

5 It's Not Rocket Science

5A Steps in the Process

VOCABULARY Science in action

1 Review Choose the best options to complete the text.

Manuel Castillo is an experienced (1) ____, who has just been employed as a new member of the Help Team. Please contact him if you are having any problems with your computer (2) ____. Manuel can respond to your questions by email or he can come to your office and (3) ____ things face-to-face. He can also advise you on how to (4) ____ with other departments, (5) ____ for documents in the scientific library, and (6) ____ scientific research materials from other universities online.

- 1 **a** computing technician
b computer technician
c hacker
d software developer

- 2 **a** equip
b equipped
c equips
d equipment

- 3 **a** ask
b search
c explain
d find

- 4 **a** join
b connect
c access
d connection

- 5 **a** find
b search
c access
d get

- 6 **a** access
b invent
c connect
d ask

2 Review Complete the sentences with these words.

| | | | |
|---------|---------|----------|------------|
| curious | data | discover | examine |
| proof | results | solution | technology |

- 1 All the _____ the scientists collected is still being examined.

- 2 The _____ of the experiment were very disappointing. We did not learn anything new.
- 3 Many people still want to _____ if there is life on other planets.
- 4 The _____ to the problem still escapes us.
- 5 I won't believe you unless you give me _____ of your statement.
- 6 Children ask so many questions because they are naturally _____ about everything around them.
- 7 We will _____ all the ancient statues we found on our trip.
- 8 The _____ in computer science is changing every day.

3 Choose the correct option (a–d) to complete each sentence.

- 1 The first step is to ____ a hypothesis.
a release **c** track
b record **d** form
- 2 I ____ the substance under the microscope.
a got rid **c** recorded
b placed **d** formed
- 3 When did you carry ____ the experiment?
a off **c** over
b in **d** out
- 4 The substance ____ in the water.
a released **c** dissolved
b got rid of **d** added
- 5 The scientists ____ their eating habits over six months.
a tracked **c** rewarded
b proved **d** submitted
- 6 We ____ an experiment to test the effects of heat.
a formed **c** dissolved
b designed **d** placed
- 7 The action ____ a chemical reaction.
a did **c** proved
b added **d** created
- 8 He ____ the results of the experiment.
a looked **c** analyzed
b carried out **d** placed

4 Complete the sentences with these verbs.

| | | | |
|---------|-------|----------|-------|
| analyze | carry | dissolve | form |
| heat | prove | submit | track |

- 1 First, you need to _____ up the substance.
- 2 The team hopes to _____ the movement of the whales.
- 3 My goal is to _____ the hypothesis.
- 4 Doctors _____ the samples in a lab outside the hospital.
- 5 Make sure you _____ your report before the deadline.
- 6 I _____ out research as part of my job.
- 7 The salt didn't _____ in the cold water.
- 8 It's important to _____ an interesting hypothesis.

5 Number the steps of the research in order.

- ___ a Record the results of the experiment.
- ___ b Prove or discount your hypothesis.
- ___ c Carry out research.
- ___ d Design an experiment.
- 1 e Form a hypothesis.
- ___ f Analyze the data.

6 Cross out the mistake in each sentence and write the correct word.

- 1 The chemical reaction realized a gas.

- 2 You should add referees at the end of your research report. _____
- 3 Scientists are carrying in research into cancer.

- 4 We'll analysis the results at the end.

- 5 He heated out the chemicals. _____
- 6 We designed the test to get rid with a chemical.

7 Put the words in the correct order to make sentences.

- 1 researchers / demonstrate / their / experiment / to / designed / an / theory / .

- 2 the / energy / chemical / released / reaction / .

- 3 dissolved / the / heated up / substance / after / it / was / .

- 4 data / form / a / before / collecting / hypothesis / .

- 5 the / cell / placed / she / microscope / under / the / .

- 6 the / gorillas' / tracked / eating / scientists / habits / .

8 Extension Complete the table. Match these verbs with the noun they collocate with.

conduct disprove formulate perform set up test

| Hypothesis | Experiment |
|------------|------------|
| | |

9 Extension Complete the sentences with these words.

| | | | |
|-----------|----------|---------|-------------|
| data | disprove | dissect | observation |
| performed | reacted | set | support |

- 1 After the experiment, we analyzed the _____ .
- 2 The chemicals _____ with each other.
- 3 She wanted to _____ her hypothesis and show it was false.
- 4 They _____ up the experiment in the laboratory.
- 5 We _____ the experiment over three days.
- 6 Students _____ animals as part of their biology course.
- 7 Biology is the study of the natural world through _____ and experimentation.
- 8 Does your data _____ your hypothesis?

GRAMMAR Passives 1

15 Read about important inventions of the 21st century. Then choose the correct options to complete the text.

It might be said that some of the most important advances of the 21st century have been the iPhone, the iPod, YouTube, and Skype. Today, they are a part of everyday life, but our lives (1) *has been changed / have been changed / have changed* by all of them.

Music players existed before Apple's iPod, but the iPod changed people's relationship with music—especially how it (2) *was enjoyed / was to enjoy / enjoy*.

The iPod and Apple's music store, iTunes, (3) *was develop / were developing / were developed* in 2001. The iPod's modern design and its large storage capacity made it very popular. And because of iTunes, digital music has become normal.

YouTube (4) *founded / was being founded / was founded* in 2005 and is now the world's most popular video-sharing website. Videos (5) *can shared / can be shared / can share* by anyone from anywhere. Millions of hours (6) *spent / is spent / are spent* each month watching music videos, clips from TV programs and films, how-to tutorials, and even cat videos!

How people communicate (7) *also been changed / has also been changed / is also changing* because of Skype. Before this, telephone calls to friends abroad were expensive, but that changed with Skype's free, internet-based calls. Now anyone with an internet connection can (8) *been "called" / is "called" / be "called"* for free! What's more, they (9) *can be seen / can see / have seen* thanks to the video chat!

Apple's iPhone was the first user-friendly smartphone with a large touchscreen. It came out in 2007 and took over the cell phone market, and a new industry (10) *created / was creating / was created*—app development. To date, nearly 900 million iPhones (11) *has been sold / have been sold / are sold*.

The 21st century is still young. Who knows how our lives (12) *improved / will improved / will be improved* by other inventions in the next few years!

16 Complete the sentences with the passive forms of these verbs and the tenses in parentheses below.

| | | | | |
|--------|---------|-----------|----------|--------|
| cause | conduct | confirm | question | select |
| submit | track | transform | win | |

- 1 We were told that more research _____ if there's enough funding. (modal + passive)

- 2 The other team's hypothesis _____ by the teacher. (past perfect passive)
- 3 The smoke _____ by escaping gas. (past continuous passive)
- 4 The results of the experiment _____ by the surprised researchers. (simple past passive)
- 5 The raw materials _____ into a unique substance. (present perfect passive)
- 6 Temperature changes _____ by the scientists. (future passive)
- 7 The winner of the competition _____ by the committee. (present perfect passive)
- 8 The innovation prizes _____ right now. (present continuous passive)
- 9 The teacher was happy that our homework _____ on time. (simple past passive)

17 Rewrite the passive sentences in active form and the active sentences in passive form.

- 1 An experiment was designed by the scientists to test the quality of the gold.

- 2 The fish had been released into the stream by the biologist.

- 3 The wire was attached to the battery, which started the experiment.

- 4 The powder is being dissolved in the liquid.

- 5 They used the smartphone to make a video of our experiment.

- 6 You can find the winners on our website or in our magazine.

- 7 The high cost has discouraged me from building a supercomputer.

- 8 Experts consider scientists from your country to be among the best in the world.

5B Playing to Learn

VOCABULARY BUILDING Adjective endings

- 1 Complete the table with the adjectives that go with these nouns.

| | | | | |
|------------------|-------------|-------------|-----------|------|
| adaptation | beauty | curiosity | effect | help |
| hope | imagination | innovation | treatment | |
| -able | | -ful | | |
| <i>treatable</i> | | | | |
| | | | | |
| -ive | | -ous | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

READING

- 2 Read the article and choose the best headings for paragraphs 1–6 from the list of headings below. You will not use all the headings.

Paragraph 1 ___
 Paragraph 2 ___
 Paragraph 3 ___
 Paragraph 4 ___
 Paragraph 5 ___
 Paragraph 6 ___

- a Guided play for learning
- b Guided play for discovery
- c How education is changing
- d How children learn best
- e Why rats play
- f The problem with play
- g Why animals play
- h Playing for the future
- i Play and the brain

- 3 Read the article again. Choose the answer that you think fits best according to the article.

- 1 In paragraph 2, what is the author's main point about animal play?
- a Play makes rats more social and less stressed.
 - b Play is extremely important for animals to survive and succeed.

- c Playful animals live longer than animals who are not playful.
 - d Rats, squirrels and bears are healthy animals because they play a lot.
- 2 The author gives examples of animals that play because
- a it is interesting information for the reader.
 - b it is important information for teachers to understand.
 - c it helps explain why play is important for human children.
 - d scientists are focused on animal play.
- 3 In paragraph 4, what does the author suggest about guided play?
- a It is better for learning than many traditional teaching methods.
 - b It should be used mainly to teach vocabulary.
 - c It should be directed by teachers, not children.
 - d It should be focused on fun more than on specific learning goals.
- 4 In paragraph 5, what is the author's purpose in describing the teacher's interaction with students about shapes?
- a to prove that this is a good teacher
 - b to prove that guided play is important for children
 - c to suggest that teachers should never talk more than children
 - d to give an example of how guided play works
- 5 In the last paragraph, "this" refers to
- a research.
 - b children.
 - c guided play.
 - d scientists.

- 4 Complete each sentence with the correct ending based on information from the article.

- 1 Rats that play regularly ___
- 2 Students in the past ___
- 3 The purpose of guided play is to ___
- 4 A teacher using guided play well will ___
- 5 Children learn best when they ___
- 6 Worksheets and flashcards ___
- a have strong social skills.
- b spend a lot of time listening.
- c help students achieve learning goals.
- d make connections to their own lives.
- e do not always help students remember information.
- f spent less time playing than they do now.



- 1 When most people think of school, we think of sitting in desks or at tables, listening to teachers, and taking exams. But today, especially in classrooms for young children, learning looks quite different. One of the biggest trends in early childhood education is for play-based learning. Instead of seeing children sitting at a desk, you might find them playing in a model kitchen or building towers of blocks. Rather than watching a teacher who stands at the front of the room, these students will be playing with their teacher in the park. What is play-based learning, and why do children need it?
- 2 To find some answers, we can look to the animal kingdom. Many species of animals have been observed playing, and scientists have begun to understand why. Animals play for a variety of reasons: to learn social skills, to master survival skills and to relieve stress. Rats are some of the most playful animals, and research shows that rats who play have better developed brains, are able to pay attention longer, and have better memories than rats who don't. Rats who play are also better in social situations with other rats; they get in fewer fights and have much lower stress levels. Squirrels are also playful animals. Scientists have found that squirrels who play have better coordination and even have more babies than those who don't. Brown bears who play as cubs are more likely to survive into adulthood than those who do not experience play. Play is crucial for animals to learn important social and survival skills, and might even create healthier brains.
- 3 It's not surprising, then, that human children also benefit from playing to learn. Educational researchers
- have found that children learn best when they are mentally active, interested, socially interactive, and able to make connections between what they are learning and their own lives. Teachers build on this research by practicing guided play in their classrooms.
- 4 Play is flexible, fun, and directed by children; guided play helps children focus their play to achieve a learning goal. For example, a teacher using guided play to teach farm animal vocabulary might read a book with the children and then let them play with toy horses, cows, and chickens. Studies show that this type of guided play helps children remember words better than regular school activities like worksheets or flashcards.
- 5 With guided play, teachers watch and listen more than they talk. If children are playing with toys of different shapes, a teacher might ask questions about the shape. This allows the child to learn about different shapes through discovery rather than instruction. They are able to form hypotheses of their own, test them, and become little scientists.
- 6 Research is showing that children learn better from playing, especially from guided play. Scientists are trying to learn more about what effects this has on the brain, but it is clear that play is an important part of development. Guided play helps prepare children to become curious, creative thinkers, and caring members of society. Many teacher training programs are now focusing on the importance of guided play so that the next generation gets the best education possible.

5C Mind-Blowing!

GRAMMAR Passives 2

1 Read the sentences. Are they active (A) or passive (P)?

- 1 My sister Roberta claims to be too busy to help me study. ___
- 2 It's well known that Beijing Capital International Airport is one of the busiest airports in the world. ___
- 3 I believe Barbara McClintock won the Nobel Prize in Physiology or Medicine in 1983 for her work in genetics. ___
- 4 The estimate the scientists made for how long it takes certain bacteria to multiply was accurate. ___
- 5 Louis Armstrong was said to be one of the most innovative jazz trumpeters. ___
- 6 Exercising every day is thought to lead to better sleep. ___
- 7 They said getting humans to the moon couldn't be done. ___
- 8 It's estimated that the world's population will be 9.7 billion by 2050. ___
- 9 Thoughts on the nature of the universe have changed throughout time. ___
- 10 Ella Fitzgerald was a well-known jazz singer. ___
- 11 Marie Curie was believed by many people to be one of the greatest scientists working in the early 20th century. ___

2 Choose the correct option to complete the sentences.

- 1 It ___ that human actions are increasing the negative effects of climate change.
a is claimed
b claimed
c is known to be
d is thought to
- 2 In the 1950s, it ___ by some people that women should not play sports.
a believe
b were believed
c has been believed
d was believed
- 3 The Space Launch System ___ a major step along the road to putting people in space to explore Mars as well as other aspects of deep space.
a it's expected to be
b is expecting to be
c is expected to be
d expecting

- 4 Rewriting your notes after class ___ help you learn the material better.
a is thought to
b known to be
c thought to
d knowing to
- 5 ___ that students who study every day get better grades.
a Thought
b It's considered
c It's thinking
d It's well known
- 6 British archaeologist Howard Carter ___ as the person who, in 1922, discovered Tutankhamun's tomb in Egypt.
a seems
b is said
c considered
d is known
- 7 In the 1400s, many people ___ India's spices were the best in the world.
a were said
b said
c have generally accepted
d have been said

3 Choose the correct option to complete the sentences about brain myths.

- 1 *It's said / It says* we use only 10 percent of our brain capacity.
- 2 Our brain *doesn't / is believed to be* work as well after we turn 50.
- 3 Brains *claim / are claimed* to be like computers.
- 4 It *generally accepts / is generally accepted* that we have only five senses.
- 5 *It's assumed / It assumes* that you have to speak one language well before you learn a new language.
- 6 Men's brains *were believed to / are* different in many ways from women's brains.
- 7 *It is thought / Thoughts* that adults can't grow new brain cells.

4 Which sentence, a or b, is closer in meaning to the original sentence?

- 1 Gabriel Garcia Marquez is said to be one of the greatest authors of the 20th century.
a I think Gabriel Garcia Marquez is one of the greatest authors of the 20th century.
b Many people think Gabriel Garcia Marquez is one of the greatest authors of the 20th century.
- 2 It's well known that tennis players who take extra lessons do better in competitions.
a Tennis players know to take extra lessons and do well in competitions.
b If tennis players take extra lessons, they generally do better in competitions.

- 3** Persuasive advertisements are thought to make customers buy more.
- a** People generally think that customers buy more when they see persuasive advertisements.
 - b** Customers buy more items and like persuasive advertisements.
- 4** Lewis Hamilton is known to be one of the best Formula One drivers of all time.
- a** Lewis Hamilton knows he is one of the best Formula One drivers of all time.
 - b** Many people think Lewis Hamilton is one of the best Formula One drivers of all time.
- 5** It's been generally accepted that science has made life better.
- a** Though not everyone agrees, a lot of people think science has made our lives better.
 - b** Science making our lives better is accepted to be a general thought.
- 6** It's widely believed that teachers should encourage curiosity in their students.
- a** Teachers generally want to encourage their students to be curious.
 - b** Most people think it's important for teachers to encourage their students to be curious.

5 Use *have* or *get* + *something* + past participle to write a new sentence in the passive that is related to the first sentence.

- 1** Someone took my photo for my new ID. (get)
I got my photo taken for my new ID.

- 2** They displayed my research project at the science fair. (have)

- 3** They printed my aunt's favorite recipe in the newspaper. (get)

- 4** They took my temperature at the clinic. (have)

- 5** Some classmates finished Jamie's experiment for him. (get)

6 Use the prompts to write present simple sentences with the impersonal *it*.

- 1** well / know / people / like / ice cream
It is well known (that) people like ice cream.

- 2** think / recording lectures / help / students / learn

- 3** assume / most students / need / study / regularly

- 4** think / exercise / good for / brain

- 5** claim / world / get / hotter / every decade

- 6** assume / scientific advances / help / people / live longer

- 7** well know / Mrs. Liu / be / best teacher / our school

7 Rewrite each passive sentence so that it does not use the impersonal *it*.

- 1** It is thought that studying abroad helps students become more curious about the world.

- 2** It's estimated that 37 percent of the people in our country have university degrees.

- 3** It was said that our experiment was doomed to failure since we didn't take into account the temperature.

- 4** It is claimed that brushing your teeth twice a day keeps your mouth healthy.

- 5** It's believed that fish such as salmon are good for the health of your brain.

- 6** It's thought that getting at least eight hours of sleep every night helps your brain work better.

5D Science is for everyone, kids included.

TED TALKS

AUTHENTIC LISTENING SKILLS

- 1 Listen to the extract from Beau Lotto's TED Talk, and choose the filler words where he uses them. If he does not use a filler word, choose X.  39

Now, I want to tell you a story about seeing differently, and all new perceptions begin in the same way.

(1) *Right?* / *X* They begin with a question. The problem with questions is they create uncertainty. Now, uncertainty is a very bad thing. It's evolutionarily a bad thing. If you're not sure that's a predator, it's too late. (2) *OK?* / *X* Even seasickness is a consequence of uncertainty. (3) *Right?* / *X* If you go down below on a boat, your inner ears are telling you you're moving. Your eyes, because it's moving in register with the boat, say I'm standing still. (4) *OK?* / *X* Your brain cannot deal with the uncertainty of that information, and it gets ill. The question "why?" is one of the most dangerous things you can do, because it takes you into uncertainty. (5) *You know?* / *X* And yet, the irony is, the only way we can ever do anything new is to step into that space. So how can we ever do anything new? Well fortunately, evolution has given us an answer, (6) *right?* / *X* And it enables us to address even the most difficult of questions. (7) *Yeah.* / *X* The best questions are the ones that create the most uncertainty. They're the ones that question the things we think to be true already. (8) *Right?* / *X* It's easy to ask questions about how did life begin, or what extends beyond the universe, but to question what you think to be true already is really stepping into that space.

WATCH

- 2 Do Beau (B) or Amy (A) make each of these statements?

- 1 The brain takes meaningless information and makes meaning out of it, which means we never see what's there. ___
- 2 Science is not defined by the method section of a paper. It's actually a way of being, which is here, and this is true for anything that is creative. ___
- 3 We thought that it was easy to see the link between humans and apes in the way that we think, because we look alike. ___

- 4 Really, we wanted to know if bees can also adapt themselves to new situations using previously learned rules and conditions. ___
- 5 We asked the bees to learn not just to go to a certain color, but to a certain color flower only when it's in a certain pattern. ___
- 6 So the kids give me the words, right? I put it into a narrative, which means that this paper is written in kid speak. ___
- 7 It took four months to do the science, two years to get it published. ___
- 8 This project was really exciting for me, because it brought the process of discovery to life, and it showed me that anyone, and I mean anyone, has the potential to discover something new. ___

VOCABULARY IN CONTEXT

- 3 Match the words 1–6 with the sentences that show their meaning (a–f).

- | | |
|---------------|------------------|
| 1 adapt ___ | 4 surrounded ___ |
| 2 a voice ___ | 5 bother ___ |
| 3 reward ___ | 6 link ___ |

- a Joaquin's mother always told him that knowledge would be the **benefit he received** for his effort in school.
- b Sometimes adults don't **make the effort** to take children's questions seriously, even though they can provide valuable insights.
- c Amy and her classmates wanted to study the **connection** between the way humans solve problems and the way bees do.
- d The students wondered whether the bees would **change** their behavior based on the experiments that they designed.
- e When I go into the city, I have people and buildings **all around me**.
- f Beau Lotto thinks that it is important for children to have **the opportunity to contribute** to scientific discussions.

5E Conducting Experiments

SPEAKING

Useful language

Staging

The first thing we'd need to do is...

We'd also need to make sure that we (didn't)...

I suppose then we'd probably be best... -ing...

Preparing research questions

I wonder if / how / why...

It'd be good to know what / whether...

We'd need to try and work out...

Hypothesizing

I'd expect the results to show... I'd imagine that the data would probably reveal...

I would / wouldn't have thought it'd be possible to prove that...

- 1 Match each useful language phrase with its function: Talking about Staging (S), Preparing research questions (Q), or Hypothesizing (H).

- 1 I wonder if / how / why ___
- 2 We'd also need to make sure that we (didn't) ___
- 3 I would / wouldn't have thought it'd be possible to prove that ___
- 4 We'd need to try and work out ___
- 5 I guess then we'd probably be best...-ing ___
- 6 I'd expect the results to show ___
- 7 It'd be good to know what / whether ___
- 8 I'd imagine that the data would probably reveal ___
- 9 The first thing we'd need to do is ___

- 2 Listen to the conversation and decide what the experiment will be about.  40

a commerce b science c technology

- 3 Complete the conversation with phrases from the useful language box. Then listen again and check your answers.

 40

A: So, how are we going to plan our science project together?

B: Well, I think (1) _____ design the experiment.

A: That's a good idea. So, if we're investigating the gas released in the chemical reaction with different metals, we need to use sound research methods.

C: (2) _____ we can measure the rate of gas produced.

B: (3) _____ measured and recorded the results accurately.

A: Yeah, and (4) _____ how the reaction occurs.

C: (5) _____ doing some research, forming a hypothesis about the reaction, and then proving it in our experiment.

B: Also, (6) _____ the quantity varies at different temperatures.

C: (7) _____ the speed of the reaction changes at different temperatures.

A: Yeah, (8) _____ an increase in volume at higher temperatures.

B: What about the different metals? Are they all going to be the same?

C: (9) _____ that one of the metals was the most reactive.

A: Right, let's decide how we're going to research this then.

- 4 Think about how you and some classmates would work together to plan one of the experiments from the list below (or an example of your own). Apply the research methods you learned in the unit to plan your task. Use the useful language to make notes. Then compare your ideas with the conversation in Activity 3.

- How do different building designs react in an earthquake?
- Frozen substances—expansion or contraction?
- How can we produce light without electricity (or fire)?
- The effectiveness of different materials to filter dirty water

- 5 Listen to part of a lecture from a biology course and answer the question below.  41

Using the information from the talk, describe the two main consequences of global warming and how the examples illustrate the concept.

Make notes and remember to use the useful language.

Then listen to the sample answer.  42

WRITING A scientific method

6 Match the two parts of the sentences.

- 1 The experiment aimed to measure ____
- 2 The purpose of the experiment ____
- 3 Pavlov played the same sound ____
- 4 The reactions among the gases were studied in order to ____
- 5 During the experiment, the scientists ____
- 6 After the experiment, the properties ____
 - a determine their volumes.
 - b of radioactivity were described.
 - c was to demonstrate superconductivity.
 - d reproduced certain types of bacteria.
 - e so that the dogs knew they would be given food.
 - f the force of gravity in a laboratory.

7 Match each sentence with its function:

Introducing the process (I), Linking the steps (L), or Explaining the steps (E).

- 1 The purpose of the experiment was to show the effects of gravity. ____
- 2 Next, the psychologist showed the child the choice of rewards. ____
- 3 A microscope was provided so that the cells could be seen. ____
- 4 The diagram illustrates the process used to complete the experiment. ____
- 5 The experiment aimed to prove that light travels faster than sound. ____

8 Complete the process for this scientific experiment using these words and phrases. Two items are not used.

| | | |
|------------------------|---------|------------------------|
| after the experiment, | aim | before the experiment, |
| carried out | conform | discover |
| during the experiment, | finally | in order to |
| incorrect | once | then |

The Asch conformity experiment

The (1) _____ of this 1950s experiment was to (2) _____ whether social pressure would make individual people conform. In other words, it tested whether individuals would (3) _____, that is, agree, with an answer given by a majority of others even though they knew this answer was (4) _____. The experiment was (5) _____ with 50 male students from a college in the United States.

(6) _____ seven participants were told what answer to give about a comparison between the length of lines on two different cards. One participant was not aware of this, and was not given any instruction.

(7) _____ this person was deliberately placed last in the line of participants, who were all required to answer the question aloud.

(8) _____ prove the theory, the first seven people were instructed to give the same incorrect answer.

(9) _____ these seven had answered, the final participant (10) _____ had to decide whether to conform and give the answer everyone else had given, or the one they personally knew to be correct.

9 Read the process in Activity 8 again. Then put the points (a–h) in the correct order (1–8).

- a Before the experiment, seven of the eight people were told what answer to give. ____
- b The plan was to ask the group to answer an obvious question. ____
- c After hearing all seven answers, the eighth person had to decide whether to conform. ____
- d Groups of eight people were formed to participate in this experiment. ____
- e The eighth person didn't know the others had been told how to answer. ____
- f The purpose was to find out whether people would conform to what others said. ____
- g These seven people were all instructed to give the same incorrect answer. ____
- h They had to answer aloud, so everyone in the group could hear their answer. ____

10 In your English class, you have been talking about robots. Now your English teacher has asked you to write an essay. Write 140–190 words in an appropriate style.

Today, scientists are developing more advanced robots that will carry out many functions for human beings in the future. Some people feel this is a bad idea. Do you agree?

Notes

Write about:

- 1 convenience
- 2 jobs
- 3 _____ (your own idea)

Review

1 Choose the correct option to complete the sentences.

- 1 She *recorded* / *formed* the results of the experiment on her tablet.
- 2 In a *reference* / *hypothesis* you try to explain an observation.
- 3 The scientists *carried out* / *tracked* the progress of the athletes.
- 4 The chemicals *dissolved* / *released* a gas.
- 5 Can you *add* / *place* it under the microscope, please?
- 6 The team *designed* / *formed* a hypothesis.

2 Complete the words to make the phrases.

- 1 s _____ an assignment before the deadline
- 2 c _____ a chemical reaction
- 3 a _____ references at the end of a report
- 4 d _____ an experiment
- 5 c _____ o _____ research
- 6 a _____ the results of an experiment
- 7 p _____ a hypothesis
- 8 g _____ r _____ o _____ a chemical

3 Cross out the mistake in each sentence and write the correct word.

- 1 Music streaming being used by more and more people these days. _____
- 2 The electric car been developed to decrease our dependence on petroleum. _____
- 3 The driverless car has been dream of for many years, but now it is a reality. _____
- 4 Smartphones is now carried by the majority of adults. _____
- 5 Before I left school, tablet computers had introduced into most lessons. _____
- 6 The internet was using for research for the science project. _____
- 7 Wearables (small computer devices that you wear) being advertised as the latest tech gadget. _____
- 8 Her files stored in the cloud so she can access them from any computer with an internet connection. _____

4 Complete the sentences using the verbs in parentheses in the passive voice.

- 1 It _____ (generally agree) that travel sparks curiosity.
- 2 Certain senses and functions of the body _____ (control) by the brain.

- 3 In the 15th century, it _____ (say) that the world was flat.
- 4 The Copley Medal _____ (award) annually by the Royal Society, London, to persons in any field of science who show outstanding achievement.
- 5 The report _____ (write) after the students completed the experiment.
- 6 In the 16th century, the Earth _____ (believe) to be at the center of the universe.
- 7 In many circles, it _____ (claim) that scientific innovation depends on a solid secondary school education.

5 Read the questions. Choose the correct answer.

- 1 Who do you think the best soccer player is?
 - a It's claimed that either Lionel Messi or Ronaldo is the best soccer player in the world.
 - b I claims that either Ronaldo or Lionel Messi is the best soccer player.
- 2 Do I really have to study every day?
 - a You'll got better grades if you study more.
 - b Well, it's been generally accepted that the more you study, the better grades you'll get.
- 3 Name one of the happiest countries in the world.
 - a Denmark says to be one of the happiest country in the world.
 - b Denmark is said to be one of the happiest countries in the world.
- 4 How many people were in the world in the 1600s?
 - a It's estimated that the population then was around 500 million.
 - b The population in the 1600s it's estimated that it was around 500 million.
- 5 What can I do to stay healthy?
 - a If you wash your hands frequently, I think you'll get sick less often.
 - b It's well know washing your hands frequently leads to fewer illnesses.
- 6 Do you think I should join the drama club?
 - a If you do join, I think you'll have got better grades and you had liked it.
 - b Yes, I do! Participating in activities such as drama club is thought to help you get better grades. And I think you'll like it, too.
- 7 Didn't your hair use to be longer?
 - a Yes, I have it cut last Monday.
 - b Yes, I got it cut on Monday.