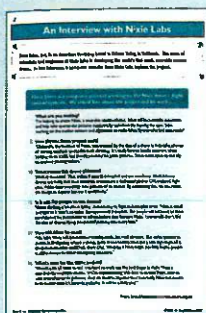


An Interview with Nixie Labs



Question Book:

Year 6, pages 2-3

Author / Source:

<http://antenna.sciencemuseum.org.uk>

Genre:

Non-fiction — interview

Cross-curricular links:

- History (famous inventors)
- Science (technological innovation)
- D&T (testing prototypes)

Introduction

In this interview, computer scientist Floris Ernst describes his work on Nixie, the world's first simple, wearable drone. The interview provides pupils with a first-hand insight into the design and development process behind this cutting-edge technology. Ensure pupils are aware that, in this context, a drone is a small, unmanned aircraft. As they read, pupils should consider what the interview tells them about the process by which scientists and engineers develop new technologies.

Answers

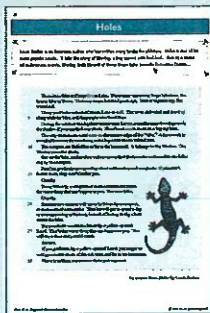
1. E.g. To automatically take photographs of its owner.
2. E.g. Because it is difficult for them to use a camera while they are climbing, so Nixie will allow them to take photos of themselves safely while climbing.
3. E.g. Because they could be used to spy on people and take photos or videos of places that are supposed to be private, for example by flying over people's gardens or looking through windows.
4. E.g. To get a better view of dangerous situations, and to help locate people who need to be rescued.
5. Any appropriate answer. E.g. He is very positive about Nixie, and it seems like he is very passionate about the project — the use of exclamation marks shows this enthusiasm.
6. Any appropriate answer. E.g. Yes, because it would be fun to have a flying camera that could take photos from any angle, especially one like Nixie that would be light and easy to use. OR E.g. No, because it might be used to spy on people. Also, it could be dangerous because it might hurt someone if it crashed.

Extra Activities

- Get pupils to use the information in the interview to design a poster persuading people to buy Nixie. Encourage them to think about how they can use language to make their poster as persuasive as possible.
- Ask pupils to research other inventors and their inventions, such as James Dyson, Trevor Baylis, Mary Anderson, John Logie Baird and Stephanie Kwolek. Pupils should present their findings in the form of an imagined interview with the inventor, using similar questions to those asked in the Nixie interview.
- Using the interview as a starting point, explore the process of technological innovation. Key points to cover include the value of teamwork in developing new technologies; the importance of experimentation in the development process; and the use of prototypes to test and improve design features.
- Working in small groups, challenge pupils to design an aeroplane, made only from A4 sheets of paper, that will fly as far as possible. Once they have designed and built their first prototype, they should test it and use the outcome of the tests to build an improved version of their design. Get pupils to draw a diagram of their final design, annotating the features they added to make it fly further.



Holes



Question Book:

Year 6, pages 4-5

Author / Source:

Louis Sachar

Genre:

Fiction — novel extract

Cross-curricular links:

- Drama (role-play)
- PSHE (juvenile prison)
- Geography (deserts)

Introduction

Louis Sachar's *Holes* tells the unfortunate tale of Stanley Yelnats and his time at Camp Green Lake, a juvenile correctional facility in Texas. Before reading the extract, ask pupils about the novel's title. What might the novel be about? What do they think will happen? As pupils read the text, encourage them to pay special attention to the deliberate use of short sentences, and the impact this has on the reader.

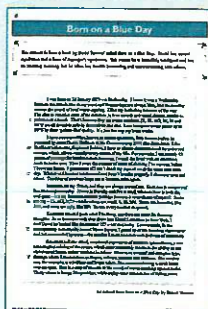
Answers

1. E.g. The lake has dried up, the town has disappeared, and the people who lived in the town have gone.
2. E.g. The narrator is very negative about it. He describes the location as a "wasteland" and makes it sound like an uncomfortable place by emphasising the high temperatures and lack of shade.
3. E.g. A selfish person because she has the only hammock on the site, which is shaded by the only trees, and she won't let the campers use it. She also seems cruel because she makes the campers dig holes all day.
4. E.g. No, because the hot conditions they work in are unbearable, and many are even prepared to risk being bitten by a scorpion or a rattlesnake in order to get a break from digging holes on the lake.
5. Any appropriate answer. E.g. He doesn't really explain why the campers are at Camp Green Lake, so the reader wants to read more to find out how they ended up there.
6. Any appropriate answer. E.g. No, because the conditions the boys have to work in are dangerous and unfair, even if they have done something wrong. OR E.g. Yes, because it might make them change their behaviour in the future so that they wouldn't have to receive the same punishment again.

Extra Activities

- Question 5 asks pupils to consider the techniques Sachar uses to make the reader keep reading. As a class, discuss pupils' answers to this question and explore in more detail the way Sachar engages the reader.
- Ask pupils to write a postcard home as if they were Stanley, writing from Camp Green Lake.
- Divide pupils into pairs and ask them to imagine the first meeting between Stanley and the Warden. They should write a short role-play, which they can then perform for the class.
- The children in *Holes* have been sent away to a correctional facility, or a juvenile prison. With the whole class, discuss various opinions about sending children to prison. How old should a child be before he or she is considered old enough to go to prison? Where should they go if they don't go to prison?
- Camp Green Lake is set in desert-like conditions. Get pupils to look up the word 'desert' in a dictionary, and then assign groups different deserts to investigate (e.g. Antarctica, the Gobi Desert, the Sahara Desert and the Kalahari Desert). Ask pupils to present their findings to the class so that everyone can see the diversity between the different types of desert.

Born on a Blue Day



Question Book:

Year 6, pages 6-7

Author / Source:

Daniel Tammet

Genre:

Non-fiction — memoir

Cross-curricular links:

- PSHE (autism spectrum)
- Art (numerical representation)
- Maths (prime numbers)

Introduction

As well as suffering from Asperger's syndrome, Daniel Tammet has savant syndrome, a rare condition in which individuals with serious mental disorders show remarkable abilities in a specific field, often either art, music, calendar calculation, mathematics or spatial skills. Like Daniel, around fifty per cent of people with savant syndrome suffer from an autism spectrum disorder, although savant syndrome also occurs in individuals with other developmental or neurological disorders. Before you start reading the extract with the class, use the introduction in the Question Book to ensure that pupils have a basic understanding of the nature of Daniel's condition.

Answers

1. E.g. A number that's only divisible by itself and one. Daniel recognises them by their "pebble-like" quality.
2. E.g. He eats exactly 45 grams of porridge for breakfast each morning, weighing the bowl with an electronic scale. Then he counts the number of items of clothing he's wearing before leaving the house. He gets anxious if he can't follow his normal routine.
3. E.g. "Eleven is friendly" and "five is loud".
4. E.g. Because "Times" and "Square" are both words that you might use in maths.
5. E.g. He means that he felt surrounded by enormous things. He links the number nine to "feelings of immensity", so the huge buildings in Times Square made him feel like there were nines all around him.
6. Any appropriate answer. E.g. I think that it would be difficult if you needed to follow the same routine every day, because sometimes things might get in the way of your routine, and that would be very stressful.

Extra Activities

- *Born on a Blue Day* is a memoir. Memoirs follow similar conventions to autobiographies. With the whole class, discuss the conventions of autobiographical writing. Ask pupils to write a short autobiographical passage, or a memoir, describing how they celebrated their most recent birthday.
- With the whole class, look at the way Daniel describes the different numbers mentioned in the extract. Ask pupils to suggest how Daniel might see other numbers, and to explain their answers. You could then ask pupils to draw or paint a picture showing the way that Daniel sees some of the numbers he describes in the extract.
- Ask pupils to write a poem describing how Daniel views his world.
- With the whole class, discuss the challenges that people living with savant syndrome and other autism spectrum disorders face on a daily basis.
- Challenge pupils to find all the prime numbers under 100.

2, 3, 5, 7, 11, 13,
17, 19, 23, 29, 31,
37, 41, 43, 47, 53,
59, 61, 67, 71, 73,
79, 83, 89, 97

Hostages to Handheld Devices



Question Book:

Year 6, pages 8-9

Author / Source:

www.independent.co.uk

Genre:

Non-fiction — news article

Cross-curricular links:

- Science (benefits of exercise)
- PE (sport and technology)
- Maths (statistics)

Introduction

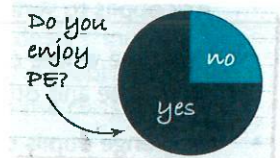
Children are spending an increasing amount of time using devices such as mobile phones, tablets and laptops, and this has led to concerns about the health consequences of their increasingly sedentary lifestyles. This article presents recent research into children's attitudes towards technology and sport, raising the possibility of integrating technology into PE lessons in order to increase children's participation in physical activity. Before reading the article with the class, ask pupils whether they prefer playing sports or video games.

Answers

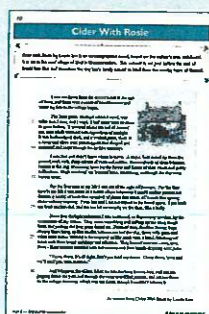
1. E.g. Negative. It says that there are "fears" about the way these devices are affecting children, and the phrase "hostages to handheld devices" makes it sound like children are being taken captive by these devices.
2. "critical crossroads" E.g. Because the alliteration makes the phrase stand out. The phrase also sounds very dramatic because it suggests that major decisions need to be taken about the future of sport in schools.
3. b. enjoy PE lessons
4. E.g. Just because young people enjoy using technology doesn't mean that they aren't interested in other kinds of activities too.
5. a. personification
6. "integrates"
7. E.g. Optimistic. She thinks that primary schools are starting to change the way they look at PE, and she thinks that the number of children doing PE is probably going to go up in the next few years.

Extra Activities

- Get pupils to identify the language and layout features which show that this text is a news article. Can they think of any other features of news articles?
- Get pupils to research the physical and psychological benefits of regular exercise. They should design a leaflet that will persuade primary school children to do more exercise. Encourage them to think about how they can use language and layout to make their leaflet appeal to their target audience.
- With the whole class, discuss the way PE is taught in school. Ask pupils to suggest how modern technology might be incorporated into PE lessons. Do pupils think that integrating PE and technology is a good idea? Would it make them enjoy their PE lessons more?
- Get pupils to carry out a survey of their classmates' participation in sport and other hobbies, asking questions inspired by the text (e.g. "Do you enjoy PE lessons?"), and questions about activities that pupils do in their spare time. Pupils should use bar graphs, pie charts and pictograms to present their results.



Cider With Rosie



Question Book:

Year 6, pages 10-11

Author / Source:

Laurie Lee

Genre:

Autobiographical novel

Cross-curricular links:

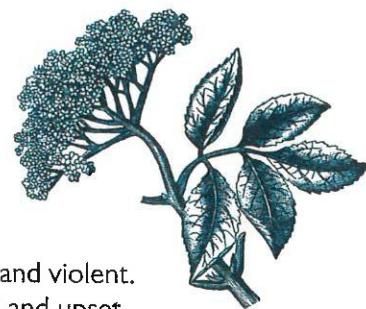
- History (change over time)
- Geography (the British landscape)

Introduction

Laurie Lee is best known for his autobiographical novel *Cider With Rosie*, first published in 1959. The novel begins just before the end of World War I and follows Lee's experiences growing up in the small Gloucestershire village of Slad. In some respects the novel presents country life as idyllic, but it also explores the hardships of life at that time. By the end of the novel, Slad is beginning to be affected by the changes brought by the post-war years, such as the introduction of the motor car, and people leaving to work in larger towns and cities. This results in the decline of the traditional village life the narrator knew as a child. Make sure pupils read the introduction so that they understand when and where the text is set.

Answers

1. E.g. Because the grass is unfamiliar and tall, so it seems threatening, and because he is on his own for the first time in his life.
2. "Snow-clouds of elder-blossom" E.g. It helps you to imagine what the elder-blossom looks like, because it creates a picture of the blossom being white and fluffy, like clouds of snow.
3. a. c. a simile b. E.g. Comparing the sun to a bully makes it sound cruel and violent. This helps the reader to understand why the narrator feels so frightened and upset.
4. E.g. Because a shield protects you, and his sisters' faces form a shield that protects him from the sun.
5. Any appropriate answer. E.g. Yes, because writers often make the natural world sound beautiful, but the narrator makes it sound frightening and horrible. For example, he says that the air smelled "rank".



Extra Activities

- With the whole class, explore the feelings that Lee conveys in this extract. Ask pupils to suggest one or two adjectives to describe how the narrator feels in each paragraph, and to explain their choices.
- As a class, identify the language that Lee uses to describe the natural world and explain how it affects the reader. Drawing on their answers to question 5 in the Question Book, get pupils to explain whether they share Lee's view of nature. Ask pupils to rewrite the extract in a way that reflects their own attitude towards the natural world.
- In small groups, ask pupils to investigate different aspects of life (e.g. education, leisure activities, communication, transport) for children in the early twentieth century. Pupils should share their findings with the class so that they can build up a detailed picture of the similarities and differences between children's lives then and now.
- The village of Slad is located in the Cotswolds Area of Outstanding Natural Beauty. Give pupils a list of all the AONBs and National Parks in the UK and a map showing their location. Challenge pupils to name the parks on their map and to look for pictures on the Internet of the landscape in some of them.