

Listening

ANSWERS

1	rails
2	smoothly
3	amusement
4	Google
5	Pods
6	pedal
7	above
8	fun
9	C
10	A
11	C
12	B
13	B
14	B
15	C

Audioscripts:

Task 1

Listen to an extract from the radio programme “Science Today” and complete the summary using one word in each space. You will hear the text *only once*.

Now you have 20 seconds to look through the text

(pause 20 seconds)

Now we begin

In the late nineteenth century, someone had the bright idea of mounting a bicycle-like contraption on rails. The idea was to give a smoother ride than could be achieved on conventional bicycles. At the time, no one recognised that a breakthrough had been made but, more recently, the idea of a pedal-powered monorail has been revived and updated at an amusement park in New Zealand by a company named Shweeb.

Google, always good at spotting a trend, has invested \$1 million to support further development of the system for an urban environment. Like the original bicycle railway, the Shweeb system is meant to reduce friction between the wheel and the surface it makes contact with ‘by running hard wheels on hard rail’, just like a train. But the Shweeb concept also takes the idea one stage further. Drivers lie back in

bullet-shaped hanging 'pods' and pedal with their feet forward, as on a reclining bicycle. The pods hang from 20-centimetre-wide rails constructed above street-level pedestrians and traffic.

There's no need to worry about overtaking because two Shweeb's travelling in a line are more efficient owing to reduced air resistance.

And is there a real demand for this? Well, both Google and Shweeb are convinced that it fills an important need for transport which is green, convenient, cost-competitive and fun. You could say they've reinvented the wheel!

This is the end of the text for items 1-8. You have 20 seconds to check your answers.

(pause 20 seconds)

Task 2

You will hear a story about a famous inventor. For questions 9-15 choose the correct answer. You will hear the text twice.

(pause 20 seconds)

Now we begin

Presenter: In this section of the programme, we're going to look at the life and work of Robert Moog, the inventor of the electronic musical instrument, the Moog synthesizer.

Robert Moog, who died aged 71 in 2005, built the first voltage controlled synthesizer, an electronic music machine which has had an extraordinary impact on how modern musicians compose and record. Although the Moog synthesizer – the word rhymes with 'vogue' not 'fugue' – has had its greatest application in popular music, it first came to public notice when Walter Carlos used it to record the Brandenburg Concertos and other works by Johann Sebastian Bach. Classical music purists were horrified at the synthesizer's deadly accurate, 'artificial' rendition of Bach's works, but others discovered a new beauty in the pure mathematical precision of the sound.

Moog had been inspired as a child by Leon Theremin, a Russian scientist who, in the 1920s, invented an electronic instrument which could be 'played' by waving the hands near two metal rods attached to a wooden box. The theremin made sounds by manipulating electrical waves to denote timbre, pitch and volume, but it was difficult to maintain pitch and it did not catch on. As an engineering physics student, Moog pursued a hobby of building theremins and other electronic instruments. He developed his synthesizer in 1964 after a composer told him about the need for user-friendly electronic instruments using new computer technology.

Though the Moog synthesizer quickly caught on with experimental musicians and makers of science fiction movies, it was not until the psychedelic rock movement of the late 1960s that mainstream musicians embraced it. Then Moog was building instruments for some of the biggest musical acts of the day, including The Doors, The Grateful Dead and The Rolling Stones. Arguably, before the Moog synthesizer, you'd have to go back to the invention of the saxophone by Adolphe Sax in the 1840s for a new instrument of similar impact. By 1968, Moog was a celebrity.

But by the early 1970s, boom had turned to bust and Moog was forced to sell his company. A second generation of more user-friendly synthesizers offered by ARP Instruments came to dominate the market, replacing the classic Moog. Moog sold a controlling interest in his struggling company, and, more importantly, rights to the Moog Music name, to a venture capitalist, who sold it a few years later to the musical instrument manufacturer Norlin. Moog continued to work for the company, designing guitar effects, guitar amplifiers and other small electronic gadgets, but left in 1977, blaming corporate politics for his departure.

In the 1990s and early years of the new millennium, there was a revival of interest in the original Moog synthesizer, with Moogs being used by modern musicians for many genres of music, including electronic dance music. Old or vintage synthesizers commanded high prices, and Moog became a cult hero for many young musicians. In 2002, Moog reclaimed the rights to the Moog brand, started a new instrument business and began selling instruments bearing his name again. He continued inventing for the company until his death.

You have 20 seconds to check your answers.

(pause 20 seconds)

Now listen to the text again.

(text repeated)

This is the end of the text for items 9-15. You have 20 seconds to check your answers.

(pause 20 seconds)

This is the end of the listening comprehension part.

READING

ANSWERS

1	D
2	C
3	E
4	G

5	B
6	F
7	A
8	A
9	C
10	C
11	C
12	A
13	D
14	B
15	C

Use of English

ANSWERS

0	on – on track, on average, on trial
1	at – at risk, at present, at least
2	by – by far, by nature, by law
3	in - in decline, in danger, in effect
4	out of - out of control, out of sight, out of necessity of
5	c
6	a
7	b
8	b
9	c
10	a
11	b
12	b
13	a
14	The
15	√
16	about
17	to
18	√
19	an
20	most