10A Science fact, science-fiction

In science the credit goes to the man who convinces the world, not to the man to whom the idea first occurs.
Francis Darwin, botanist and son of Charles Darwin

G quantifiers: *all, every, both,* etc. **V** science **P** stress in word families

1 VOCABULARY & PRONUNCIATION
science; stress in word families

a Circle a, b, or c.

1 He's working as a biology teacher although he's a qualified ____.
a zoology **b** zoologist **c** zoological

2 There are thousands of human ____ diseases.
a genetics **b** geneticist **c** genetic

3 My partner has a degree in ____.
a physics **b** physicist **c** physical

4 The results of ____ research have increased the range of medicines available to treat many illnesses.
a botany **b** botanist **c** botanical

5 I'm the only ____ in my family.
a science **b** scientist **c** scientific

6 I wasn't very good at ____ when I was at school.
a chemistry **b** chemist **c** chemical

7 It is thought that there is a ____ reason for his aggressive behaviour.
a biology **b** biologist **c** biological

8 My sister is fascinated by space; she's hoping to become an ____.
a astronomy **b** astronomer **c** astronomical

b Underline the stressed syllable in the words. Is the stress on the same syllable? Tick (✓) the correct column.

	same syllable	different syllable
1 a<u>stro</u>no<u>my</u> / a<u>stro</u>no<u>mer</u>	✓	
2 bi|o|lo|gy / bi|o|lo|gi|cal		
3 bo|ta|ny / bo|ta|ni|cal		
4 che|mist / che|mi|stry		
5 ge|ne|tic / ge|ne|ti|cist		
6 phy|sics / phy|si|cist		
7 sci|en|tist / sci|en|ti|fic		
8 zo|o|lo|gist / zo|o|lo|gic|al		

c 10.1 Listen and check. Then listen again and repeat the words.

d Complete the text with the nouns and verbs in the lists.

Verbs

carry out clone ~~do~~ prove volunteer

Nouns

clinical trials discovery drugs guinea pigs ~~pharmaceutical companies~~

Thousands of scientists are employed in [1] *pharmaceutical companies* to [2] *do* _____ research into new [3] _____. These people hope to make an important [4] _____ which will help treat or cure an illness or disease. When a team believes they have developed a new drug, they have to [5] _____ experiments to [6] _____ their theory and make sure the drug is effective. The final stage of this process is to organize [7] _____ so that the drug can be tested on humans. People who [8] _____ to take part in these tests are known as [9] _____, after the animals that were used in 19th-century medical research. If the tests are successful, the drug is launched onto the market.

One branch of science that is becoming increasingly important in these companies is genetics. Genetic engineers have already managed to [10] _____ a number of different animals, including sheep, rabbits, and monkeys.

2 VOCABULARY FROM LISTENING

Match the words in the list to the definitions.

dissolve gas gravity moist particle
reflect rotate scatter water vapour

1 any substance like air that is neither a solid nor a liquid *gas*
2 mix with a liquid and become part of it _____
3 a very small piece of something _____
4 make things move very quickly in different directions _____
5 water in the form of a gas resulting from heating water or ice _____
6 show the image of somebody / something on the surface of, e.g., a mirror _____
7 slightly wet _____
8 move or turn around a central fixed point _____
9 the force that causes objects to fall to the ground when they are dropped _____

3 VOCABULARY FROM READING

Complete the highlighted words and phrases that express degrees of likelihood.

1 The new measures could, in th *e o r y*, reduce pollution in the city centre dramatically.
2 It seems pl ___ s __ b ___ that sea levels may rise dramatically in the near future.
3 The idea that we'll ever colonize space seems rather f ___ -f __ tch ___ to me.
4 We're still a l ___ g way from finding a source of energy to replace fossil fuels completely.
5 Slowing global warming might be ach ___ v __ b ___ if every country cooperates.
6 The time when I will be able to afford to stop working is quite a w ___ off.
7 The poorest countries still face extreme obst __ c ___ s to development; for example, corruption.
8 The idea that one day cars will fly is not totally impl ___ s __ b ___.
9 It might be p __ ss __ b ___ to see Mars in the sky tonight, if conditions are right.
10 There is a r ___ l possibility that it might snow tomorrow.
11 The theory is only sp __ c __ l __ t __ v __ at the moment. Much more evidence is needed before it can be proved for certain.

4 GRAMMAR quantifiers: *all, every, both*, etc.

a Right (✓) or wrong (✗)? Correct the mistakes in the highlighted phrases.

1 I've taken all luggage up to our room, OK?
✗ all the luggage
2 Everybody were bad-tempered because it was getting late and they were hungry.
_____
3 All went wrong at my last job interview.
_____
4 I have a lot of cousins, but most of them live abroad. _____
5 Every classroom in that school has an interactive whiteboard. _____
6 My mum works as a volunteer at the hospital every morning. _____
7 The most people are against eating genetically modified food. _____
8 All the men seem to love buying new electronic gadgets. _____

b Complete the conversations with *no, any,* or *none.*

1 A Can I have a biscuit?
B Sorry, we don't have *any*_____.

2 A How much homework have you done?
B _____. I don't feel like doing it right now.

3 A How are we going to get home?
B By taxi. There aren't _____ buses at this time of night.

4 A Did any of your friends pass the exam?
B No, _____ of them. It was too difficult.

5 A Shall we have dinner in our hotel room?
B We can't. There's _____ room service after 9 p.m.

6 A When can you come?
B _____ day you like. I'm free all week.

c Complete the sentences with a word from the list. Use each word twice.

both either neither nor

1 *Both*_____ my brother and my sister have children.
2 Dave has two sons, but _____ of them looks like him.
3 We'd like to go to _____ Greece or Portugal for our holiday this year.
4 Neither my boyfriend _____ I eat meat.
5 I can't decide between these two shirts. I like _____ of them.
6 _____ of my parents have ever been to South America.
7 My niece is studying _____ chemistry or biology at university – I can't remember which.
8 Her husband neither calls _____ messages her when he's away.

d Complete the text. Write one word in each gap.

Irène and Ève Curie: the scientist and the journalist

Nearly [1] *everyone* knows the names of scientists Marie and Pierre Curie because of the Nobel Prizes they won. However, [2] _____ people are unaware that the couple also had two talented daughters, Irène and Ève. [3] _____ sisters received the same education, but they each pursued a completely different career.

Irène followed in the footsteps of her parents. She began assisting her mother during the First World War, when she was only 18. The two women used some of the first X-ray machines to help doctors locate the exact position of soldiers' injuries. At the time, people had [4] _____ idea of the dangers posed by the machines, and nurses who used them didn't wear [5] _____ protection. As a result, Irène and her mother were exposed to large doses of radiation and [6] _____ of them lived to a very old age.

In 1924, Irène was asked to share her research techniques with a chemical engineer named Frédéric Joliot. They started going out together, but Marie was afraid that Joliot was only interested in becoming associated with the Curie name. She used [7] _____ her influence to try to end the relationship, but Irène took [8] _____ of her advice, and the couple later married. Irène and her husband continued working together, and in 1935 they too were awarded a Nobel Prize.

Ève Curie, on the other hand, preferred the arts and spent most of her time [9] _____ writing or playing the piano. She worked as a journalist and wrote her mother's biography *Madame Curie*, which was published in 1937. Her husband, Henry Richardson Labouisse, was Executive Director of UNICEF, and when the organization was awarded the Nobel Peace Prize in 1965, he collected the award. Ève used to joke that [10] _____ member of her family had received a Nobel Prize except for her.

Irène Joliot-Curie died in Paris in 1956 at the age of 58. Ève Curie was 102 when she passed away in New York in 2007.