- mounted them on** scaffolds
a hang ... from b put ... on top of
- scrap** wood
a old but reusable b old and useless
- who **pioneered** modern rocketry
a was ignorant of b led the way in

Grammar past modals

- Match the past modal verbs (1–6) from the article with the functions (a–f).
- | | |
|-----------------------------------|---|
| 1 didn't need to hand-sign _____ | a expresses what was expected |
| 2 should have realized _____ | b describes an obligation |
| 3 must have seemed _____ | c talks about a necessity |
| 4 might have been motivated _____ | d talks about a lack of necessity |
| 5 needed to wash _____ | e speculates about what was possibly the case |
| 6 had to build _____ | f speculates about what was probably the case |
- Read the story in the next column about someone who got a bicycle puncture. Rewrite the underlined phrases with past modal verbs.
 - _____
 - _____
 - _____
 - _____
 - _____
 - _____
 - _____



So there I was on a country road in the middle of nowhere with a flat bicycle tire. ¹Almost certainly I had ridden over a nail or something. ²The advisable thing would have been to take a puncture repair kit with me, but because the roads are very new around there, I had imagined ³it wasn't necessary. ⁴One possibility was to wheel my bike back to the nearest town six kilometers away, but that would have taken a long time. Besides, ⁵I had an obligation to be home for dinner, as a friend was coming over. So I decided ⁶it was my duty to find a way to fix the puncture. All I had with me was a bicycle pump. What I needed was a patch for the puncture. I looked around on the road. ⁷Perhaps someone had dropped something I could use. After some searching, I found some old chewing gum stuck to the road. It was very hard, and I realized that there was only one thing to do ...

6 Pronunciation weak forms in past modals

- ▶ 29 Listen to these sentences. Circle the weak forms.
 - I shouldn't have bothered.
 - She may have gotten lost.
 - You didn't need to wait for me.
 - It might not have been his fault.
 - She had to leave early.
- Practice saying the sentences in Exercise 6a in the same way.

Vocabulary phrasal verb come

- Complete the text using prepositions to make phrasal verbs with *come*.

We've all eaten popcorn at the movies, but few stop to think how the success of this all-American snack came ¹_____. I came ²_____ an article about its origins the other day when browsing the internet. It has an interesting history. The Guatemalans discovered popcorn thousands of years ago, presumably when someone had the bright idea of putting a corn kernel in a hot pan. But popcorn didn't really take off in the United States until the invention of the popcorn machine in the 1890s. Manufacturers spotted the growing trend and came ³_____ with the idea of adding caramel and marketing it as the sweet snack many of us have come ⁴_____ know and love. In the Depression of the 1930s, popcorn filled an important need because it was cheap. Since then, even though popcorn has come ⁵_____ against some opponents who say that it is unhealthy, it remains very popular and is even marketed today as a health food.

4c The new philanthropists

Listening supporting good causes

1 ▶ 30 You are going to listen to a conversation about philanthropists. Read the definition. Then listen and take notes.

philanthropist (n) /fɪˈlæntʒəpɪst/ a person who cares about their fellow human beings; especially one who donates money to people less fortunate than themselves

- two ways these new philanthropists made their money

- two ways their approach to giving differs from philanthropists in the past



2 ▶ 30 Listen again. Are the sentences true (T) or false (F)?

- The speaker implies that philanthropists in the past didn't have to work for their money. T F
- The new philanthropists' attitude toward their money is that they want to use it now. T F
- The new philanthropists don't want the projects they invest in to be run by businesspeople. T F
- The Daniela Papi story shows how a social enterprise project can evolve and spread. T F
- John Caudwell believes that success in life is just a question of hard work. T F
- The speaker suggests that the new philanthropists ultimately care only about their business reputation. T F

3 ▶ 30 Complete these phrases from the conversation. Then listen again and check your answers.

bring about	counterparts	ethos	return
seed money	self-made	no strings	

- ... so many more of these do-gooders are _____ businessmen and women ...
- ... these philanthropists and their 19th-century _____ ...
- ... business terms like "getting a good _____ on capital" ...
- The money they put into philanthropic projects is like _____ ...
- ... helping _____ positive change in areas where social problems exist.
- ... none of the old-fashioned "_____ attached" kind of giving ...
- I'd say that was very typical of the _____ of the new philanthropists.

4 Write the words from Exercise 3 next to the correct definition.

- set of beliefs and values _____
- early investment in a new company _____
- profit _____
- make happen _____
- succeeding without help _____
- someone who does the same job in a different time or place _____
- without special conditions _____

Word focus give

5 Complete the expressions with *give*.

- I **gave it my** _____, but I didn't win—he was a much better player.
- It's not a decision you can take lightly. You need to **give it some serious** _____.
- Give her a** _____. She's only 12. I didn't know what I wanted to do until I was 20!
- I've never tried to steer a boat before, but I'll **give it a** _____.
- Don't rush it. You broke your leg. You need to **give it some** _____ to heal properly.

4d An elevator pitch

Real life making a short pitch



1 ▶ 31 Listen to a short pitch for a product called the "Solidarity Bag." Listen and answer the questions.

- Who is the product aimed at?

- What is unique about this idea?

- What problem does it solve?

- What features does the bag have?

2 Speaking skill using rhetorical questions

▶ 31 Listen again and complete these rhetorical questions.

- What's _____ about that, you _____?
- Why _____ children _____ to do _____, when they have a desk at school and a table at home?
- But _____ will _____ in poorer countries _____ to afford the bag?

3 Write the answers to the questions in Exercise 2.

- _____
- _____
- _____

4 Complete these other rhetorical questions you might ask when pitching a new product or service.

- Operation
So how _____?
- Cost
Isn't _____, you ask?
- Need
So why _____?
- Ambition/Goal
So, what _____?

5 Pronunciation word stress

▶ 32 Look at the words in bold in these sentences and underline where you think the stress falls in each word. Then listen and check.

- Clearly**, we want to help others.
- Financially**, we are in a good position.
- Essentially**, it's a school backpack.
- Of course**, this is not the finished design.
- Honestly**, I don't know the answer to that.
- Obviously**, not all kids need this bag.
- To be honest**, I think people will pay extra.
- Basically**, we'd like to help kids learn.

6 Listen and respond defending your idea

▶ 33 Imagine you have just presented this Solidarity Bag to a potential investor. Listen to their questions. Respond with your own words. Then compare what you say with the model answer that follows.

1 *Can you just explain to me what your ambition is for this product?*

Yes. We would like it to have successful sales in Europe and on the basis of that to be able to provide many of these bags to children in developing countries.

4e Problem or solution?

Writing a proposal

1 Read the proposal and answer the questions.

1 Does the company currently recognize the importance of innovation, and if so, how?

2 What specific, concrete suggestions does the proposal make?

3 What recommendations does it make without giving specific examples?

2 Answer these questions about the structure of the proposal.

1 What is the purpose of the introduction?

2 In what two ways does the author make a list of points?

3 What phrase does she use to signal the conclusion?

3 Writing skill making recommendations

Circle the correct options to complete the recommendations.

1 We suggest employees *be / to be* given a structure in which to innovate.

2 We recommend that the company *could / should* reward employees for their ideas.

3 We strongly recommend *to give / giving* innovation a more formal position.

4 We recommend that employees *have / having* scheduled discussion opportunities.

5 We also suggest that they *are to visit / should visit* other organizations to get ideas.

Introduction

This proposal suggests a new way to encourage innovation and creativity among staff.

Current situation

Our company needs innovation to be successful. At the moment, although we say that “we encourage creativity and innovation,” in fact we receive very few ideas from employees about how to improve our products and processes. Innovation is important because it can:

- help make the company more efficient
- create new products and services
- motivate staff
- help secure the company’s future

So how can we achieve more creativity and innovation in practice, not just in words?

Possible solutions

First of all, we suggest that employees should be given a structure in which to innovate. This could take the form of a scheduled discussion between groups of colleagues every two to four weeks. Or it could involve giving employees the opportunity to visit other organizations to see how they work. Secondly, we recommend rewarding employees for good ideas. This does not have to be a financial reward, but it must involve recognition of their effort. Lastly, we believe that creating a more relaxed relationship between employees and management would also help the flow of ideas.

Recommendations

In summary, we strongly recommend that innovation and creativity be given a more formal position in the company’s working practices.

4 Use these notes to write a proposal for a way to make students more aware of ways we waste energy.

Problem: Students are conscious of the dangers of pollution, but not of their own waste of energy (leaving on lights, phone chargers, etc.).

Possible solutions: awareness-raising campaign, fines for wasting energy, offer free “green” charging devices

Wordbuilding partitives

1 Complete the partitive expressions using these words. Use a dictionary if necessary.

bit	bite	drop	gust	hint
plot	shred	stroke	word	

1 I’m really thirsty. I haven’t had a _____ of water all day.

2 It was a _____ of luck getting those tickets. They were the last two.

3 I’m sorry. I didn’t mean to offend you. It was just a _____ of fun.

4 A sudden _____ of wind blew my hat off, and it landed in a puddle.

5 He tried to be positive, but I think there was a _____ of disappointment in his voice.

6 They bought a _____ of land near the sea, and they intend to build a house there.

7 Can I give you a _____ of advice before you start out on this venture?

8 There’s not a _____ of evidence to suggest that there is life on other planets.

9 We’ll get a _____ to eat when we get there.

2 Which four expressions in Exercise 1 emphasize a small amount?

- a _____
b _____
c _____
d _____

Learning skills vocabulary extension (1)

3 You can use your dictionary to extend your vocabulary. If you see a word that you think you know but the meaning does not seem to fit, check the other meanings of this word in the dictionary. Look at this example.

1 You see this sentence but don’t know this meaning of *capital*.

“Running a railway network is a very capital-intensive activity.”

2 You find these entries for *capital* in the dictionary. Which meaning does it have in this sentence?

capital /'kæpɪt(ə)/ noun
1 the administrative center of a country or region
2 money or assets that are or can be invested

capital /'kæpɪt(ə)/ adjective
3 (of a letter of the alphabet) large
4 (of punishment or crime) punishable by death

3 Note any new meanings in your notebook and write an example sentence for each one.

4 Look at these words with more than one meaning. What meanings do you know for each?

crane fair fine sole

5 Read the sentences. Do you know the meanings of the words in bold in these sentences? Check other meanings in the dictionary. Write example sentences for the meanings that are new to you.

1 In Japan, a popular origami shape is a paper **crane**.

2 I went to the Frankfurt book **fair** last week.

3 There’s a **fine** line between confidence and arrogance.

4 It’s not a company; he is a **sole** trader.

Check!

6 Answer these questions. All the answers are in Student Book Unit 4.

1 What is the “mother of invention”?

2 What adjective describes gadgets you can fold? “_____ technology”

3 What type of eye did you see on the opening page of this unit? _____

4 What is the name for a short presentation where we have a limited time to convince someone of our idea? _____

5 What do we call someone who wants to make money but also helps people? _____

7 Complete the sentences. The first letter of each word spell the name of Blake Mycoskie’s company.

1 I’ll certainly give your idea some _____.

2 It’s _____ a very risky venture. I’ll be surprised if it comes through.

3 Tina won the “Entrepreneur of the Year” award. She _____ be thrilled.

4 To make something smaller, you can _____ it, bend it, or fold it.

Name of company: _____