

BOOK 1

p. 6

- 1 a T b F c T d T e E

2 Suggested Answers

- a Elisa tells Jonathan to relax because the university entrance results are not due until the end of the month.
- b Their mobiles ping because they all receive emails from NHU.
- c Elisa is smiling because she has been accepted by NHU.
- d Jonathan is disappointed because he has been placed on a waiting list for his course.
- e Jonathan wants to be alone because he feels upset that he has not been accepted by NHU.
- f I think that Elisa runs after Jonathan because he feels upset, and she is worried about him.
- g Sheena calls Paul selfish because he suggests celebrating their results without thinking about Jonathan who is very upset.

3 Ss' own answers

p. 7

- 1 a Paul helped his mother at the Rivertown Animal Clinic.
 b Jonathan worked at Lewis Mason's General Store.
 c Sheena was a team leader at the Rivertown Summer Camp for Children.
 d Elisa helped to organise the Rivertown Summer Festival.

2 Suggested Answers

- a It's a good idea to get a summer job to gain work experience and earn money.
- b A summer job helps teens to learn themselves better because they think about how to choose a profession, how to work under pressure, what they are good at and what skills they need to improve.
- c A summer job can help teenagers choose a career by allowing them to explore what they like and don't like doing, in terms of workplace environment, colleagues and job types.
- d Summer is both a time to relax and work. Teenagers should allow themselves plenty of time to rest after a year of school, but it's also the ideal time to get a summer job and work part time.

3 Suggested Answers

- a Yes, I agree that having a summer job helps you discover yourself because you learn what you are good at and what you are not so good at.

- b Yes, a summer job allows other people to interact with you and get to know you.
- c Yes, I agree that having a summer job can help improve communication skills, if you are working within a team.
- d I don't think a summer job makes you more patient. Whether you're patient or not depends on your character and not on your job.
- e I think that a summer job can help a teenager learn the basics of budgeting. This means that they learn how to keep a balance between what they earn and what they spend. They learn how to plan and save for a future need, whether that is a new pair of trainers, a new car or college.

4 Suggested Answers

- a I would get a summer job:
 - to earn my own money.
 - to save up for the things I want.
 - to get useful work experience.
- b I wouldn't get a summer job if:
 - I didn't feel like working.
 - I wanted to spend my time relaxing after a difficult school year.
 - I didn't need extra money.

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- 1 b 3 c 6 d 4 e 5 f 2 g 7

2 Suggested Answers

- a Elisa tries to run towards Jonathan because she thinks something bad has happened to him.
- b Elisa calls Jonathan after the accident to try and find out what's happened to him.
- c Elisa is surprised to see Jonathan get into a car and drive away in a vehicle that has just nearly hit him.
- d They try to call Jonathan's parents to find out if they know anything about where he is.
- e Paul, Elisa and Sheena walk in silence because they are worried about Jonathan.
- f They send Jonathan text messages to find out where he is and what he is doing.
- g Christina realises something is wrong by the look of worry on the kids' faces.

3 Ss' own answers

p. 11

- 1 a The majority of road accidents happen because of human error, such as carelessness.
- b Speeding is the most common reason for road accidents.
- c Drivers should not drive when they are tired.

- d Examples of careless drivers are those that choose not to wear a seat belt or helmet and those who are not concentrating because they're talking on their mobile phones or texting.

2 Suggested Answers

- a No, road accidents can happen on quiet streets too, as in the case of the story when Jonathan is nearly hit by a speeding car.
b It is bad to text and drive because drivers do not focus on the road in front of them; they look at their phones instead.
c Pedestrians should always walk on the pavement; this is the safest place.
d No. When walking in the street, it is important to be aware of what is happening around you.

3 Suggested Answers

- a Walking while facing traffic is generally a good idea so you can see what's happening in front of you.
b You should always use pedestrian crossings wherever available. They are the safest place to cross a road.
c Sometime people walk in big groups, for example when a class of students goes on a school trip. However, they need to be aware of the other people around them and allow them to get by.
d It's important that drivers can see you when you are crossing a road so you shouldn't stand behind a vehicle or try to cross the road behind a vehicle that is obstructing the driver's view of you.
e Wearing bright clothes definitely helps drivers see you clearly, especially at night.

4 Suggested Answers

- a It is not clever to walk and talk on your phone at the same time because:
• your attention won't be focused on what's happening around you.
• you are more likely to have an accident.
b It is important to always see and hear traffic when you walk because:
• you are less likely to have an accident if you can see what's in front of you.
• it gives you much more time to react to any possible situation.

p. 14

- | | | |
|------------|------------|---------------|
| 1 a Paul | d Jonathan | f Jonathan |
| b Elisa | e Jonathan | g Elisa, Paul |
| c Jonathan | | |

2 Suggested Answers

- a Elisa wants to visit Jonathan to find out if he's OK.
b Jonathan is enthusiastic to talk about a new game that has been developed in NHU.

- c The 'Secrets of Shadows' is special because it's not violent like most other games.
d Peter Lord is surprised by the game because he didn't expect to like it so much.
e The players of the game must solve the mystery of the disappearing villagers.
f The lady driver solved Paul's problem with the shortlist.
g Elisa and Paul are surprised because Jonathan has already received a letter of acceptance.

3 Ss' own answers

p. 15

- 1 a People believe that computer games can cause you to lose friends and stop getting physical exercise.
b Playing video games can teach people how to manage failure, develop problem-solving skills and critical thinking skills.
c You can develop useful physical skills, like hand-eye coordination.
d People might forget to do the normal things in life if they play computer games too much.

2 Suggested Answers

- a The benefits of communicating with people online are that you get to share ideas and beliefs with people from around the world. You also have the chance to communicate with them in any way you like: email, text messages or video.
b One of the dangers of meeting people online is that they might not be who they say they are. There is a risk that they might want to take advantage of you or trick you into giving them money.
c You must choose a computer game carefully to ensure it's a 'good example' – not violent but thought-provoking.
d No, there are video games that can help players develop important skills like decision-making, better memory and teamwork.

3 Suggested Answers

- a Yes, computer games give you a second chance. If, for example, you cannot solve a problem the first time, you can try again until you find the solution.
b Yes, I agree that computer games can help you develop problem-solving skills by having to solve problems in the game itself. This way, you learn how to deal with problems in real life, too.
c Yes, I agree that computer games can help you keep your mind active through solving puzzles and mysteries.

- d Some games require the player to rely on the speed of their reactions and hand-eye coordination, which means that players keep their hands and eyes active.
- e Yes, I agree. Online multi-player games give you the opportunity to interact with other players and form strategies which in turn develop your communication skills.

4 Suggested Answers

- a The characteristics of an enjoyable computer game include:
 - the storyline.
 - the characters.
 - the action.
- b An enjoyable piece of music or film should:
 - connect with the listener.
 - stimulate the listener's imagination.
 - stay in the listener's mind.

p. 18

- 1 a F c F e T g T
 b T d F f F

2 Suggested Answers

- a Paul wants to visit Jonathan to check that he's OK.
- b Jonathan is enthusiastic because he's read a positive review of NHU.
- c NHU is special because it is in a 17-century castle.
- d Students are enthusiastic about the School of Computer Science because they can learn a lot during their studies, and the professors are very supportive.
- e The lady driver solved Paul's problem with the shortlist.
- f Elisa and Paul are surprised because Jonathan has already received a letter of acceptance.

3 Ss' own answers

p. 19

- 1 a The main reasons people choose to study at university are to have a greater variety of jobs to choose from and earn more money.
- b Going to university can provide opportunities to make useful professional connections and to learn new things through clubs and associations.
- c Universities help you develop as a person by giving you the responsibility and independence to make your own decisions and decide your own future.
- d Some people choose not to study at university because it's expensive; others feel that university studies are not always relevant to the real world.

2 Suggested Answers

- a Studying at university offers better career opportunities, the opportunity to develop important skills and greater independence.
- b University staff assist students with any academic problems they might have.
- c University experiences are valuable because they help you improve not only as a student but also as a future employee and a citizen of the world. In other words, university prepares students for real life.
- d I believe that being able to rely on oneself and having the ability to take responsibility for one's actions are both very important qualities for personal growth and development.

3 Suggested Answers

- a I agree up to a certain extent. At university, you get to meet a lot of different people; some are special and will make an impact on your life. However, there might also be others that you don't get along with.
- b Yes, I agree. Going to university helps you to get to know the world better as you get the chance to meet people from around the world and this will broaden your knowledge of the world.
- c Yes, at university you need to make clever choices. For instance, you choose what modules to study so, to some degree, you choose the direction of your studies.
- d When a student chooses what they want to study at university, they usually choose something they are interested in or are passionate about. So, I don't think that they will study something they don't like. However, some modules may be less interesting than others.
- e University can be expensive especially if you're studying away from home because you've got to pay for rent, bills, food, etc.

4 Suggested Answers

- a Work experience is better than university studies because
 - you earn rather than spend money.
 - you gain work experience which is important for your future career.
 - you get hands-on experience about how a specific industry works.
- b University studies are better than work experience because
 - they are essential in some fields of work, such as medicine or finance.
 - you gain specialised knowledge about a specific industry.
 - they give you the opportunity to make professional connections that could be useful in your career.

p. 22

- 1 a F b T c F d T e F

2 Suggested Answers

- a Jonathan is the ideal person because he's honest, straightforward and good with computer technology.
- b The lady stole Jonathan's phone because she wanted to hack it.
- c Roger and the lady smile at each other because they are happy with the way their plan is working out.
- d Jonathan was happy to talk to the lady driver when he realised she worked at NHU admissions.
- e I think that perhaps the two of them have got a plan that somehow involves Jonathan.
- f Roger gets serious when talking about the AI code for the 'Secret of Shadows' and the possibility of ending up in the wrong hands.
- g Perhaps Roger King needs Jonathan's help with 'Secret of Shadows'.

3 Ss' own answers

p. 23

- 1 a human brain c human brain
b computer d computer

2 Suggested Answers

- a The human brain can both create emotions and recognise other people's emotions.
- b Yes, there are various mechanisms in the human brain that allow it to understand if there are dangers in the person's surroundings and trigger appropriate responses for survival.
- c Computers can work very fast and indefinitely as long as they have a secure power supply and regular updates.
- d Computers don't get angry or bored because they don't have emotions.

3 Suggested Answers

- a Yes, I agree. Humans learn how to survive by using their intelligence, previous generations' experiences, working together with other humans and by being adaptable to various situations.
- b Computers are machines, so they don't need to have the motivation of survival. However, this might change in the future with artificial intelligence when machines will perhaps be able to think on their own.
- c The human brain is part of the human body so like all organic matter, it gradually degrades over time.
- d As computers are not composed of organic matter, they don't age like humans do. However, as newer technologies are constantly being produced, older computers become redundant.

- e Scientists who have been studying how the human brain works for decades have found out that there is a specific part of the brain that is responsible for helping us combine previous knowledge with our beliefs and then making a conscious decision.

4 Suggested Answers

- a Computers need humans because
 - they need to be connected to a power supply.
 - they need updates and maintenance.
 - they cannot think for themselves.
- b Humans need computers because
 - nowadays, they do everything online.
 - computers are more reliable than humans at performing tasks.
 - computers don't get bored or tired so they are ideal for boring repetitive tasks.

p. 26

- 1 b 3 c 5 d 4 e 2

2 Suggested Answers

- a Perhaps because he is eager to learn more about the university he is going to study at.
- b Because some of them were involved in the making of the game 'Secrets of Shadows'.
- c The students are taken to the school reception first to get their usernames and passwords.
- d Jonathan is disappointed with the keycard system because he thinks it is not as efficient or as modern as other forms of security.
- e Jonathan thinks fingerprint readers are more efficient and safer than keycards because they can't be stolen.
- f It's necessary to download the NHU app to be able to use the free Wi-Fi available.
- g Students only need their phones at NHU because from there, they can access all the info they need regarding their courses.

3 Ss own answers

p. 27

- 1 a academic c academic
programme programme
b daily chores d daily chores

2 Suggested Answers

- a Teenagers should discuss choices regarding their lives with people they trust who have sufficient experience to be able to give advice – parents, teachers, trusted friends, etc.
- b Teenagers should attempt to find out what they enjoy doing and what they are good so as to establish a direction in life.

- c I think that we should choose our friends carefully. It's important to be friends with people we have the same interests with, but also with people with similar values and people who encourage and motivate us to become better.
- d The best way to stay healthy is to exercise regularly, eat a balanced diet with plenty of fruit and vegetables and sleep well.

3 Suggested Answers

- a Yes, I agree. It's not bad to change your mind. In fact, it's natural and healthy to change your mind about something once you have realised that you have made a wrong choice or taken a direction that is not the one you should have taken.
- b Yes, I agree. It is a sign of maturity and strength to realise that there are things we cannot do alone or that there are things that we are not good at. Asking for help will allow us to become better and more confident when dealing with these aspects.
- c It is important to ask our friends for help. After all, our friends are people we trust because they know us so well. Asking for help also helps strengthen our relationship with our friends.
- d Yes, I agree. It is extremely important to take care of your health. This way, you improve your physical health, feel better, boost your energy levels and strengthen your immune system.
- e Yes, I agree. It is extremely important to realise when we've made a mistake, try to correct it and prevent it from happening again in the future. Learning from our mistakes allows us to become better and have more self-awareness.

4 Suggested Answers

- a Everyone needs to have a happy life because when you're happy
 - you have better relationships with friends and family.
 - you have a good physical and emotional health.
 - you feel balanced.
- b Little things make people happy. Some of these little things are
 - spending time with friends.
 - spending time near nature.
 - listening to music.

p. 30

- 1 a Katie Robinson d Roger King
- b Katie Robinson e Katie Robinson
- c Roger King

2 Suggested Answers

- a The students were disappointed that Katie Robinson wasn't there because they wanted to meet her.

- b Katie's book became a bestseller because kids loved her stories.
- c Katie went back to university to study Computer Game Design.
- d Meeting Roger King was important for Katie Robinson because he did the graphics and coding for the game she eventually created.
- e NHU were impressed with her work on her first game, Sky Star, so they employed her as a teacher.
- f Katie Robinson is popular today for her work and ideas.
- g Jonathan wants to be on Katie Robinson's team because she's famous in the world of computer games.

3 Ss' own answers

p. 31

- 1 a T b T c F d T

2 Suggested Answers

- a I think that if a person is really determined to succeed and work very hard towards their goal, they can achieve anything.
- b The truth is that there are many jobs that don't pay well. Some of the lowest paying jobs are waiters, salespeople, cooks, dishwashers, etc.
- c I think it depends on what each person wants. If they're happy with their work position, getting extra work experience might not be necessary. However, if someone is considering a new career or a promotion, extra work experience may be what they need.
- d I think that a lot of people have turned their hobbies into a side job. If a person loves a hobby and doesn't mind working extra hours, then starting a business based on their hobby could be their path.

3 Suggested Answers

- a Having a side job could be very tiring especially if the person has a full-time job.
- b Whatever the reason for having one – extra money, personal interest or gaining work experience – a side job is very useful.
- c I think that a side job can help a person improve at their main job, especially if the side job can help develop transferable skills, such as critical thinking, collaboration, decision-making or leadership, which can be used in any job.
- d How long a side job lasts depends on the individual. If it means having an overly long working week, then perhaps a side job might be OK on a temporary basis. However, if the side job is a hobby, it might well last a lifetime.

- e I think it depends on why the person decides to have a side job. If it is to earn some extra money or to develop some important skills, then it's not a hard decision at all.

4 Suggested Answers

- a I would get a side job if:
- I needed extra money.
 - I thought the job was interesting and I wanted to develop my skills.
 - it was a hobby of mine.
- b I wouldn't get a side job if:
- it made my working week too long.
 - I didn't need the extra money.
 - I didn't like the job.

p. 34

- 1 b 5 c 4 d 2 e 3

2 Suggested Answers

- a Roger initially visited NHU to meet some of the people who worked there and find out more about the job vacancy.
- b It was important for Roger to meet Katie because they discovered they shared many of the same ideas. It was also important because Roger accepted the job offer at NHU after their meeting.
- c 'Sky Star' was very popular because it had interesting characters, an excellent storyline and well-designed puzzles.
- d Roger is interested in Artificial Intelligence because he wants to discover whether computers can work and think like the human brain.
- e Roger is famous as a game developer who uses Artificial Intelligence.
- f Sheena wants to attend one of Roger King's classes because she finds him an interesting person.
- g Jonathan finds Roger King's invitation surprising because he thinks it's unusual for a famous professor to want to meet a first-year student.

p. 35

- 1 a 2 b 1 c 4 d 3

2 Suggested Answers

- a Modern society has developed and keeps developing around the fast and easy exchange of information that the Internet and modern computers provide. This continuous sharing contributes to improvement and promotes the well-being of companies and individuals.
- b The fact that we can access information very quickly means that computers make the process of work much faster and a lot simpler.

- c With the help of the Internet and modern devices, we can make video calls to anyone, anywhere in the world. Communication with others has never been as efficient as it is now.
- d The technological tools and software we have available nowadays means that people around the world can connect, share knowledge, and engage in discussions on various topics. Online forums for example are virtual communities that allow for communication, collaboration, and knowledge exchange about various topics and interests.

3 Suggested Answers

- a Yes, it's true that you can do almost anything online today. In fact, it's hardly necessary to leave your house. You can interact with anyone at anytime, anywhere on the planet. You can buy anything and have it delivered to your door the same day. Also, a growing number of people work remotely these days.
- b Working from home or anywhere away from the office has allowed people to have a flexible working timetable. This means that they are free to adjust their working hours depending on what works best to suit their needs and personal lifestyle.
- c Remote working allows the individual to work from anywhere they choose provided they have access to Internet and a laptop. It's even become common to work in other countries. People who travel freely while working remotely online are called digital nomads.
- d Yes, we still need electricity to power our electronic devices. However, electricity can come from alternative sources, such as solar or wind power.
- e Nowadays, having access to the Internet has become a necessity. As people can do almost everything online, slow Internet or no Internet at all would create a number of serious problems.

4 Suggested Answers

- a Advantages of the computer revolution:
- Communication with anyone, anywhere can happen instantly.
 - We have access to a vast amount of information.
 - Computers have automated jobs that were done manually in the past.
- b Disadvantages of the computer revolution:
- It is easier for hackers to steal people's personal data.
 - Fake news and misleading information is quickly spread online.
 - Young people prefer socialising online instead of face to face, which may cause emotional and social problems.

p. 38

- 1 a F b T c T d F e T

2 Suggested Answers

- a Jonathan visits Elisa because he wants to tell her what's happening with his computer.
- b Elisa laughs and jokes that there is a ghost inside Jonathan's computer.
- c Jonathan is serious about his computer because he is genuinely very confused about what's happening.
- d Elisa recognises the sound from one of her dance classes.
- e Elisa thinks someone needs help because the sounds are the same as those used in Morse code to mean danger.
- f Elisa thinks that the acronym means 'New Haven University'.
- g They think that the acronym means 'Need Help Urgently'.

3 Ss' own answers**p. 39**

- 1 a Morse code c letters
b smoke signals d radio

2 Suggested Answers

- a Communication and community are closely linked. Communication allowed people to get to know each other, understand each other and form strong relationships. This in turn allowed them to create the first communities.
- b Technology improves communication as it allows people to get in touch with each other over longer distances. This means that people can communicate with friends, family, and colleagues no matter where they are in the world.
- c Paintings are indeed a form of communication. Artists use painting as a medium that allows them to express their ideas and emotions.
- d The Internet has allowed people to form new online communities; these are shared spaces where people can communicate with each other about their common interests or opinions and exchange ideas and experiences.

3 Suggested Answers

- a I think that human communication includes codes. For example, there is verbal communication that includes the words and sounds we make when we speak, and non-verbal communication, which includes body language, gestures and facial movements.

- b I think that a great number of people who love reading but don't have enough time to read books have turned to audio books. This way, they can listen to their favourite books on their way to work or while they are running errands. So, up to an extent, I agree that readers have become listeners.
- c I agree with this statement. I think that a good listener listens actively to what others are saying and allows them time to express their thoughts without interrupting. Because of this, they can become a good speaker who knows when to speak and what to say.
- d People used to listen to the radio to get their news. Nowadays, they mostly get the news either on TV or through social media. In that sense, I believe that listeners have become viewers. The same applies to music; in the past people listened to music. Now they watch music videos.
- e I agree. Recently, there has been a growing trend on social media to move beyond consuming content and to start creating content. In that sense, some viewers have become 'actors.'

4 Suggested Answers

- a Advantages of the communication revolution:
 - We can connect with anyone, anywhere and at any time.
 - We can access any information we may need.
 - Communication is faster and easier than ever before.
- b Disadvantages of the communication revolution:
 - We are not always sure who we are communicating with.
 - It is difficult for people of older generations.
 - Communication has become less personal.

BOOK 2**p. 42**

- 1 a T b F c F d T e T

2 Suggested Answers

- a Paul and Sheena want to know why Jonathan is acting in a strange way.
- b Paul and Sheena laugh when Jonathan tells them his computer has a life of its own.
- c Jonathan tried to wake Paul and Sheena to show them what his computer was doing.
- d The computer's behaviour was unusual because it kept turning on by itself, making beeping sounds and flashing a message on the screen.
- e Elisa thinks the noise is a distress signal because she used it before in a school performance.
- f Paul wants to think about whether someone or something is controlling Jonathan's computer, and whether it's a hacker, a program or a virus.

- g The tests showed that Jonathan's computer was virus free.

3 *Ss' own answers*

p. 43

- 1 a The purpose of a music theme is to highlight the style of the production, and the characters' feelings and actions.
b A successful music theme may be used by other musicians in their own work and may even be used in big events, like sports events or film festivals.
c Characters have their own music theme to signal that a character is coming or they are about to do something.
d Theme music in games helps players understand more about the story, pay attention to new instructions or important information. Players are more involved in the story and become part of the game.

2 **Suggested Answers**

- a The James Bond theme music is successful because it is still recognisable even though it was first used over 60 years ago.
b Signs that indicate a music theme's long-lasting success are the fact that it is played by bands and orchestras and even used as a mobile phone ringtone.
c For me, the sign of success I find surprising is the fact that a music theme is still popular 60 years after it was first introduced.
d Music themes are important because they help tell a story and they also help audiences connect with the plot and the characters.

3 **Suggested Answers**

- a I think that most mobile phone users change the default ringtone and use one they like or one that has a special meaning to them.
b I think some mobile users might feel the need to impress their friends. One way to do that is by buying the latest model or by using an unusual ringtone.
c In some cases, people might choose a ringtone that brings pleasant memories to them. For example, they might choose a song from their favourite band or a piece of music they used to listen to while on holiday.
d Some mobile phone users don't want to hear ringtones because they find them annoying; for this reason, they put their phones on silent or vibration mode.
e Although the majority of people enjoy listening to music, there are some who do not appreciate music very much. These people may find theme tunes annoying and invasive, so they simply turn them off.

4 **Suggested Answers**

- a I think the most popular music theme ringtones are the ones played in well-known films and TV series; for example, *Mission Impossible*, *Game of Thrones*, *Star Wars* and *Harry Potter*.
b I think mobile phone users choose a ringtone based on either music that creates fond memories or music that they think will impress others.

p. 46

- 1 b 4 c 2 d 5 e 3 f 6 g 7

2 **Suggested Answers**

- a Roger and Katie have developed the areas of AI and VR which Jonathan intends to utilise in his project.
b Jonathan believes that technology should make people's lives more productive and efficient.
c Jonathan's project aims to help people who are suffering from visual or hearing problems. He intends to use AI and VR to help people go about their daily lives more easily.
d Jonathan likes a number of things about project work; the sense of control, the independence, the ability to make his own decisions and the responsibility. He also likes working with other people and exchange ideas with them.
e Roger and his friend are watching Jonathan because they want to see everything he is doing.
f Roger wants to warn Jonathan about one of the messages which contains spyware.
g Jonathan wants to play 'Secrets of Shadows' to find out what the game is all about.

3 *Ss' own answers*

p. 47

- 1 a AI is the ability of a computer to think, plan and solve problems like humans can.
b A game like noughts and crosses is a good example of how players must solve problems and make predictions.
c AI learns by studying players: they watch what the players want and plan to do.

2 **Suggested Answers**

- a The main problem with AI is that it's only effective as its designers.
b According to the text, AI taking over people's lives is not a real problem.
c Computer programmers make mistakes because they are human.
d AI systems have problems because they are created by humans.

3 Suggested Answers

- a I think that people can trust a face recognition program because AI is good at recording and recognising very small details.
- b I am not convinced that people can trust a candidate selection program because AI may not have received reliable or accurate data from the candidates. As a result, the data AI will produce will not be correct.
- c I think that people can lie in pictures. In fact, with the latest technological developments, people can manipulate photos so it's very easy to change a picture.
- d Yes, people can definitely lie about themselves by saying whatever they want others to believe about their lives or accomplishments.
- e AI is only as accurate as the data it receives. If that data is not accurate or complete, then the results will be inaccurate or incomplete. This is specifically true when it comes to sensitive topics, such as social issues.

4 Suggested Answers

- a AI is as reliable as human intelligence because
 - It is built by humans.
 - It follows instructions.
- b AI is only as effective as the information it works with:
 - If the information is wrong, the results will be wrong too.
 - It cannot take its own decisions.
 - It cannot come up with its own solutions.

p. 50

- 1
 - a The gamemaster
 - b NPC
 - c NPC
 - d The gamemaster
 - e The player character
 - f The player character
 - g NPC

2 Suggested Answers

- a The screen message encourages players to log in to 'Secrets of Shadows'.
- b All the computers are playing the same music theme because they have all been hacked.
- c Players have different names and pictures to distinguish from each other, because they'd all be the same otherwise.
- d An avatar in a game is the character that represents the human player.
- e Jonathan's character wins a 'Welcome Package' and access around the Mountain Village.
- f Jonathan's character gets free access around the village because Jonathan solved the puzzle.

- g Elisa, Paul and Sheena are surprised because the NPC knows all their names; she also knows that they are watching their screens; she even knows that they are drinking tea.

3 Ss' own answers**p. 51**

- 1
 - a An avatar is an image of the person playing the game.
 - b People use avatars because they provide a personalised representation of themselves which they can edit to look any way they choose. At the same time, they also protect their identity.
 - c Creating an avatar can be a lot of fun because the person has the freedom to choose how they want the avatar to look and what kind of personality they want to present.
 - d The bad thing about avatars is that people can present any image they want of themselves, so you can never trust anyone completely.

2 Suggested Answers

- a The platform for your avatar is important because it determines the kind of avatar players can design, for instance, personal or professional.
- b A player's username is important because it is connected with the player's image and helps promote or hide some of their character aspects.
- c The facial characteristics of a player's avatar are important as they can give an indication of how willing players are to become friends with other players.
- d The clothes and accessories of an avatar are important as they give an indication of formality and the types of people players may wish to chat with.

3 Suggested Answers

- a I agree that most players hide their real personalities behind their avatars. For this reason, players need to be very careful when playing video games as they can never be sure who the real people behind the avatars are.
- b I agree up to a point. Some users are honest but others may pretend to be someone else.
- c This is a serious risk with avatars; people may choose to hide behind their avatars and use them to be mean or offensive to others.
- d Some users may use some specific features to create fun avatars that other players will enjoy playing with.
- e Users can adopt any type of avatar they want to represent any role they wish to play.

4 Suggested Answers

- a Benefits of meeting other avatars on computer games:
 - creates a safe environment to meet people
 - creates a feeling of belonging for players
 - free to express themselves
- b Dangers of meeting other avatars on computer games:
 - some players might be hurtful
 - you can never be sure that the people are who they say they are
 - can lead to misunderstandings as avatars may not accurately represent a person's appearance or identity

p. 54

- 1 a Roger
- b The Sheriff
- c The receptionist
- d Roger
- e The Sheriff
- f The receptionist
- g Roger

2 Suggested Answers

- a Jonathan chooses to go to the Mountain Village Hotel first. Perhaps it's the first building he sees when he visits Mountain Village.
- b When Jonathan solves the first puzzle, the Sheriff gives him a Welcome Package, so now Jonathan can walk around Mountain Village.
- c Jonathan's friends gasp when they hear their names spoken by a character in a computer game. They are confused about how the character of a game knows their real names.
- d I believe that the only way the receptionist can know what Jonathan and his friends are doing is because their computers have been hacked.
- e There is a map of Mountain Village in the Welcome Package to help players find their way around the game.
- f I think that the Sheriff's initials RK mean Roger King and the receptionist's initials KR mean Katie Robinson.
- g The note in the Welcome Package asks for help. Perhaps another character in the game needs help.

3 Ss' own answers

p. 55

- 1 a a puzzle
- b a puzzle
- c a mystery
- d a mystery

2 Suggested Answers

- a Solving puzzles can improve people's memory, challenge and test their abilities as they try to come up with a solution that requires mental effort.
- b People might not always be eager to do puzzles because they consider them too difficult or complicated. Others may not want to add more problems to their daily lives.
- c I think some people may be more interesting in mysteries because they might never be solved, so they are a lot more challenging than puzzles.
- d Solving puzzles can teach people become more methodical and as a result, they can become more organised in their work. Another way puzzles can be useful in real life is that they allow people deal with trial and error. Similarly, in their everyday lives, people can experiment with different things before they decide what's best for them.

3 Suggested Answers

- a Yes, I agree that solving puzzles can help develop your memory. In fact, this is one of the most important benefits of puzzles. They improve a person's memory skills as they need to focus on the task at hand and remember details and specific information.
- b Yes, I think that working on puzzles can improve several skills such as problem-solving, creativity, attention to detail, as well as collaboration, all of which are extremely useful for any modern workplace.
- c I think that solving puzzles regularly could help a person psychologically as they force them to focus their mind on a task, forget their problems and experience a moment of pleasure or satisfaction.
- d I agree. Puzzle solving pushes people into thinking of various solutions to a problem and experimenting with different ways of dealing with it.
- e I agree. Like most games, puzzles are a pleasurable way for people to relax, spend their free time in an enjoyable way and if they manage to solve a puzzle, experience a feeling of satisfaction and accomplishment.

4 Suggested Answers

- a Working with puzzles improves your thinking skills:
 - it tests people's memory
 - it reinforces connections between brain cells
 - it encourages people to try different solutions until they find the correct one
- b Working with puzzles improves your imagination:
 - it encourages people to think out of the box
 - it encourages people to come up with unusual or innovative ideas
 - imagination drives creativity

p. 58

1 a F b T c T d T e T

2 Suggested Answers

- a I think Julie's behaviour seems to change suddenly after scanning Jonathan's keycard and getting his details. Perhaps she knows something about Jonathan or she has heard Ms Robinson talk about him.
- b Perhaps she is feeling nervous because of something the suspicious man said to her.
- c Maybe Julie leaves her post to do something the man in black told her to do.
- d The visitor waits for Jonathan to leave first so he can get through the door without using a keycard.
- e I think the suspicious man bumped into Jonathan to put the red USB stick in his pocket.
- f I think the visitor left because he wasn't a student at the university and he had done what he wanted to do.
- g Perhaps they are security personnel who are monitoring the people entering the Castle for safety reasons.

3 Ss' own answers**p. 59**

1 a Privacy c Security
b Privacy d Security

2 Suggested Answers

- a Organisations are legally obliged to protect their customers' personal information. In fact, the European Union has introduced the General Data Protection Regulation, an important privacy law and human rights law, which allows people to control their personal information.
- b Organisations are not legally allowed to sell people's personal information unless written permission has been given.
- c All organisations that collect and store their customers' data need to make sure that this data does not fall into the wrong hands. So, it's very important for organisations to invest in cyber-security so as to keep their computers and the information stored in them safe.

3 Suggested Answers

- a I'm not sure I agree with this statement. Perhaps in theory, we can control who has our personal information, but in practice we don't really know who has access to it. For example, websites collect data, remember the language settings we've used, and perform specific functions to provide a positive user experience. But we can never be certain about the security measures these websites have taken and whether the data they have collected is safe.

- b I agree with this statement. Once we post our personal information online, it is difficult to know who sees it or how it is used. This is because online information becomes accessible to everyone, even if we delete it from our accounts.
- c I agree up to an extent. Privacy is an agreement between two parties to keep certain information private. This can be two people, or a person and an organisation, or two organisations.
- d I think that it's probably true that your information isn't secure on a shared computer. For this reason, you should always make sure that you do not save any login information or passwords on a shared computer.
- e I agree. Privacy refers to people's rights to manage their personal information and security refers to protection against hacking or cybercrime. So, I believe that privacy and security are closely connected and are both important parts of digital safety.

4 Suggested Answers

- a We must have more cameras watching what people do because
 - they may deter people from committing a crime.
 - they can collect evidence of crimes.
 - they allow people feel safer.
- b We must have fewer cameras watching what people do because
 - they cannot stop a criminal who is determined to commit a crime.
 - people feel that their privacy is being invaded.
 - these systems rely on technology which can be hacked.

p. 62

1 b 4 c 5 d 2 e 3

2 Suggested Answers

- a Roger has always had an interest in students who wish to use technology to help those with disabilities.
- b Deadlines are important because if a student does not complete their work by a specific deadline at university, this can have serious consequences on the student's grades.
- c Jonathan wants access to the AI system to learn how it works and to discover whether the system can learn fast enough to be used in his project.
- d When Jonathan says "This is not a game", he means that his project is serious and that it will have an important impact on people's lives.
- e Roger gives Jonathan a red USB stick to give him access to the AI system for fifteen days.
- f Jonathan is very happy at the end of the meeting because Roger likes his project idea and has given access to the AI system.

- g I think the lady in reception is monitoring their conversation because she may be a spy.

3 *Ss' own answers*

p. 63

- 1 a active c active
b passive d passive

2 Suggested Answers

- a When we send an email, we expect another person to reply. Also, most people save their emails online so the emails we send remain online indefinitely.
b When we order food online, we give important data: home address, telephone number, credit card number, etc. This extremely sensitive data is collected and stored by the online shop to be used again in the future. This way, you've left a digital footprint.
c Every time a person logs into a social media platform through their profile or username, any comments they post become part of their active digital footprint. Whatever is posted online, stays there forever.
d When you download a picture, you leave a digital trail, which shows which website you've visited, how long you've been online and what you've been doing.

3 Suggested Answers

- a I would advise to think twice before clicking 'Yes' especially when the website asks for your permission to collect your data.
c I don't think it is practical to avoid online activities as nowadays the number of things people can do online is constantly growing, from doing homework and catching up with friends to watching a film and paying bills.
d Nowadays, it's necessary to protect your laptop or smartphone from viruses. You should install an anti-virus program and make sure you update it regularly.
e I don't think it's advisable to create an online personality, unless of course you're playing a video game. Otherwise, it's more important to be yourself, always be polite and be careful what you post online.

4 Suggested Answers

- a You can control your digital footprint:
• don't take part in surveys
• delete old email accounts
• unsubscribe from mailing lists
• turn off location data collection
b You cannot control your digital footprint:
• posts, photos and videos you've uploaded stay online forever
• most teenagers have got profiles on several social media platforms

- websites collect data about the users' online activity including browsing and shopping history

p. 66

- 1 a Barbara Walker
b Barbara Walker
c Roger King
d Roger King
e Barbara Walker

2 Suggested Answers

- a Barbara Walker is wearing a wig because she doesn't want to be recognised.
b Barbara messaged Roger to inform him that she successfully caught everything on video.
c Barbara's personal information is secret because her job requires her to remain anonymous.
d Barbara is a woman in the shadows because to do her job as chief of security at NHU effectively, she must remain unknown.
e Barbara's work never stops because hackers are continually trying to get through NHU's security system.
f Barbara's team are watching Jonathan because they are waiting for him to use the red USB.
g Barbara thought 'This is a first', because she hadn't witnessed anyone entering the building and offices the way the suspicious man did. Also, she thought it was unusual that the man had put something inside Jonathan's pocket.

3 *Ss' own answers*

p. 67

- 1 a L b I c L d L

2 Suggested Answers

- a Businesses want information about you to sell their products or services. Other people may want to find information about other people because they are curious and want to know more about them.
b It depends on the person's online activity. If a person is really active online, shares photos or videos or posts comments, then it is easy to find information about them. If however they are careful and try not to leave a digital footprint, it might be more difficult to uncover their personal information.
c Performing an online search about yourself is useful because you will be able to see what kind of information about you is available online. This way, you can see what kind of digital footprint you have.
d The motive of a spy is important because it reveals what their intentions are. Why are they spying? Is it because they are simply curious? Or are they perhaps

trying to gain something for themselves? Knowing an online spy's motive is important to see whether there's any risk to yourself.

3 Suggested Answers

- Perhaps spying can be a fun game for children. For adults, however, it is a bit more complicated as spying on others is invading their privacy so it could be considered a crime.
- Yes, in fact, it can be very dangerous. Sometimes hackers install spyware apps to collect sensitive information such as location, as well as audio and video.
- Most information is available to all people around the world, through social media or public databases. There is information, however, that is restricted; for instance, people might have to pay to access it.
- It depends on people's online activity. If they are careful online and do not share much information about them, then others cannot find out a lot about them. Barbara Walker, for example, has managed to stay anonymous.
- I agree. The majority of people living in modern societies cannot imagine their lives without the Internet, as a lot of their daily activities, including lessons, work and entertainment takes place online.

4 Suggested Answers

- Reasons why I don't trust people online:
 - I can never be sure that anyone is who they say they are.
 - Some people hide their flaws or mistakes.
 - Some people use rude language.
- Reasons why I trust people online:
 - I am honest about who I am and what I do.
 - I can check their online friends and see whether we've got some common ones.
 - I can check their personal information.

p. 70

1 b 2 c 5 d 3 e 4

2 Suggested Answers

- William Baker doesn't have a digital footprint because it is important for his job to remain anonymous.
- William is successful because he is able to complete tasks that others have been unable to do.
- William uses an application that was given him to find Jonathan.
- William Baker speaks to Julie Sanders to get the red USB stick that he had mailed to her office some time ago.
- William Baker posts the USB stick to NHU so he can then collect it himself from the reception.

- William Baker tries to find Jonathan at NHU to slip a USB stick in his pocket.
- William is unaware of the fact that the cyclist placed a small tracking device and now someone is following William's movements.

3 Ss' own answers

p. 71

1 a Y b N c Y d Y

2 Suggested Answers

- If you want to remain unnoticed, it's important to think carefully about the kind of clothes you wear. The aim is not to wear any items that are memorable or striking.
- It's important to consider how you act if your plan is to remain unnoticed. You need to aim to be as natural as possible and avoid doing anything that may draw people's attention.
- If you do not wish to attract other people's attention, it's advisable to avoid talking on your phone. If you do that, other people might be able to listen to your conversations and find out things about you.
- If you want to remain unnoticed, you should keep to yourself and avoid talking to others and that, of course, includes speaking with anyone on the street.

3 Suggested Answers

- I don't agree with this statement. I think that even for people who work as detectives for instance, being unnoticed is not easy. They have to make an effort to blend with the crowd so that no one can recognise them.
- I agree with this statement. When you work in a job that requires you to be unnoticed, you have to dress in a way so you don't stand out, you must try hard not to draw attention to yourself or even wear a disguise. All of these require some effort.
- I agree. A person's unusual behaviour will make them stand out from the rest of the people, so others are more likely to notice them and wonder why they are behaving in the specific way. Some people might get annoyed and others might laugh.
- I don't think so. If a person behaves in a strange way in public, others are more likely to remember them. Especially if that person is rude or violent to others.
- I think depends on whether the person wants to remain unnoticed or not. If their intention is to remain unnoticed because of their job or a specific task they want to do, then they might not be lonely. If, however, the person wants to be noticed but for some reason they are not, perhaps they feel lonely in their personal lives.

4 Suggested Answers

- a The advantages of being unnoticed:
 - you can go about your business without being bothered by anyone
 - you pay attention to details others might miss
 - you think carefully before you speak
- b Disadvantages to being unnoticed:
 - it is more difficult to make friends
 - you may feel lonely
 - others may not understand your true feelings

p. 74

- 1 a T b F c F d T e F

2 Suggested Answers

- a The guards take Jonathan's property to search it all.
- b Jonathan says that the second USB stick is empty because when he checked it, there was nothing in it.
- c Jonathan used William Baker's USB stick by accident as it looks identical to the one Roger King gave him.
- d Probably William Baker wanted information about the AI code from Jonathan's computer.
- e Jonathan tells the security guards that he doesn't have the answers they're looking for because he is confused and he really doesn't understand what is going on.
- f The guards think Jonathan has a large sum of money in his account because he's working as a spy.
- g The guards intend to keep Jonathan locked up for the night. They also think that he's guilty and perhaps they believe that if Jonathan spends the night locked in the room, he might think about what he's done and admit it in the morning.

3 Ss' own answers

p. 75

- 1 a plays sports and works on computer programming
- b teaches the Rivertown High Computer Club – helps local businesses move into the computer age
- c spends time with friends
- d creates computer applications

2 Suggested Answers

- a I think it is important to develop physical and mental abilities as they both contribute to a healthy and balanced life.
- b I believe that volunteer work can be very satisfying because helping other people and the community in general provides a natural sense of accomplishment.
- c It is very important for everyone to have some good friends they can connect with and share the same values or interests with. Also, a good friend can support you in hard times, give advice and help you deal with stress.

- d We can learn a lot from our friends especially if they are people whose opinion we respect and trust. Friends also help us learn important social skills, like how to communicate, work with others and solve problems.

3 Suggested Answers

- a Yes, it seems that Jonathan has walked into a trap that has been set by William Baker and whoever he is working for. Jonathan is being used as a means to obtain secret information.
- b I don't agree. Jonathan is an honest guy who is not hiding anything. Obviously, this is a misunderstanding that I hope he will be able to solve soon.
- c I don't agree. I think that Jonathan trusts his friends who are loyal to him and support him, as well as his professors at university who are highly respected people.
- d Perhaps. Jonathan has found himself in a difficult situation that he doesn't really understand. Maybe he starts to feel worried about his own safety as well as his friends' safety.
- e This might be possible. The security guards are very serious and it seems that there is a real problem of hacking the university computers. Jonathan has somehow been involved in this situation, which might be dangerous.

4 Suggested Answers

- a The best ways to stay out of trouble are:
 - to have a positive circle of friends
 - to keep active
 - to stay focused on positive goals
- b The most dangerous ways to get into trouble:
 - trusting the wrong people
 - not protecting your personal information
 - skipping school or sports practice

BOOK 3

p. 78

- 1 a T b F c T d F e T

2 Suggested Answers

- a Sheena is asking about Jonathan at breakfast because usually he is the first one in the kitchen having breakfast after his morning run.
- b They go to the NHU reception desk to let them know that their friend is missing and ask whether they know anything about it.
- c The security guard smiles because he thinks that Jonathan's reason for missing is some kind of 'friend trouble'.
- d The guard gets serious after the phone call because he finds out what is really happening with Jonathan.

- e Barbara Walker wants to meet Jonathan's friends to tell them that he's in trouble.
- f Barbara thinks Jonathan is lucky to have such great friends.
- g Elisa asks Barbara Walker lots of questions because she is really concerned for Jonathan.

3 *Ss' own answers*

p. 79

- 1 a Students wear uniforms because it helps them stand out in a crowd, they save time because they don't have to think about what to wear to school every day, and they help students feel they are part of a group.
- b Shop assistants wear uniforms so they can be easily identified by customers.
- c Some groups of people need to stand out in emergency situations so others can easily spot them and turn to them for help.
- d Uniforms are significant because they allow the people who are wearing them, for example sportspeople, to feel connected to each other. Also, they allow the people to feel equal as they are all wearing the same clothes.

2 **Suggested Answers**

- a Uniforms are economical to buy for a company because they are bought in large quantities for lots of employees. They are also economical for the staff members as they don't have to wear, and possibly damage, their own clothes.
- b Uniforms are comfortable because they are created specifically for the job role.
- c Uniforms save time for employees and students in the morning because they don't have to waste time trying to think what to wear to work or school.
- d 'Team spirit' is the idea of bringing together and unifying a group of people to achieve a goal.

3 **Suggested Answers**

- a Uniforms might help people communicate better as it is easy to identify the person you need to talk to or turn to if there is an emergency situation or if you want to contact someone in a specific role.
- b Uniforms make working more efficient because they provide increased safety and comfort to the employee.
- c Yes, I agree. Uniforms help us to identify the roles of group members. For example, at a hospital, by looking at the people's uniforms, you can see who the doctors are, who the nurses are and who administrative staff are.

- d I think that wearing a uniform can make a person feel more confident as they are feeling proud to be a member of a group, for instance, the school's basketball or football team.
- e I agree. School uniforms can promote equality because they are a standard dress code for everyone, no matter where they come from, their financial status or their personal style.

4 **Suggested Answers**

- a Advantages of wearing uniforms:
 - they increase a sense of belonging at work or school
 - they promote equality and inclusion
 - they help students deal with peer pressure
 - they save time in the mornings
- b Disadvantages of wearing uniforms:
 - they don't allow people to express their own personal style
 - they don't allow for cultural diversity
 - school uniforms are an extra expense for parents
 - they do not improve people's performance at school or work

p. 82

- 1 b 3 c 5 d 7 e 2 f 4 g 6

2 **Suggested Answers**

- a Elisa, Paul and Sheena leave their mobiles behind because they think that their phones have probably been hacked and they don't want anyone to listen to their conversation.
- b Elisa, Paul and Sheena go to the park after the supermarket to sit and talk about things in a place where they feel safe.
- c Paul agrees with Sheena that Jonathan's computer was hacked.
- d Elisa agrees with Paul that they are all being closely watched and monitored.
- e The expression 'the walls have ears' means that people could be listening from anywhere.
- f Playing 'Secrets of Shadows' isn't any fun now that Jonathan is missing.
- g They are surprised with the messages they receive on their computer screens because they are all greeted by their first names.

3 *Ss' own answers*

p. 83

- 1 a Honest people are authentic because they say what they think so you always know where you stand with them.

- b True feelings are important because they are real. If feelings aren't real, they're not going to be very important.
- c Honest people like other honest people.
- d Telling the truth helps you stay out of trouble because when you lie, then you have to tell more lies to cover the first ones and this creates a vicious circle of lying.

2 Suggested Answers

- a Sometimes, white lies can provide a convenient way to avoid confrontation or hurting someone's feelings.
- b White lies can make you more careful about what you say so as not to upset someone.
- c White lies are not innocent when you reach a point when you are consistently hiding your thoughts and feelings.
- d People who lie will not be trusted by their friends and family anymore.

3 Suggested Answers

- a I agree. Even if that means that they sometimes hurt other people's feelings, honest people always tell the truth the way they see it.
- b I'm not sure. I think that honesty is a positive quality. That means that perhaps honest people have other positive characteristics. As a result, their feelings about others are positive, too.
- c I agree because honesty can help build trust. When you always tell the truth, people trust you more and, in this way, you can have a stronger relationship with friends and family.
- d I don't think that honesty can always stop you from getting into trouble. For instance, Jonathan got into trouble even though he is an honest person. So, perhaps, trouble can find you whether you're honest or not.
- e I am certain that everyone, no matter how honest they are, will tell a lie to avoid hurting a person's feelings.

4 Suggested Answers

- a Telling the truth is always the right thing to do:
 - it's easier to tell the truth
 - others can count on you for honest advice
 - your friends can trust you
- b Hiding the truth is sometimes necessary:
 - telling the truth can be seen as being rude
 - being too honest can lead to arguments
 - not everyone can handle the truth, so you may find that you have very few friends

p. 86

- | | | |
|-----------|-----------|----------|
| 1 a Elisa | d William | f Elisa |
| b Paul | e William | g Sheena |
| c William | | |

2 Suggested Answers

- a Jonathan's friends want to go shopping because they want to talk somewhere safe where no one is watching.
- b His excuse is that Wi-Fi doesn't work and he needs help.
- c I think he uses his glasses to connect to Elisa's computer.
- d William needs to be inside NHU to get access into the university's security system.
- e William's smart glasses allow him to control a computer the same way he would using a mouse.
- f Perhaps he wants to steal something; for instance, the new computer games being developed in the university.
- g The tracking device on William's car is important because this way someone will be able to follow his movements.

3 Ss' own answers

p. 87

- 1 a People wear traditional glasses to improve their vision.
- b Smart glasses allow you to connect to your mobile or laptop and work on it wearing your glasses.
- c With traditional glasses, you can see better in the distance, up close or both.
- d With smart glasses, you can receive and send sound, and you can receive and transmit live images.

2 Suggested Answers

- a Perhaps you would need to send and receive sound so that you can have a private conversation just like you do on a mobile phone.
- b Perhaps you would need to send and receive images so as to have a videoconference call.
- c Your smart glasses would need an Internet connection so that they can work like a traditional computer or laptop.
- d A CPU is the control centre of a computer that runs its operating system and apps. Since smart glasses work like a traditional computer, they also need a CPU.

3 Suggested Answers

- a I agree. A driver's attention should always be on the road ahead and wearing smart glasses might distract them.
- b If a person wears smart glasses and records images and videos of people or things around them without asking for their permission, that would definitely be an invasion of privacy.
- c I don't think so. I believe that anyone can use them easily. Most of them look like ordinary glasses with

small buttons on the frames that the wearer can press to listen to music, call a friend or take photos or video.

- d Smart glasses receive information from the Internet. As new information is constantly being added online, the information available through smart glasses is also being constantly expanded.
- e I don't agree with this statement. I think that smart glasses can offer solutions to various problems. For one, they have visual commands which is useful for people who are visually impaired or blind as they can control the glasses with their voices. Also, they can prove useful for technicians who can 'see' information online and have their hands free to do their work. Sports people also find smart glasses useful; for example, they can see useful information on their glasses while they are cycling or running.

4 Suggested Answers

- a Smart glasses can benefit users in many ways:
- they can access the Internet without the use of a computer or laptop
 - they are easy to use
 - they are light and easy to carry around
 - they offer privacy to the users
- b Smart glasses do not offer any real assistance:
- they are very expensive
 - they can break easily
 - they don't have many operations or user independence

p. 90

1 b 3 c 5 d 7 e 6 f 4 g 2

2 Suggested Answers

- a Jonathan is alone in the room because the guards who took him there haven't returned yet.
- b The guards took Jonathan's mobile and laptop because they suspect he is a hacker so they don't want him to have access to any technology.
- c I think Jonathan is calm because he knows he hasn't done anything wrong and perhaps he feels certain that the truth will eventually come out.
- d Jonathan receives money in his bank account to make him look bad.
- e Jonathan realises that the second USB stick contains a powerful virus. In fact, it is so powerful that when someone checks the USB stick, it looks empty.
- f Katie is happy because she has been looking forward to meeting Jonathan in person.
- g Jonathan is happy because he has been looking forward to meeting Katie in person.

3 Ss' own answers

p. 91

- 1 a The benefit of SCLs for presenters is that they'll be able to read their speech as it appears.
- b The benefit of SCLs for musicians is that they'll be able to read their music easily.
- c The benefit of SCLs for athletes is that they'll be able to get information about their performance as well as the event they are participating in.
- d The benefit of SCLs for speakers of different languages is that they'll be able to read immediate translations easily.

2 Suggested Answers

- a Real-time update on your eye health would mean that you'd be easily able to pick up on any health conditions immediately.
- b Being able to see at night is a necessary feature for some people. For instance, police officers can use them to detect possible dangers and take appropriate action.
- c One benefit of magnified vision is that you can see things further away. Another important benefit is that it helps people with low vision to read a book or enjoy a hobby.
- d The benefit of taking real-time pictures is that you can transmit real-time information to anyone anywhere in the world. This is particularly important for reporters who often need to report live what is happening.

3 Suggested Answers

- a I agree. I think that it will be easy to operate a device through SCLs because they will sense and follow the movements of the eyes.
- b With the Internet of Things, all devices can be connected. So I think it will be easy to use SCLs with any electronic device or gadget around the house or at work.
- c I agree. I think that SCLs will have tiny batteries that will be easy to charge during the night.
- d Perhaps. I think that SCLs will be able to connect to the Internet and give the person wearing them information about what they see around them. Technology is constantly advancing, so there is no limit to what SCLs will be able to do.
- e I believe that the future of SCLs looks very promising. Technology is advancing rapidly, so I'm certain that soon, they will become more sophisticated and will be able to offer more practical uses to wearers.

4 Suggested Answers

- a Smart Contact Lenses will become very popular:
- they are a comfortable and convenient alternative to traditional contact lenses

- they allow wearers to monitor various aspects of their health
- they allow wearers to detect eye conditions early
- b Smart Contact Lenses will never become very popular:
 - they are terribly expensive
 - they are still in the early stages of development
 - they can never replace a doctor

p. 94

1 a T b F c T d F e T

2 Suggested Answers

- a Jonathan has added extra protection to the AI key to protect it from people like William Baker.
- b William is shocked and surprised when the Sheriff talks to him and uses his real name.
- c The Sheriff says that William isn't a riddle anymore because they now know his real identity.
- d William decides to leave the library because he feels trapped between the real and the virtual world, and he realises that his plan hasn't worked.
- e The Sheriff asks Mr Baker what he is to let him know that they have realised that he is a spy and that he wants to steal the AI code.
- f William Baker starts sweating when he realises he's trapped inside the library.
- g Perhaps Jonathan or someone else has managed to hack them.

3 Ss' own answers

p. 95

1 a Not hacked c Hacked
b Hacked d Not hacked

2 Suggested Answers

- a If you ensure that your phone is regularly updated with the newest operating systems, this will increase your online protection.
- b It is important to change our passwords regularly; this way, it will be more difficult for hackers to access our devices.
- c Free Wi-Fi connections are not always safe; in fact, most of the times, they are vulnerable to attack. Hackers are aware of this and use it to access people's devices and steal their personal data or install malware on them.
- d Connecting your phone to another person's computer could be dangerous; if, for instance, that computer is infected with malware, this will be transferred to your phone.

3 Suggested Answers

- a I agree. Hackers may be interested in your messages because, this way, they might be able to steal your password and access your personal information or ebanking details.
- b That's true. Hackers may be after photos on your device and use them for identity theft. In other words, they may use your photo and other personal information to pretend they are you and gain access to your bank account.
- c I agree. Hackers may be after the details you use when shopping online, such as your credit card number. As a result, they may be able to gain access to your banking details.
- d True. Hackers may also be after a friend's information on your device. They may take their name and other personal information, like their social security number, and use it to open a bank account or use an existing account.
- e Generally, hackers are motivated by money. So, if they want to gain a lot of money, they will continue to access people's computers, smartphones and tablets for their personal gain. They may even attack companies' security systems for this reason.

4 Suggested Answers

- a A mobile phone can never be safe from hackers:
 - hackers now send smishing messages that are not easy to spot immediately
 - it's easy to download an app that has been hacked
 - public Wi-Fi and Bluetooth work as entry points for cybercriminals
- b A mobile can be safe from hackers:
 - if you use strong passwords and two-factor authentication
 - if you run anti-malware software and update it regularly
 - if you only install apps from trusted sources

p. 98

1 b 3 c 5 d 4 e 2

2 Suggested Answers

- a Sheena's avatar speaks in a soft voice and looks friendly because she is psychologist.
- b Paul's avatar wears a suit and tie because as a football coach, he wants to look professional.
- c Elisa's avatar changes her voice because, as an actress, she can play different roles and change her voice accordingly.
- d They are unsuccessful because they are trying to solve it with logic, whereas they should be trying to think more creatively.
- e The message tells them to click on the map to find out where to go.

- f Their information is sent to other computers because of a secret computer virus that works silently inside the game.
- g Roger the Farmer looks at them and smiles because it is in fact Jonathan.

3 Ss' own answers

p. 99

- 1 a T b F c F d T

2 Suggested Answers

- a An abstract idea is an idea that comes from the mind rather than the world around us. For instance, freedom or happiness are both abstract ideas.
- b Several things can lead to knowledge: working with abstract ideas, asking and answering questions, using one's senses as well as recognising various situations and adapting to them.
- c People understand the world around them through personal experience or through other people's experiences.
- d Memorisation is important because people can retain a piece of information in their minds to use at a later time, when it is necessary or useful.

3 Suggested Answers

- a Examples of learning: learning how to drive a car, learning how to use a computer, learning how to sing or play a musical instrument, etc.
- b Examples of memorisation: using rhymes to remember rules of spelling, learning a poem by heart, learning the multiplication tables, etc.
- c Examples of reasoning: you see a stranger who is polite and kind so you reach the conclusion that this person is kind; you've been driving all day and the next morning the car won't start so you reach the conclusion that you have run out of petrol; etc.
- d Examples of problem-solving: creating a budget for your family holidays; getting up late but managing to get to school on time; finding your way home after you've missed your flight; etc.

4 Suggested Answers

- a Human intelligence means different things to different people:
 - different scientists have come up with different definitions of intelligence
 - there are different types of human intelligence: emotional, social, intuition, etc
 - each person is different so each person has a different type of intelligence

- b Human intelligence means the same thing to all people:
 - all humans are the same so human intelligence is the same in everyone
 - one universally accepted definition of intelligence is the ability of humans to gain and apply knowledge and skills

p. 102

- 1 a Katie and Roger
b Katie and Roger
c Katie and Roger
d Barbara
e Katie, Roger and Barbara

2 Suggested Answers

- a Because he is very clever and knows a lot about computers.
- b She decides to meet Jonathan because she wants him to join the team and become an agent for NHU; she thinks he is perfect for this job.
- c Because Barbara and her team can track the movements of the stranger and see him slip it into Jonathan's pocket.
- d Katie, Roger and Barbara decide to let the stranger into the castle to track him more easily.
- e They have Jonathan arrested and all his devices disabled to force the stranger to feel more relaxed and braver inside the Castle and in this way, they can turn their suspicions into certainty.
- f They realise their plan is working when the stranger starts trying to locate and connect to computers and programs inside the NHU more openly.
- g Everything goes quiet after the stranger's capture because all communications between NHU and the dark web stop.

3 Ss' own answers

p. 103

- 1 a T b F c T d F

2 Suggested Answers

- a Keeping a secret can make a person feel calmer as they are in control of the specific piece of information and they can decide who to share it with, if with anyone at all. Also, people may keep a secret to avoid others judging them; in this case, it also helps someone feel more relaxed.
- b When a person keeps a secret, especially if it is something personal, they may need to be more focused on keeping it so as not to be distracted and share it with others they are not supposed to.

- c When someone keeps a secret, they can be more patient as they need to control their impulse of sharing it with others; they need to think carefully about what they do and say.
- d Keeping each other's secrets is a sign of true friendship. It means that two people can rely on each other, they have a strong relationship, and they can trust each other. This way, people come together.

3 Suggested Answers

- a I agree with this statement. There may be times when sharing certain information might not be appropriate. Depending on what the information is, there may be certain people with whom it'd be better not to share.
- b I agree. If you share personal information with people you know and trust, you feel certain that this information is safe.
- c Of course. Personal information, financial data, your exact location, health information and any information about young children should always be protected.
- d Building trust in people around you can only be a good thing. Relationships that are built on trust are supportive and positive.
- e I agree. Especially during a conflict, when people may feel angry or frustrated, it is best to keep silent and wait for everyone to calm down.

4 Suggested Answers

- a There are very few people we can really trust:
 - building trust takes time
 - trust only works both ways
- b There are a lot of people that you are really trust:
 - people have got large families
 - people need to have a big circle of friends

p. 106

- 1 b 3 c 4 d 5 e 2

2 Suggested Answers

- a Jonathan is happy to help Roger and Katie because he respects them both so much, and would be happy to be involved in helping NHU.
- b Barbara made Jonathan disappear to make the people in Flash Web think that Jonathan was the problem.
- c Roger and Katie blocked the virus program to stop anyone from accessing NHU computers.
- d William Baker is trying to find Jonathan's laptop to get the AI code.
- e William Baker is using a new piece of technology to try and get the information he wants from Jonathan's computer.
- f Jonathan's friends are trying to find him because they are worried about him.

- g People in Flash Web go quiet after William's arrest because they're worried that they will all be caught.

3 Ss' own answers

p. 107

- 1 a SW b SW c DW d DW

2 Suggested Answers

- a Dark web users are unknown because most of the activities happening there are illegal and people prefer to remain anonymous.
- b The locations of dark web users are not known because they try to hide what they are doing from the authorities.
- c The businesses of dark web users are unknown because business owners who operate in the dark web want to protect their personal information as well as their companies' data.
- d The motives of dark web users are not known to most people; most users of the dark web use it for criminal activities and others because they are curious to see what happens there. Whatever their reasons, it's difficult for other people to understand the motives of people navigating the dark web.

3 Suggested Answers

- a I definitely agree. Educated people usually stay away from crime as they have both the knowledge and the skills to improve their lives. Apart from that, education offers people important skills, such as critical thinking and decision-making which help them stay clear of criminal activities.
- b I agree. A strong password is important but it's not enough. Passwords need to be changed on a regular basis and also, to protect themselves online, people need to install good antivirus software and two-step authentication so that their accounts are secure in case their passwords are stolen.
- c Unfortunately, public Wi-Fi networks are not secure, which means that the data that is transmitted through them is not safe. As a result, it is easy for hackers to access people's personal information.
- d That's true. More types of scams and fraud are constantly emerging. As technology is advancing rapidly, scammers develop new ways to attack people and networks. For instance, the rise of cryptocurrency has led to new types of fraud that targets cryptocurrency users.
- e It is extremely important to contact the professionals if one thinks they might be at risk. People like police officers, cybersecurity experts and fraud prevention specialists have the knowledge and expertise to assess the situation and offer their guidance about how to resolve any issue.

4 Suggested Answers

- a The advantages of knowing about the dark web:
 - you become more educated about the risks involved
 - people can protect themselves better
 - companies can assess their vulnerabilities and take measures to protect themselves
- b The disadvantages of knowing about the dark web:
 - people, especially young ones, may have the curiosity to learn more about it
 - researching the dark web can lead to exposure to illegal activities
 - some people may underestimate the risks of the dark web

p. 110

- 1 a T b F c T d T e F

2 Suggested Answers

- a They meet in a room, deep in the castle, so they can speak freely about what happened.
- b A 'safe room' is a place where there's no Internet connection and very few people know about it.
- c Roger wants to thank Jonathan's friends because he thinks that their help has been invaluable and effective.
- d Paul complains about not being told earlier because they were all really worried about Jonathan.
- e Katie refers to Jonathan's friends as being 'real' because she thinks that their friendship is strong and genuine.
- f Barbara wants all of them to be careful because she thinks that the people trying to get the AI code won't give up.
- g Katie laughs when she mentions their time in NHU because she acknowledges the fact that so far it has been an unusual start to their university courses.

3 Ss' own answers**p. 111**

- 1 a R b R c P d P

2 Suggested Answers

- a People wrote messages on catacomb walls for other visitors.
- b People painted images on catacomb walls to decorate them.
- c People brought statues to the catacombs to make them memorable.
- d People brought statues to the catacombs to make their family members' graves stand out.

3 Suggested Answers

- a Yes, I think catacombs are visited by tourists today because they are a reminder of the history of a place so most of them have important historical value.
- b Yes, I'm sure scientists visit catacombs. For instance, they might want to study the conditions inside the catacombs in order to understand how to protect cultural heritage sites.
- c Yes, there are many catacombs around the world that are being used for various purposes: some are open to the public as tourist attractions, some have been turned into cultural venues, where concerts and art events are being held, and of course, they are used for research by various scientists, including archaeologists, geologists and historians.
- d Yes, I agree. Catacombs might have historical artefacts, so they offer important information about the culture and daily life of ancient civilisations.
- e Perhaps some catacombs will be abandoned because of environmental degradation or structural instability. However, I think that because of their cultural and historical importance, they will remain popular in the future.

4 Suggested Answers

- a Catacombs are places of historic value:
 - they offer valuable information about ancient burial practices
 - they provide important insights into the construction methods used in the past
 - they contain sculptures and inscriptions, which give information about the artistic styles of ancient cultures
- b Modern tunnels are designed for the future:
 - they are part of transportation networks that allow the movement of people and goods by road, rail, and underground
 - they are part of urban infrastructure projects, for instance underground cables for electricity, telecommunications and Internet
 - they provide access to underground deposits of minerals, oil and natural gas