

VOCABULARY

Doing experiments

1 Add the missing vowels (a, e, i, o, u) to complete these words for doing experiments.

- 1 bl__w
- 2 b__l
- 3 c__v__r
- 4 f__ll
- 5 p__r

- 6 r__b
- 7 sh__k__
- 8 st__r
- 9 t__
- 10 wr__p

2 Look at the pictures. What are they doing? Write an experiment word from Exercise 1 in each space.



3 Complete the sentences with the correct form of the words from Exercise 1.

- 1 The water needs to be _____ to get to a temperature of 100 degrees.
- 2 By _____ the place where you blow into the balloon, the air stays inside in the balloon.
- 3 To start the experiment, you need to _____ the glass with cardboard.
- 4 _____ the paper around the bottle and leave it for five minutes.
- 5 After you have _____ the balloon on your hair, move it away from the can and watch the can move towards the balloon.

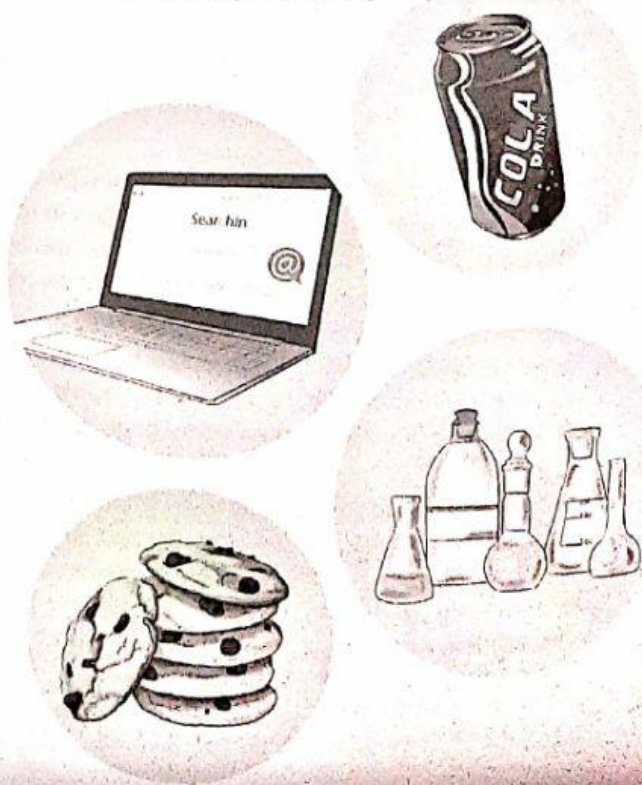
4 Match the questions and answers.

- 1 How is Charlie going to get air inside the balloon?
 - 2 How do you get the different liquids to mix well?
 - 3 What do you need to do with the water before you cook the egg?
 - 4 When you want to mix sugar with coffee, what do you do?
 - 5 If the glasses don't have enough water in them, what should I do?
- a Pour it into a saucepan and boil it.
 - b Stir it!
 - c He's going to blow into it.
 - d Fill them to the top.
 - e You shake them a lot.

READING

1 Tick the inventions that you think were made by mistake. Read the text quickly to check your answers.

- 1 the internet
- 2 a popular soft drink
- 3 the first antibiotic
- 4 a popular type of biscuit



were made by mistake

When you think of people who have invented something that has changed the world, you immediately think of the achievements of some very intelligent scientist. But their success often comes in an unexpected way. Did you know that the medicine penicillin was discovered because of a mistake? It's amazing to think that something that was an accident then became something that the whole world now uses to stop serious illness.

Here are a few examples of inventions that were made by mistake:

In 1968, scientist Spencer Silver created a type of glue that would stick to things but could be removed easily from any surface. He was really trying to create a super-strong glue but failed. Art Fry, another scientist, was tired of his bookmarks falling out of his books. He remembered Silver's special glue and wondered if this might be the answer to his problem. When he tried the glue on his bookmarks, they stuck and didn't damage the pages. It worked. It was then that he thought of the idea of using the glue on notes.



Saccharine was discovered in 1879 by the chemist Constantine Fahlberg while he was working in his university laboratory. The discovery came because he forgot to wash his hands after spilling a chemical on them, and when he was eating his bread at lunch it tasted unusually sweet. It was later produced in huge quantities as an artificial sweetener and is now used in soft drinks to reduce the sugar and calories.



Scientist Alexander Fleming invented penicillin, which helps stop infections by killing bacteria. He was on holiday and he had left a petri dish (a special dish used by scientists to grow bacteria) in his laboratory. When he returned, the dish had an unusual mould on it, but there were no bacteria growing. He realised that something in the mould was killing the bacteria. He also realised that if you use this substance on the human body, it stops serious illness. This became the first antibiotic, penicillin, which has saved millions of people's lives over the years.



In the 1930s, Ruth Wakefield owned a very popular restaurant called the Toll House Inn in the United States. While making some chocolate cookies, she discovered she had no special baker's chocolate left and decided to use some normal chocolate instead. She poured it into the dough, but the chocolate did not mix with the dough



Complete the zero conditional sentences using the correct form of the verbs in brackets in the correct order.

- 1 If you _____ your experiment work, you _____ happy. (feel, see)
- 2 If you _____ water, it _____ at 100 °C. (boil, heat)
- 3 I _____ always exhausted the next day if I _____ to bed very late. (be, go)
- 4 They _____ the schools in the United States if the temperature _____ to -20 °C. (close, drop)
- 5 If my brother _____ under a ladder, he _____ he will have bad luck. (think, walk)
- 6 My sister _____ her science classes if she _____ in a group with her friends. (work, enjoy)

Complete the text with the correct form of the verbs in the box.



become	get	go
pour	make	say

There is a hole in my roof. When it rains, the water
 1 _____ in. When the water comes in, it
 2 _____ the floor wet. When the floor is
 wet, the walls 3 _____ green. When the
 walls are green, I 4 _____ ill. When I am
 ill, I 5 _____ to the doctor. When I see the
 doctor, he always 6 _____ the same thing:
 'Fix the roof!'

3 Match the sentence halves.

- | | |
|------------------------------|-------|
| 1 If you freeze water, | _____ |
| 2 If you take penicillin, | _____ |
| 3 If you pour oil on water, | _____ |
| 4 If you don't water plants, | _____ |
| 5 If you heat ice, | _____ |
- a it becomes liquid.
 b they will die.
 c it will become solid.
 d it will kill the infection.
 e it floats.

4 Complete the text with the correct form of the verbs.

My mum enjoys talking about science because she studied it at university. If someone ¹is / will be interested, she shares her knowledge with them because she ²believes / doesn't believe that one of the main benefits of having knowledge is that you can pass it on to other people. If there ³is / will be a science programme on TV, she ⁴will watch / won't watch it. Last week she was really disappointed because her favourite science TV show wasn't on. If this happens, she ⁵reads / will read her science magazine instead. I'm really lucky that my mum is good at science because if I have science homework, she ⁶helps / will help me with it. Last week our teacher gave our test results back and I got a good mark. If I have children one day, I ⁷share / will share my knowledge with them too.

5 Choose the correct sentence in each pair.

- 1 a If you'll meet her, I'm sure that you'll like her.
 b If you meet her, I'm sure that you'll like her.
- 2 a If you don't go with us, you'll missed out on a lot of fun.
 b If you don't go with us, you'll miss out on a lot of fun.
- 3 a If you go, we'll have a better time.
 b If you will go, we'll have a better time.
- 4 a It'll be a pleasure if you came.
 b It'll be a pleasure if you come.
- 5 a If he doesn't smile, I know he's not happy with me.
 b If he doesn't smile, I know he will be not happy with me.

VOCABULARY

Phrasal verbs: science

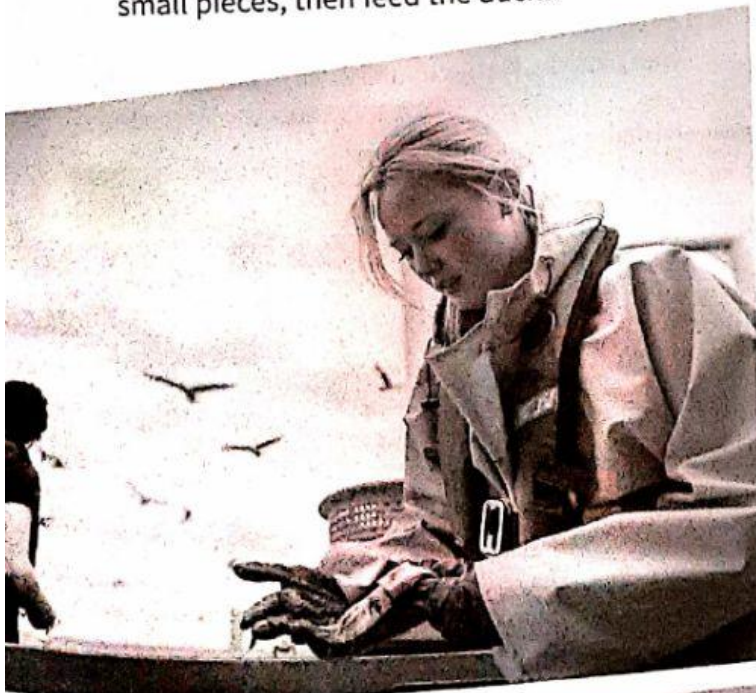
- 1 Choose the correct preposition from the box to make phrasal verbs.

away out up

- 1 cut _____
- 2 carry _____
- 3 work _____
- 4 blow _____
- 5 take _____
- 6 add _____

- 2 Complete the sentences with a phrasal verb.

- 1 Be careful! If you mix those two liquids, you will _____ the lab!
- 2 I need to _____ the best way to design the experiment.
- 3 If I _____ the two amounts, I can see the total.
- 4 You have to _____ the liquid from the heat and then leave it to cool for ten minutes.
- 5 It's best to _____ the experiment yourself and then show the class.
- 6 I will _____ the bread into small pieces, then feed the ducks.



LISTENING



- 1 You will hear an interview with a scientist called Anna Millward, who is an expert on fish.

For each question, choose the correct answer. Then listen again and check that the other two options are wrong.

- 1 Anna first became interested in fish when
 - A she read about some in a book.
 - B she studied some at school.
 - C she saw some in a zoo.
- 2 Why did Anna give up the idea of becoming a vet?
 - A The training course was too long for her.
 - B Seeing sick animals made her feel bad.
 - C Her interest in animals changed.
- 3 What is the main aim of Anna's research?
 - A to discover new types of fish
 - B to find out about where fish live
 - C to develop new ways of protecting fish
- 4 What part of her job does Anna find most difficult?
 - A getting used to conditions in different countries
 - B spending a lot of time working in a laboratory
 - C communicating with a wide range of people
- 5 Why is Anna keen to talk to fishermen?
 - A to persuade them to catch fish that she wants to study
 - B to make them aware that some fish are disappearing
 - C to use their knowledge of fish for her research
- 6 Anna says we should
 - A only eat fish caught near to where we live.
 - B remember the benefits of eating fish.
 - C reduce the amount of fish we eat.

