# Computers in the modern world
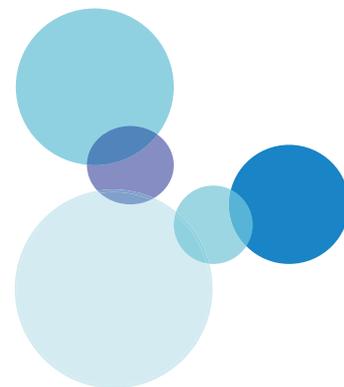
Teacher's Notes

## Lesson Plan

| Length | 60 mins | Specification Link | 211/b | |
|---|---|---|---|---|
| Learning objective | | Candidates should be able to:<br>(a) describe the importance of computer systems in the modern world | | |
| Time (min) | | Activity | Further Notes | |
| 10 | | Using a projector display the **Interactive Starter Activity**.<br><br>Point out that huge advances have been made in a very short space of time and that new technologies can quickly become redundant, e.g. video recorders and cassettes.<br><br>The activity contains links to three videos showing how new technologies have quickly developed. | | |
| 10 | | Watch the set of videos, pausing to discuss the content. | | |
| 5 | | Discuss the videos to assess learning. Ask questions such as:<br>• List some ways that computers/microprocessors are used in the home. | Answers:<br><br>Laptop, phone, central heating, microwave, camera, router, TV, games console, satnav, etc. | |
| 10 | | The students use **Interactive Activity 1**. | | |
| 15 | | **Worksheet 1**<br>Students to complete Worksheet 1 either on paper or on computer. They will need access to the Internet to research some of the questions.<br><br>Ask individual students for their answers and discuss with the class so that all students have the correct answers. | Answers provided – students are not expected to go into this level of detail, but it is useful guidance for the types of responses students may give.<br>Ask students with the correct responses to explain to the class how they arrived at their answers. | |
| | | **Extension Challenge/Homework**<br>Students to complete and submit Worksheet 2 for homework.<br>They should also complete any questions remaining from Worksheet 1. | | |
| 10 | | **Plenary – Questions: Test a friend**<br>Ask the students to work in pairs.<br>They should use the 'Test a friend' interactive activity. Each student sets a test that the other member of the pair has to answer. | | |
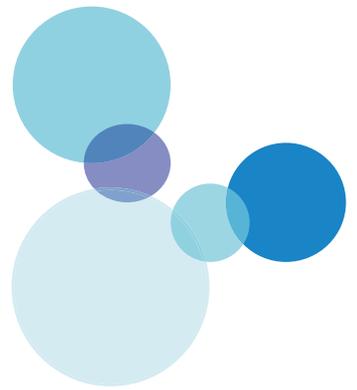
# WORKSHEET 1 ANSWERS

**1**   **Find the dates when the following occurred.**

(a) **The first mobile phone call.**

April 3 1973

(b) **The first digital compact discs on the market.**

1982

(c) **The first digital satellite television broadcast.**

1989

(d) **The first terrestrial television service.**

1998

(e) **The first portable mp3 player.**

1998

(f) **The first iPod.**

2001

(g) **The first website.**

1992

**2**   **Mobile phones were invented to allow people to make voice calls but have developed to provide services offered by other devices – a process that is called convergence.**
**List the extra functions provided by smartphones.**

SMS – text messaging, MMS – multimedia messaging, video calls, Internet access (allowing web browsing, emails, social networking), camera for still images and video, listening to music and watching movies, data storage, GPS for navigation, use of apps for productivity and entertainment, e.g. playing games.
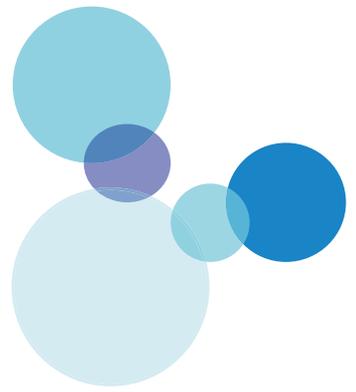
**3** **List the advantages of a digital television service over an analogue one.**

Many more channels.

Higher quality pictures and sound.

Digital radio stations available on the TV.

Electronic programme guide.

Greater accessibility – subtitles, sign language.

Greater control – pause and rewind.

Interactive features – access Internet, use apps, e.g. YouTube, shopping.

**4** **List the positive effects of the increased use of computer systems on education.**

Use of computers for producing and presenting work.

Use of the Internet for research.

Subject specific software for subject teaching.

Use of digital projectors and interactive whiteboards in teaching.

Use of various digital devices, e.g. computers, smartphones, iPads, for email for communication.

VLEs for communication between students, teachers and parents.

Use of educational apps on phones and tablets.

Use of digital devices for datalogging.

Use of digital cameras for projects, experiments, etc.

Use of digital registration and school management systems.

Use of biometrics, e.g. fingerprint scanners when paying for school meals.
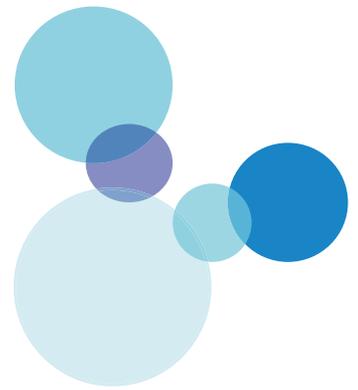
**5** **How has the increased use of computer systems affected business organisations?**

Mobile phones allow workers to communicate with each other and with customers, anywhere and at any time

Mobile devices allow people to work away from the office, when they are travelling or when at home.

More people can work from home and not commute.

Greater collaboration between workers at different sites.

Wi-Fi and 3/4G networks allow workers to access an organisation's files and data from anywhere in the world.

Organisation's data can be stored in the `cloud' so all employees can access it.

Need to concentrate on security to prevent hackers stealing or corrupting data.

As more employees have digital devices of their own more organisations support corporate applications on employee-owned devices such as notebooks, smartphones and tablets.

This is difficult to manage because of the different types of devices and security concerns.

As more of their customers use portable digital devices, organisations must cater for them by:

    Creating websites – to showcase what they do
    Sell online – more convenient for customers
    Blogs – many organisations use blogs to tell customers about developments in a more personal way
    Social networking – most organisations have a presence on social networking sites.
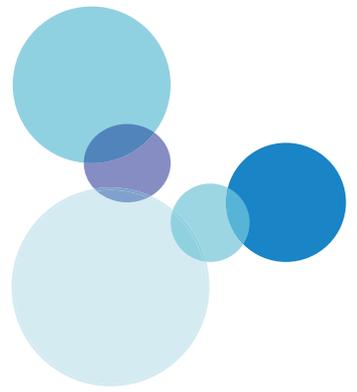
**6** There is a growing 'digital divide'.

List the ways in which a limited access to computer systems can affect peoples' lives.

**Economic**

limited awareness / skills can impact on jobs

more difficult to access banking and other online services goods cost more -often cheaper to buy goods / services on line less choice - wider range of options re goods / services if can access easily on line.

**Social**

poorer communication opportunities

exclusion – opportunity to link into social networking / developing friendship / common interest groups

**Educational**

poorer access to information / many educational resources now freely available on line

no access to online training – need to access community resources – need to leave home to do this

more limited opportunity for development of skills – ICT and other functional skills

**Cultural**

less access to resources such as:

Music – MP3/4 players / downloads / streaming

Video on demand

TV BBC iPlayer and similar
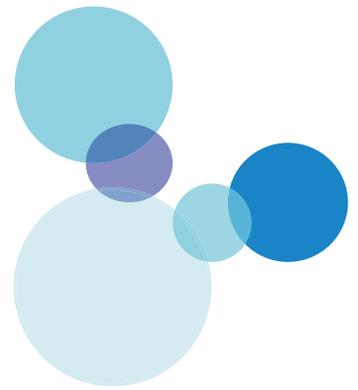
# WORKSHEET 2 ANSWERS

**1** The increased use of computer systems has changed the ways in which people interact with each other.
Explain how developments in hardware and software have affected the ways in which people communicate with each other.

**Points may include:**

**Hardware:** Computers faster and more capable of high-speed Internet access – allows video and voice communication.

Large server farms and cheaper storage enables the infrastructure behind large social networking websites.

Convergence of computers with other digital technology (e.g. phones, television sets) allows continuity of networking over several formats.

**Software:** Open standards and increased use of server-side software (e.g. php) allow social networking sites to operate across all platforms.

Open protocols allow several clients to use the same services or enable software to be written to allow different services to sync with each other; coexist.

Software increasingly easier to use and easily adopted by younger generation.