STOKE DAMEREL

Aspire Achieve Thrive

# Cycle 4

# IT

## Year 10

**Name: _____**

**Tutor: _____**

# Year 10 Homework Timetable

| | | | | |
|---|---|---|---|---|
| **Monday** | Bedrock Learning | Ebacc Option D | Option C | Modern Britain |
| **Tuesday** | English | Tassomai | Option B | Option A |
| **Wednesday** | Hegarty | Science | Modern Britain | Option C |
| **Thursday** | Ebacc Option D | Tassomai | Bedrock Learning | Option B |
| **Friday** | Hegarty | Science | English | Option A |

**Tassomai - 50 questions per week**
**Hegarty - 4 tasks of Hegarty per week**

| Block A | Block B | Block C | Block D |
|---|---|---|---|
| Art | Business Studies | Art | French |
| Dance | Child Development | Business Studies | Geography |
| Drama | Catering | Geography | History |
| Media Studies | Computer Science | Health & Social Care | |
| Music | Drama | History | |
| Photography | Health & Social Care | Catering | |
| | IT | Photography | |
| | Media Studies | Sport | |
| | Sociology | Travel & Tourism | |
| | Sport | | |

Aspire | Achieve | Thrive

GREENSHAW LEARNING TRUST

# Year 10 IT
# Cycle 4

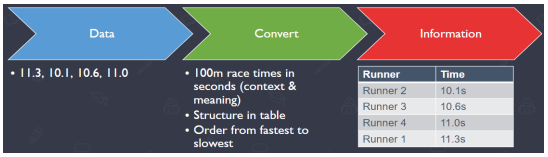
| Week/Date | Homework Task | Examination Question Topic |
|---|---|---|
| **Week 1**<br>Monday 25th April | **Revision Flashcards**<br>Data and Information | Non-examined content |
| **Week 2**<br>Monday 2nd May | **Revision Flashcards**<br>Data Processing, Methods of Data Collection and Big Data | Non-examined content |
| **Week 3**<br>Monday 9th May | **Revision Flashcards**<br>Factors Affecting the Quality of Information, Data Modelling and Threats to Data | Non-examined content |
| **Week 4**<br>Monday 16th May | **Cornell Notes**<br>Types of Network and Cloud Technology | |
| **Week 5**<br>Monday 23rd May | **Cornell Notes**<br>Impact of Cloud Technology on Modern Teams | |
| **HALF-TERM** | | |
| **Week 6**<br>Monday 6th June | **Cornell Notes**<br>Use of Collaboration and Communication Tools, Communicating with Stakeholders and Accessibility | |
| **Week 7**<br>Monday 13th June | **Revision**<br>All topics | |
| **Week 8**<br>Monday 20th June | **Revision**<br>All topics | |
| **Week 9**<br>Monday 27th June | **Plug the gap**<br>Areas of weakness in assessment | |

## Week 1: Data and Information

### Knowledge

| Data | Information |
|---|---|
| Raw facts & figures | Data that has been processed |
| Has no meaning or context | Has been given meaning, context & structure |
| Has no structure & hasn't been processed | |

How to convert data into information:




Information can be represented as:
- Text
- Numbers
- Tables
- Graphs/Charts
- Infographics

## Week 2: Data Processing, Methods of Data Collection and Big Data

### Keywords

**Validation:** A check to ensure that data entered is sensible & reasonable

**Verification:** A check to ensure that data entered matches the original source

**Primary data:** Data gathered from the original source.

**Secondary data:** Data gathered by someone other than the person using the data

**Big Data -** a large collection of data collected from a large number of sources, to spot patterns and trends

### Knowledge

**Validation methods**.

| | |
|---|---|
| Range Check | Ensures numbers are between a maximum & minimum size |
| Type Check | Ensures data entered is of the right data type |
| Lookup Check | Data can only be entered from a predefined list of options |
| Presence Check | Ensures some data has been entered (not left blank) |
| Length Check | Ensures text is between a maximum & minimum number of characters |

**Verification methods**.

| | |
|---|---|
| Proofreading | Ensures numbers are between a maximum & minimum size |
| Double entry | Ensures data entered is of the right data type |

Data can either be from primary or secondary sources:

| | | |
|---|---|---|
| **Primary** | + | Reliable as you know the accuracy of the data. |
| | - | Takes a long time to gather & therefore is expensive |
| **Secondary** | + | May be unreliable as you don't know if the data is truthful. |
| | - | Quick & cheap as the data has already been collected |

The reliability of data can be affected by:

| | | | | |
|---|---|---|---|---|
| Sample Size | Who was in the sample | Where the data was collected | When the data was collected | Whether it is primary or secondary data |

Big Data can be used to anticipate customer demand, understand customers experiences, and to identify fraud

## Week 3: Factors Affecting the Quality of Information, Data Modelling and Threats to Data

### Keywords

**Source:** Where data has been collected from

**Data Modelling:** A computer model that simulates a real-life system

Businesses that hold large quantities of data **could cause harm to individuals**:

- If the data is leaked, stolen or stored with errors it could cause serious harm
- There is an ethical and legal responsibility for the organisation to protect peoples data

### Knowledge

| Factors involved in affecting the quality of information | |
|---|---|
| Source/Collection Method | Primary data is more reliable than secondary data |
| Accuracy | Accuracy is important when making decisions. |
| Age | Recently gathered data is much more useful than old data |
| Completeness | Incomplete data can lead to incorrect assumptions causing errors |
| Amount of Detail | Too much data can be confusing & difficult to interpret |
| Format/Presentation | Data can be presented in different ways. Choosing the wrong format can affect decisions made based on it |
| Volume | The ***amount*** of data collected will affect the quality of decisions made based on it |

| **Types of threat** | |
|---|---|
| Invasion of privacy | Users may not want certain data used |
| Fraud | Identity fraud - creating accounts in others names, Bank fraud - stealing money from peoples ban accounts |
| Vulnerable groups | Targeting of 'weaker' social groups e.g. elderley, ill, unemployed etc |
| Inaccurate data | Inaccurate data can affect individuals e.g. being denied a bank loan for a mistaken debt |

## Week 4: Types of Network and Cloud Technology

| Keywords | Knowledge |
|---|---|
| **Ad-hoc network**: allows computers to connect together without going through a central access point such as a router<br><br>**Open Network**: Wi-fi in public places which doesn't usually require a password<br><br>**PAN**: Personal Area Network<br><br>**Blackspots -** Geographical features blocking signals<br><br>**The Cloud:** storing and accessing data and programs over the internet<br>**Cloud Storage:** to store and manage files and data<br>**Cloud Computing**: accessing software through a browser | Strengths and Weaknesses of Ad-Hoc Networks<br>+ Easier to connect devices so setting up the network is simpler<br>+ Cheaper due to lack of central access point<br>- Only supports slower transfer speeds<br>- Less secure due to limited control over users<br><br>Features of Cloud Storage:<br>Sharing and setting of access rights<br>Availability<br>Synchronisation of cloud and individual devices<br>Scalability<br>Uses of Cloud Computing:<br>Online Applications<br>Single Shared Instance of a File<br>Consistency of versions between users<br>Collaboration Tools and Features<br><br>Things that can impact the selection of suitable cloud technologies:<br>- The Platform: The type of device used can impact which cloud computing service is most suitable<br>- Number and Complexity of Features: Different services will offer different features – some of these may be more complex or simple than those on other services<br>- Paid v Free Services<br>- Interface Design: The design of an application will have a major impact on is useability and its success<br>- Available Devices: Is the application not only available, but easy to use on different services |

## Week 5: Impact of Cloud Technology on Modern Teams

| Keywords | Knowledge |
|---|---|
| **Disaster Recovery Policy**: A plan that businesses put in place to limit the damage caused when bad things happen<br><br>**Compatibility**: Does the new system work with existing data and devices<br><br>**Modern teams:** Technology has meant that nowadays working teams can collaborate and communicate across the world | Factors involved in selection of cloud technology for a business:<br>Disaster Recovery Policy<br>Security of data<br>Compatibility<br>Maintenance<br>Getting up and running quickly<br>Performance Considerations - speed of connection, responsiveness to users, complexity of tasks performed etc<br><br>Benefits of worldwide and multicultural teams<br>+ Greater potential workforce<br>+ Respect for cultural differences<br>+ Greater creativity<br>+ Local awareness<br><br>Impact of worldwide teams<br>Inclusivity: Modern technologies have enabled individuals with difficulty moving, to work in areas they were previously unable to.<br>Flexible Work Schedules: Modern technologies have allowed workplaces to move from the traditional working week.<br>Flexible Working Locations: Not needing to be in a physical office space or specific location has changed the way organisations work. |

## Week 6: Use of Collaboration and Communication Tools, Communicating with Stakeholders and Accessibility

| Keywords | Knowledge |
|---|---|
| **Collaboration Tools**: Tools which enable people to work together<br><br>**Communication Tools**: Tools which enable people to talk to each other<br><br>**Stakeholders:** Someone who has an interest in a business<br><br>**Accessibility**: Ensuring all people (regardless of additional needs) can use a system | Benefits of modern communication tools<br>+ Messages can be sent to many people simultaneously with ease<br>+ Files can be attached easily<br>+ The speed of communication is greatly increased<br>+ Translation software can be used automatically for worldwide communication<br>+ Video conferencing allows you to see people and present information easily and quickly<br>+ Storage takes up much less space<br>+ Easily search for information (e.g. searching inbox for an email)<br>Scheduling and Planning tools also enable simple management of modern teams<br><br>There are a number of ways that a business can communicate with its stakeholders and these are known as **communication platforms** such as websites, email, social media and voice communication.<br><br>Accessibility<br>Businesses have a legal and ethical responsibility to ensure that they are inclusive and accessible by all people. This can be achieved through interface design, accessibility features and flexible working hours/locations |

## Week 7 and 8: Preparing for Assessment

**Self-quiz the knowledge covered in Weeks 1 - 6**

# WEEK 4

**Date……**

Sid works as a scientist for C21 Pharmaceuticals, a company researching and manufacturing new drugs for medical use. He commutes to work every weekday by train.
While he is on the train, he works on his laptop. He can connect to the office network by tethering his smartphone to his laptop to create an ad hoc network.

1. Explain what is meant by an ad hoc network [2 marks]

2. Describe how Sid can set up an ad hoc network instead of using the train's free Wi-Fi facility. [3 marks]

3. Describe one factor which may cause Sid's laptop to drop the connection to the office network [2 marks]

Bill owns a cycle and repair shop. The shop sells bicycles and accessories such as spare parts and clothing.
All of Bill's accounting data is held in the cloud. This includes customer data, sales data and product details.

4. State what is meant by the term cloud storage [1 mark]

5. Explain **two** advantages to Bill of holding his accounting software and data in the cloud. [4 marks]

**Advantage 1:**

**Advantage 2:**

# WEEK 5

**Date…….**

NH Frames is a rapidly growing business with an art shop selling artworks and a workshop where it carries out picture-framing.

Matthew is in charge of IT systems. He has a contract with a cloud storage service to hold all their data about products, customers and accounts transactions such as sales and purchases.

1. Explain two advantages to the company of using a cloud storage service. [4 marks]

Mayhew and Co is a firm of solicitors. They give legal and financial advice to clients and do the legal work involved in buying and selling properties. Solicitors, clerks and financial advisers often work in teams on large contracts.

Mayhew and Co often need to coordinate a team of solicitors, clerks and financial advisors.

2. Discuss how modern technologies can be used to manage modern teams. [6 marks]

# WEEK 6

**Date……**

WorldWide Health aims to make an accessible and affordable health service available to people around the world. They employ scientists, doctors and software engineers recruited from more than 30 different countries.

A computer system has been developed which asks questions and allows users to enter their symptoms. It can then deliver treatment advice.

The company also employs a team of doctors to give personalised health assessments and treatment advice over the Internet.

WorldWide Health has offices in London, New York City, San Francisco and Singapore. It makes extensive use of modern technology to ensure that all of the hundreds of different types of employee have access to the software and data that they need.

1. Discuss the impact of cloud technology in enabling collaboration and communication in a team distributed across the globe. [6 marks]

## STEP 2: CREATE CUES

**What: Reduce your notes to just the essentials.**

**What: Immediately after class, discussion, or reading session.**

**How:**

- **Jot down key ideas, important words and phrases**
- **Create questions that might appear on an exam**
- **Reducing your notes to the most important ideas and concepts improves recall. Creating questions that may appear on an exam gets you thinking about how the information might be applied and improves your performance on the exam.**

**Why: Spend at least ten minutes every week reviewing all of your previous notes. Reflect on the material and ask yourself questions based on what you've recorded in the Cue area. Cover the note-taking area with a piece of paper. Can you answer them?**

## STEP 1: RECORD YOUR NOTES

**What: Record all keywords, ideas, important dates, people, places, diagrams and formulas from the lesson. Create a new page for each topic discussed.**

**When: During class lecture, discussion, or reading session.**

**How:**

- **Use bullet points, abbreviated phrases, and pictures**
- **Avoid full sentences and paragraphs**
- **Leave space between points to add more information later**

**Why: Important ideas must be recorded in a way that is meaningful to you.**

## STEP 3: SUMMARISE & REVIEW

**What: Summarise the main ideas from the lesson.**
**What: At the end of the class lecture, discussion, or reading session.**
**How: In complete sentences, write down the conclusions that can be made from the information in your notes.**
**Why: Summarising the information after it's learned improves long-term retention.**

**Date** / / **Topic**

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| Revision Card on Characteristics of Data and Information | Answers |
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| 1. What is the difference between data and information?<br>2. How do you convert data into information?<br>3. Give 5 examples of how information can be represented and give an advantage of each | |

| Revision Card on Data Collection | Answers |
| --- | --- |
| 1. What is primary data?<br>2. What is secondary data?<br>3. Give 5 examples of features that can affect the reliability of data<br>4. [Feature 2]<br>5. [Feature 3]<br>6. [Feature 4]<br>7. [Feature 5]<br>8. What is Big Data?<br>9. Why do companies use big data? | |

| Revision Card on Threats to Data | Answers |
| --- | --- |
| 1. How can a business holding data on an individual threaten that individual?<br>2. What is meant by a business' legal responsibility to protect data?<br>3. What is meant by a business' ethical responsibility to protect data?<br>4. What is invasion of privacy and give an example of how it could happen?<br>5. What is fraud and give 2 examples of different types of fraud?<br>6. What is meant by vulnerable groups and how can they be targets of threats?<br>7. What is inaccurate data and give an example of how it can affect someone? | |