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WRITTEN ACHIEVEMENT TEST

*This test must be done during the English class and you must have your cameras on.

A. 1. Read the following text.

Young Inventors Who See a Better Way

There are some incredible young innovators who are using STEM (science, technology, engineering, and math) and their imaginations to invent new solutions to problems faced by people around the world.

Fionn Ferreira: As a child growing up near the ocean in West Cork, Ireland, Fionn Ferreira loved the sea. He liked to go kayaking and would regularly volunteer at beach cleanups. He's also loved science. His two passions met when, in 2017, he began looking for an environmentally safe way to extract microplastics from water. The method he discovered made him the winner of the 2019 Google Science Fair. It uses a magnetic liquid called ferrofluid which, when added to water, sticks to microplastics. Magnets can then be used to remove the ferrofluid from the water, along with more than 85% of microplastics, according to Ferreira. Ferreira lived far from any labs, so he built most of the equipment he needed to test his method at home. There were hickeys along the way as he developed a spectrometer to measure microplastics in the water. "Some worked, some didn't, some things blew up, some caught fire," says Ferreira. "My parents weren't very happy with me when the fuses of our house were constantly blowing." Now, Ferreira is a student at the University of Groningen, in the Netherlands. After graduation, he wants to continue his research and inspire greater interest in STEM. "The more people who have engaged in science generally, the more ideas we generate," he says.

Xóchitl López: When she was 8, Xóchitl López lived in a home that was often without hot water. The same was true for many other residents of San Cristóbal de las Casas. "People here have to take baths with cold water. They have a lot of respiratory diseases," she told TIME through an interpreter. "I wanted to do something." So Xóchitl created Warm Bath, a solar-powered water heater made of easy-to-get recycled objects, including water bottles, plastic connectors and rubber hose. It costs about \$30 to assemble. Xóchitl made Warm Bath with the National Autonomous University of Mexico's adopt-a-talent science program, PAUTA. In 2018, she was the first child to receive the university's Institute of Nuclear Sciences' Recognition for Women award.

Riya Karumanchi: When she was 14, Riya Karumanchi met a woman who used a white cane to navigate. Riya was surprised that even with the cane, the woman struggled to get around. As a tech-obsessed teenager, she assumed the cane came loaded with cutting-edge technology, but it was just a stick. "My initial thought was like, What? How is nobody working on this?", said Rita. So, she engineered a device now called SmartCane. This stick can sense wet surfaces and other obstacles, vibrating to alert the user to treacherous situations. GPS navigation gives directions using patterned vibration and audio. An emergency button acts as a lifeline to emergency responders or loved ones. Riya is now 16, the SmartCane team numbers three, and the effort has more than \$83,000 in funding. The team's hope is to one day distribute the product through the Canadian National Institute for the Blind.

2. Match the ideas in column A with the corresponding paragraph in column B. Two of the ideas do not apply. (4 x 4 = 16 points)

COLUMN A	COLUMN B
a. Fighting water pollution 2	Paragraph 1
b. Considering adverse effects	Paragraph 2
c. Solving the world's problems 1	Paragraph 3
d. Keeping blind people safe 4	Paragraph 4
e. Using solar energy 3	
f. Using wind energy	

3. Choose the correct option to complete the sentences. (5 x 6 = 30 points)

3.1. Fionn Ferreira developed a method that...

- a. enables the extraction of microplastics from water, but which is not environmentally safe.
- b. makes it easier for volunteers to collect plastic items when they are cleaning up beaches.
- c. made him the winner of his school Science Fair.
- (d)**enables the extraction of more than 85% of microplastics found in water.

3.2. Fionn Ferreira...

- a. found a well-equipped lab near his house.
- b. developed innovative equipment to measure water temperature.
- (c)**faced some ups and downs when he was developing and testing his method.
- d. built a lab in his house, but it wasn't possible for him to develop there the equipment he needed to test his method.

3.3. Xóchitl López...

- a. decided to build new houses for the residents of San Cristóbal de las Casas.
- (b)**developed a solar-powered water heater using recycled objects.
- c. had neighbours who took baths with cold water to keep their respiratory diseases under control.
- d. wanted to persuade her neighbours to take baths with cold water.

3.4. Riya Karumanchi...

- a. used a white cane to move around safely.
- b. knew that the woman's cane was equipped with cutting-edge technology.
- c. noticed that it was quite easy for the woman with the cane to move around.
- (d)**wondered why no one had developed technology-assisted white canes.

3.5. Riya Karumanchi...

- (a)**developed a technology-assisted white cane that can alert users to situations that might put them at risk.
- b. developed a technology-assisted white cane that allows users to chat with their family and friends.
- c. developed a technology-assisted white cane linked to a headset with a microphone.
- d. and her team hope to be interviewed by CBC (Canadian Broadcasting Corporation).

4. Match each word in column A with the word/ expression it refers to in column B. Three of the options do not apply. ($3 \times 4 = 12$ points)

COLUMN A	COLUMN B
a. who (l. 1)	method some incredible young innovators
b. him (l. 8)	device people around the world
c. it (l. 31)	cane Fionn Ferreira

5. Find in the text the words that match these definitions. ($5 \times 4 = 20$ points)

- a. small problems or temporary delays
- b. to fit together all the separate parts of something
- c. the newest, most advanced
- d. a piece of equipment that has been designed to do a particular job
- e. dangerous, especially when seeming safe

hiccup (l. 12)
assemble (l. 24)
cutting-edge (l. 30-31)
device (l. 32)
treacherous (l. 33)

B. 1. ($10 \times 2 = 20$ points)

For questions 25–34, read the text below. Use the word given in capitals at the end of each line to form a word that fits in the space in the same line. There is an example at the beginning (0).

THE UNLUCKY BURGLAR

This is a true story about a rather unfortunate (0) *criminal*. He was a very (25) burglar and he had stolen things from many houses, but had never been caught. One day, he was (26) disturbed when he was in an empty house by the sudden (27) of the two people who lived there. After a short, angry (28) with the couple, the burglar pushed past them, leaving behind all the (29) he had stolen, and escaped into their back garden. But his problems were not over. The garden was surrounded by a high fence at each side, and by an even higher stone wall at the far end. He knew he had to make a (30) – and quickly. The fences were covered by roses with sharp thorns, so he thought it would be (31) to try the wall. Showing great (32) ability, he made a run at the wall and (33) in getting up onto the top and then dropping down onto the other side. It was only then that he realised to his (34) and horror that he was standing in the yard of the local prison.

CRIME

- | | |
|------------|-------------------|
| 25 PERSIST | <i>persistent</i> |
| 26 EXPECT | <i>unexpected</i> |
| 27 ARRIVE | <i>arrival</i> |
| 28 ARGUE | <i>argument</i> |
| 29 VALUE | <i>valuably</i> |

- | | |
|------------|-------------------|
| 30 DECIDE | <i>decision</i> |
| 31 PREFER | <i>preferable</i> |
| 32 ATHLETE | <i>athletic</i> |
| 33 SUCCESS | <i>succeeded</i> |
| 34 AMAZE | <i>amazement</i> |

2. Read the text below and decide which answer (A, B, C or D) best fits each gap.

(12x 1 = 12 points)

(Ex. 0 - understand)

WHAT MAKES SOMEONE INTELLIGENT?

Some people claim that only humans are truly intelligent. But what about animals – are they intelligent too? They can certainly learn and (0) However, many of their actions are instinctive, even (1) they may look intentional. Generally, animals cannot (2) one crucial test of self awareness – they are unable to identify themselves in a mirror.

In fact, we're not really sure exactly what intelligence is or how to measure it. In the competitive (3) market, IQ scores and formal (4) are used in the selection of employees, although many successful people did not actually do very well at school.

So how are education, intelligence and success (5) ? It is generally agreed that intelligence is all about the ability to learn, solve problems and be successful in life. But is there more (6) it than that? What about the (7) of emotions?

Successful people often show a (8) level of 'emotional intelligence'. This is described as self awareness – they can understand their feelings, organise and (9) them. And above (10) , this understanding means that they can motivate themselves, which seems to be the (11) to success.

So is there any (12) in teaching emotional intelligence in schools? It would seem that there is – if only we knew how.

1	A	since	B	though	C	but	D	that
2	A	get	B	succeed	C	win	D	pass
3	A	occupation	B	work	C	job	D	business
4	A	certificates	B	abilities	C	qualifications	D	talents
5	A	connected	B	joined	C	united	D	tied
6	A	for	B	to	C	at	D	with
7	A	role	B	part	C	situation	D	work
8	A	big	B	high	C	tall	D	huge
9	A	manage	B	deal	C	administer	D	command
10	A	all	B	each	C	every	D	whole
11	A	lock	B	handle	C	key	D	door
12	A	reason	B	worth	C	use	D	point

3. Complete the second sentence so that it has a similar meaning to the first sentence. Begin as suggested. (7 x 4 = 28 points)

1. The technician solved the computer problem quickly.

The computer problem was quickly solved by the technician.

2. Someone should have told her that the coffee was hot.

She...should have been told that the coffee was hot.

3. The company has invented a useful piece of equipment.

A useful piece of equipment was invented by the company.

4. He didn't ask how to get to the airport. He arrived there half an hour late.
If he ... had asked how to get to the airport, he wouldn't have arrived there half an hour late.
5. 'Yesterday my sister came here to see the eclipse of the sun.'
Susan explained that her sister had gone there the day before to see the eclipse of the sun.
6. Where did you buy your new i-Phone?
Ruth wanted to know where I had bought my new i-Phone.
7. People weren't concerned about the future a few generations ago, so they spent without limits.
If people would have been concerned about the future a few generations ago, they wouldn't have spent without limits.

ACTIVITY C

1. Discuss the way technological advances and innovations can change the way people live. Write about 180-200. (62 points)

Technological advances and innovations have, since the dawn of humanity, changed the way we live. On the early days, people developed new techniques and tools that made their survival easier, such as weapons and agricultural tools.

Nowadays, technology is everywhere. It helps us work in smarter, less physically demanding ways. It also frees up more time in our days, allowing us to enjoy life more and really focus on ourselves.

Technological advances also make possible things previously thought of as impossible, such as communicating instantly with someone on the other side of the planet and even travelling to other planets!

Innovations also help people with disabilities be more independent and live in a better way - an example of this is the invention of the wheelchair, which enables previously totally dependent people to be more independent, in terms of travelling.

All in all, technological advances and innovations have brought about important and positive changes to the way people live, even though they also have their flaws like sometimes taking jobs away from people because of automation, which can also sometimes be considered a positive thing because of the cost reduction.