

# AAQ IT: Data Analytics

## Year 12 Summer Transition Project

Estimated completion time: 4 hours total / 5 Tasks

### Data Detectives: Making Sense of the Digital World

Every day, thousands of pieces of data are generated about you through your phone, online purchases, web searches, social media use and school life.

Your challenge is to investigate how raw data becomes valuable information and knowledge, and how organisations use this process to make decisions.

**Purpose:** To prepare you for the AAQ IT: Data Analytics course by developing an understanding of data, information, knowledge, data sources, data classifications, and the role of data in society.

#### Learning Objectives:

By completing this project, you should be able to:

- Explain the difference between data, information and knowledge.
- Identify different data sources.
- Distinguish between qualitative and quantitative data.
- Evaluate benefits and limitations of data use in society.
- Apply basic analytical thinking to real-world situations.
- Reflect on how data affects your own life.

### Task 1: Data, Information and Knowledge Challenge /Time: 45 minutes

Create an infographic, poster, mind map or presentation slide that explains:

- Data
- Information
- Knowledge

Include:

1. Definitions in your own words.
2. One original example that starts as raw data and develops into knowledge.
3. A diagram showing the relationship between the three concepts.

#### Example Structure:

Stage	Example
Data	25, 31, 29, 35
Information	Daily temperatures over four days
Knowledge	Temperatures are increasing, so demand for cold drinks may rise

#### Extension:

Create a second example from:

- Sport
- Gaming
- Social media
- Music streaming
- Retail

**Evidence:** One-page visual summary.

### Task 2: The Data Around Me Audit / Time: 45 minutes

Keep a record of your activities for one day. Complete a table like the one below:

Activity	Data Generated	Who Collects It?	Why Might It Be Useful?
Using TikTok	Videos watched	TikTok	Recommend content
Buying lunch	Items purchased	Retailer	Track sales

Aim for **at least 15 examples**.

#### Reflection Questions:

1. Which organisation collected the most data about you?
2. Which collection surprised you most?
3. What concerns do you have about your personal data?
4. What benefits do you gain from data collection?

**Evidence:** Completed table and written reflection (200 words).

### Task 3: Data Classification Escape Room / Time: 45 minutes

For each item below, identify whether it is:

- Internal or External
- Primary or Secondary
- Qualitative or Quantitative

#### Scenarios:

1. A school's Year 11 mock exam results.
2. Government Census statistics.
3. Customer feedback comments collected by a restaurant.
4. A competitor's advertised prices.
5. The number of daily visitors to a website.
6. Product reviews read on Amazon.
7. Student attendance percentages.
8. NHS patient satisfaction survey results.

**Challenge:** Create your own **5 additional examples**.

**Evidence:** Completed classification table.

### Task 4: Mini Data Investigation / Time: 1 hour

Collect your own dataset.

#### Choose one:

- Daily screen time
- Number of steps walked
- Weather temperatures
- Hours spent gaming
- Daily sleep duration
- Music listening time

Gather data for at least 7 days (or use historic phone data).

#### Produce:

1. A table of results.
2. A graph.
3. Three observations.
4. One prediction based on the trend.

#### Example Questions

- Which day was highest?
- Which day was lowest?
- Is there a trend?
- What knowledge can you gain from the information?

**Evidence:** Graph plus written analysis.

**Final Reflection / Time: 20 minutes**

Write a personal reflection (250 words).

Consider:

- What was the most interesting thing you learned?
- Which task did you find most challenging?
- How has your understanding of data changed?
- What skills do you hope to develop during the AAQ Data Analytics course?

**Stretch Challenge (Optional)**

Research **Big Data** and answer:

1. What is Big Data?
2. Which organisations use it?
3. What benefits does it provide?
4. What ethical concerns exist?
5. How might Big Data affect your life over the next ten years?

**Suggested length:** 500 words.