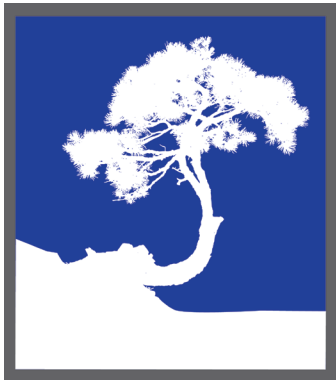


Critical Thinking Skills for the 21st Century.

Richard Harrison

Kuwait TESOL Webinar

2nd September, 2023



CANFORD
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What are 21st Century skills?

- Those skills students need to survive in the age of the internet

21st Century Skills

Learning skills
(4 Cs)

Critical thinking
Creativity
Collaboration
Communication

Literacy skills
(IMT skills)

Information literacy
Media literacy
Technology literacy

Life skills
(FLIPS)

Flexibility
Leadership
Initiative
Productivity
Social skills

What is Critical thinking? It is ..

- **a type of thinking**
 - *everyday, scientific, creative, abstract*
- **non-random, conscious, voluntary, reflective and reasonable**
- rarely taught **explicitly** yet it is an integral part of **academic life**
 - *essays, reading, data, discussions*



Critical thinking encourages ..

- examination of our **cognitive biases**:

confirmatory bias

conformity bias

hindsight bias

availability bias



Critical thinking encourages ..

- examination of our **cognitive biases**:

confirmatory bias

conformity bias

hindsight bias

availability bias

- **scepticism** and **doubt**
- a search for **facts, data, evidence**



.....which leads to asking questions ...



Teaching Critical Thinking through ...

- 1 Academic writing
- 2 Self-reflection
- 3 Asking questions
- 4 Explanation (of a process or procedure)



Teaching Critical Thinking through ...

- 1 **Academic writing**
- 2 Self-reflection
- 3 Asking questions
- 4 Explanation (of a process or procedure)



*“The best way to teach people **critical thinking** is to teach them to **write.**”*

Jordan Peterson

*“Writing is **thinking**. To write well is to **think** clearly.
That’s why it’s so hard.”*

David McCullough

*“Writing is **thinking** on paper.”*

William Zinsser

Academic writing - types

Academic writing - types

- Essay writing
- Writing reports
- Project writing
- Research papers
- Research proposals
- Theses and dissertations
- Literature reviews
- Bibliographies

Academic writing - types

- **Essay writing**
- **Writing reports**
- **Project writing**
- Research papers
- Research proposals
- Theses and dissertations
- Literature reviews
- **Bibliographies**

Academic writing involves ...

- **reflection/brainstorming**
- **research (selecting information and data)**
- **organisation/planning**
- **building strong arguments (evidence, reasons, example)**
- **acknowledging sources (avoiding plagiarism)**
- **careful use of language (style, defining terms)**
- **rewriting and editing**
- **listening to feedback (reflection)**



Teaching academic writing ... **and** critical thinking ...

Thinking frameworks

- **organise ideas**
- **think logically**
- **plan writing**

FRAMEWORK A: Narrative *(a day trip)*

Where /When	
Who went?	
How did you get there?	
How was the journey?	
What did you do there?	
How was the journey back. When did you arrive?	
Was it a good trip?	

FRAMEWORK B: Report *(a field trip report)*

INTRODUCTION Where /When?	
OBJECTIVE What was the purpose of the trip?	
OBSERVATIONS What did you see? What did you learn?	
CONCLUSIONS Was the trip successful? Did you achieve your objectives?	

FRAMEWORK C : Advantages/Disadvantages *(of building skyscrapers)*

ADVANTAGES	DISADVANTAGES
1	1
2	2
3	3

INTRODUCTION

ADVANTAGES	DISADVANTAGES
1	1
2	2
3	3

CONCLUSION

INTRODUCTION

ADVANTAGES	DISADVANTAGES
1 Saves land	1 Risk of Earthquakes/Fire
2 Nice views	2 Ugly buildings
3 Compact cities	3 Some people have vertigo

CONCLUSION

INTRODUCTION

Advantages	Reasons	Disadvantages	Reasons
1 Saves land	Many people in small area	1	
2		2	
3		3	

CONCLUSION

FRAMEWORK D: Opinion essay

‘Mobile phones are harmful for children.’ Do you agree with this view? Explain.

REASONS	SUPPORTING STATEMENTS, EVIDENCE, EXAMPLES	SOURCES?
1		
2		
3		
4		
OPPOSING VIEW	COUNTER ARGUEMENTS	
1		
2		

REASONS	SUPPORTING STATEMENTS, EVIDENCE, EXAMPLES	SOURCES?
1 <i>Negative impact on health</i>		
2		
3		
4		
OPPOSING VIEW	COUNTER ARGUMENTS	
1		
2		

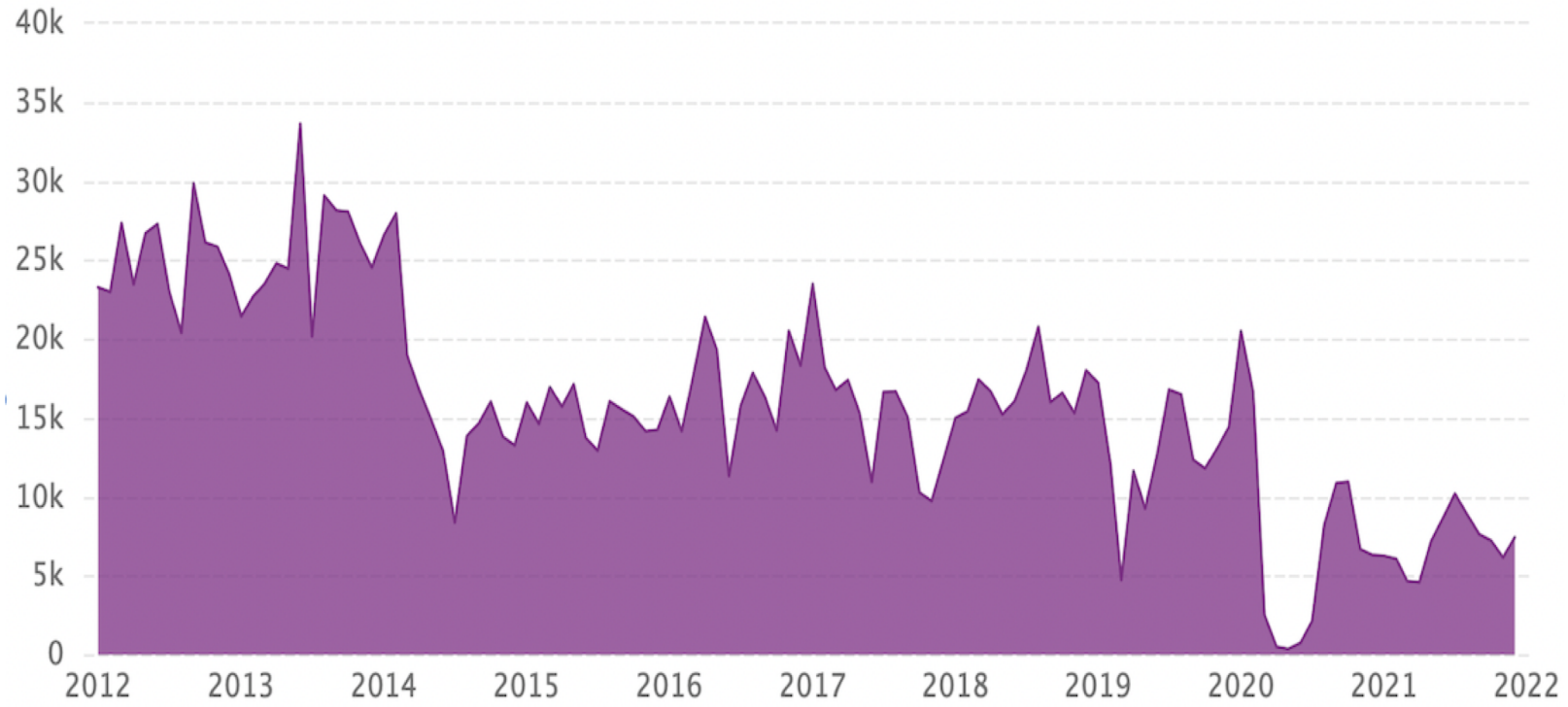
INTRODUCTION

REASONS	SUPPORTING STATEMENTS, EVIDENCE, EXAMPLES	SOURCES?
1		
2		
3		
OPPOSING VIEW	COUNTER ARGUMENTS	
CONCLUSIONS		

FRAMEWORK E: Describing data



Tourist arrivals in Kuwait 2012 -2022



■ Tourist Arrivals: Monthly: Kuwait

SOURCE: WWW.CEICDATA.COM | CEIC Data

11k

**OVERALL PICTURE /
TRENDS**

IMPORTANT OR
INTERESTING DETAILS

1

2

3

POSSIBLE REASONS
FOR PATTERNS

1

2

3

How to approach Critical Thinking ...

Through:

- 1 Academic writing
- 2 Self-reflection**
- 3 Asking questions
- 4 Explanation (of a process or procedure)

*“Whenever you find yourself on the side of the majority, it is time to **pause and reflect.**”*

Mark Twain

*“**Knowing yourself** is the beginning of all wisdom.”*

Aristotle

Critical thinking is ..

- **reflective** ✓
- **reasonable**
- **non-random**
- **conscious**
- **voluntary**



Think
about your
thinking!

Metacognition!



Self-reflection topics: *How do you ...?*

- make decisions
- learn a new skill
- overcome your cognitive biases: (*conformity, confirmatory, hindsight, availability ...*)
- find solutions to problems
- complete a task
- prepare for an exam



TASK 1: Decision making

Think about a big decision you had to make recently - *a new job, a new home, ending a friendship or relationship, etc...*

TASK 1: Decision making

Think about a big decision you had to make recently - *a new job, a new home, ending a friendship or relationship, etc...*

- What issue did you need to decide about?

- What steps did you go through before you made your decision?

- How could you improve your decision-making process?

TASK 2: Learning a new skill

Think about a new skill you have acquired recently - *e.g. learning to drive, paint or ski, operate a new phone, learning a new language ..*

- **What skill did you acquire?** _____
- **What method did you use? – help from other people, studying manuals, trial and error, ... ?**

- **How successful were you? How could you improve the process?**

TASK 3: Conformity bias

Think about an issue that you and most of your friends/colleagues agree on, for example: *climate change, arranged marriages, importance of university education, the death penalty ...*

- **The issue:** _____
- **Think of three *opposing* arguments to your view on this issue:**

- **To what extent have you friends/colleagues/the media influenced your views?
Are you affected by conformity bias?**

*“Whenever you find yourself on the side of the majority,
it is time to **pause and reflect.**”*

Mark Twain

3 Asking questions

- *“Judge a man by his questions rather than by his answers.”* **Voltaire**
- *“The power to question is the basis of all human progress.”* **Indira Gandhi**
- *“Successful people ask better questions, and as a result, they get better answers.”* **Tony Robbins**

Critical thinking encourages ..

- **scepticism and doubt**



Activities that encourage questioning

- Scam emails
- Advertisements
- Misleading data
- The scientific method

Scam emails

Thinking task:

Should I delete or open the following email?



Email Admin <mcmonaglesrestaurant@hotmail.co.uk>

windows@windows.com

Tuesday, 30 March 2021 at 15:00

[Show Details](#)



Dear Microsoft User

This is the last time we notified you that we will stop processing incoming emails in your account reasons are you failed to verify your Microsoft account which may lead to permanent delete of your account from our data-base in the next few hours.

Kindly take a minute to complete our email verification below

Verify Now

Important Notice- Account disconnection will take place today 12:00 Midnight if issue not resolved.

Microsoft respects your privacy. Read our privacy policy for more information.

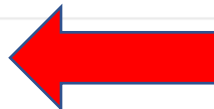


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Microsoft



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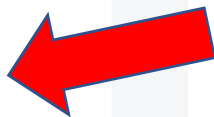


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Scam emails: worksheet 1

Why are you suspicious? List three reasons.

- ---
- ---
- ---

What questions would you like to ask the sender about the email?

- ---
- ---
- ---

Advertisements



Advertisements

Why advertising?



Advertisements

Why advertising?

- subjective
- emotion/exaggeration
- misleading claims
- lack of evidence
- not truthful
- unethical



**LESS WRINKLES
IN ONLY MINUTES**

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20,679* Physicians
say "LUCKIES are
less irritating"

"It's toasted"
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against irritation against cough

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वे सोएगा इंडिया तो बढेगा इंडिया

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+ OTHER OFFERS IN STORES

Jetstar ★

Deals Flights Holi

Deals

From
\$39[^]

e.g. Melbourne (Tullamarine) to
Launceston

View Deals ▾

Fairy lasts 2x longer
than the next best-selling brand



Over the years, generations of families have trusted Fairy's cleaning power because it lasts a long, long time. And today it lasts twice as long as the next best-selling brand.

That's **FAIRYCONOMY**

Based on AC Nielsen data from 3 months

Advertisements: worksheet 1

What claim is the advertiser making about their product?

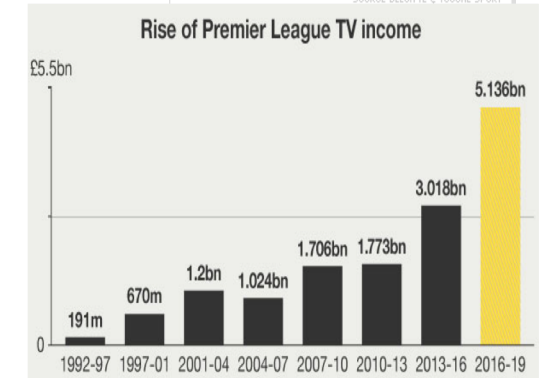
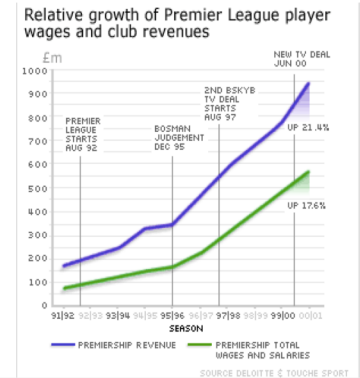
Think of three critical questions you could ask the advertisers.

- ---
- ---
- ---



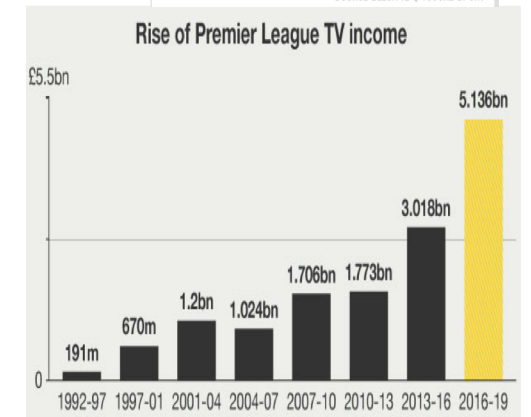
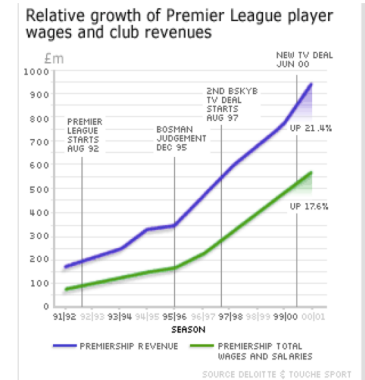
Misleading data

- inaccurate
- wrong graphical representation
- 'cherry picking' (*confirmational bias*)



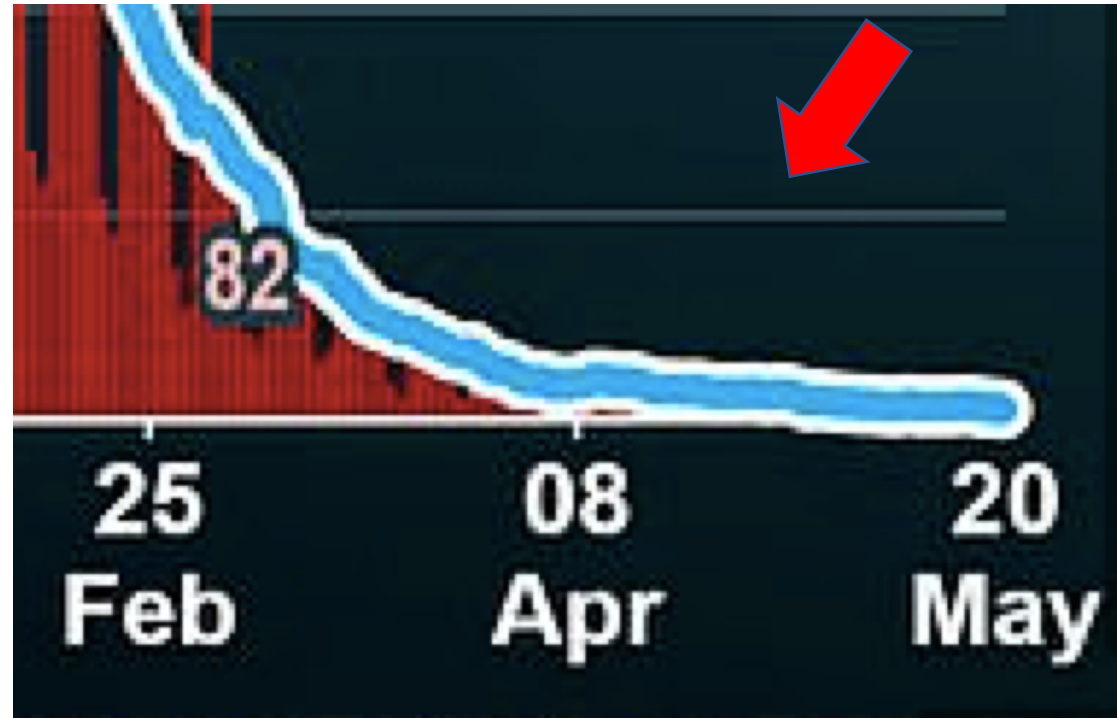
Misleading data

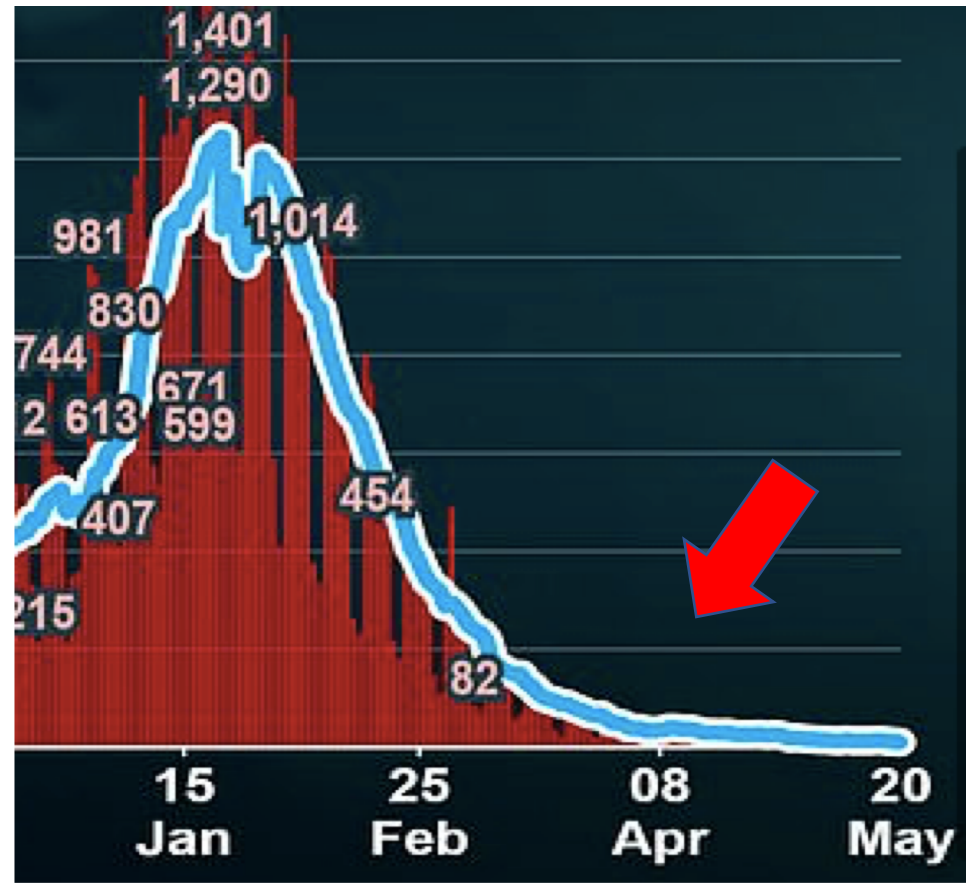
- inaccurate
- wrong graphical representation
- ‘cherry picking’ (*confirmational bias*)
- not comparing like with like
- lack of context/perspective (*availability bias*)
- Y axis not starting at 0



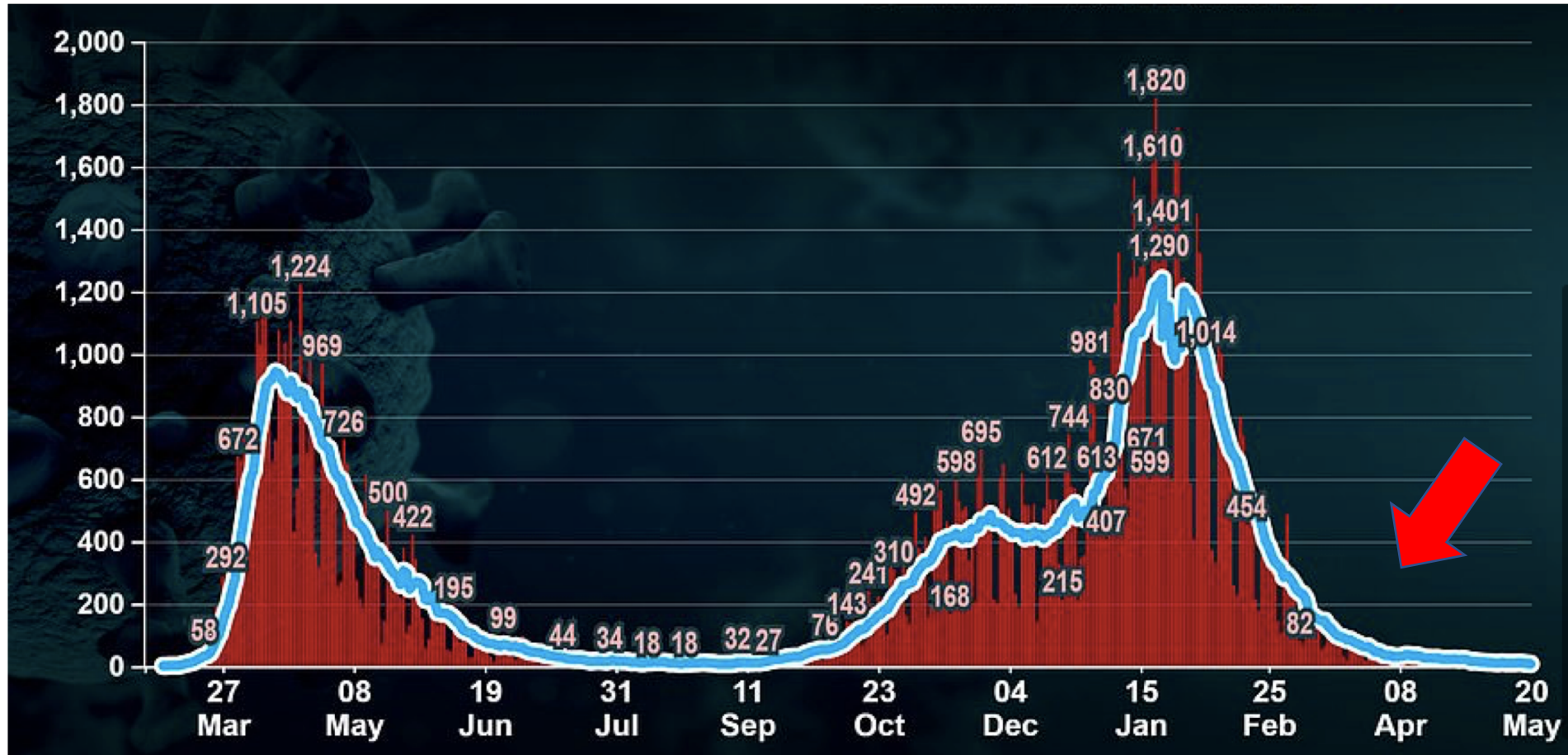
Example 1 – Lack of context/perspective

Covid-19 deaths per day in the UK (Feb - May 2021)

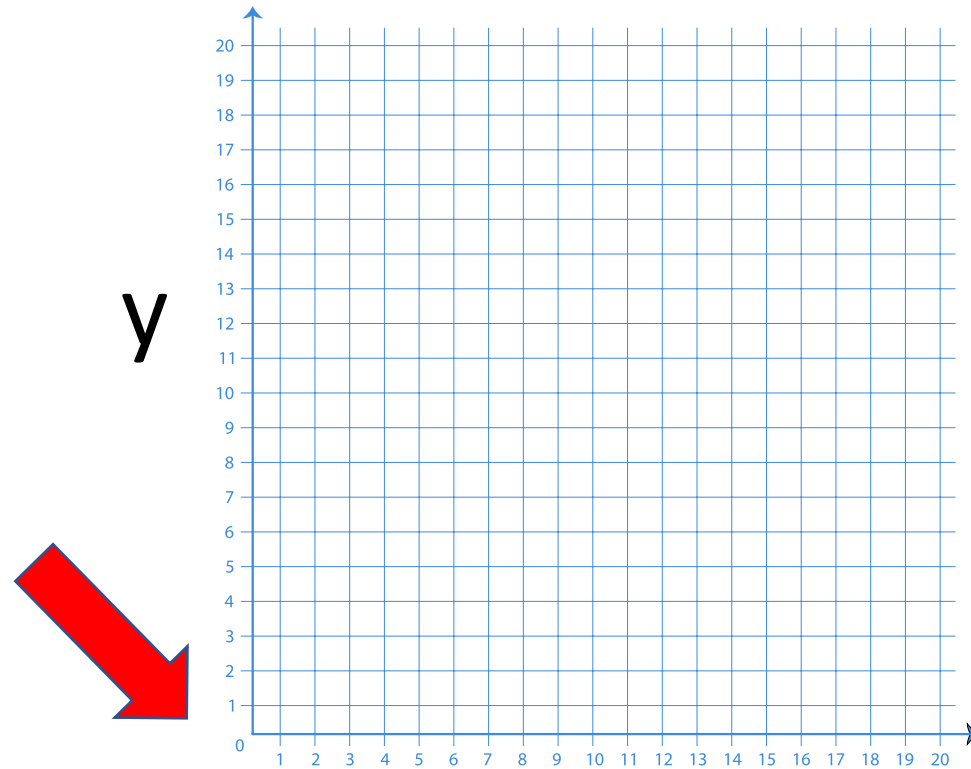




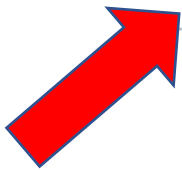
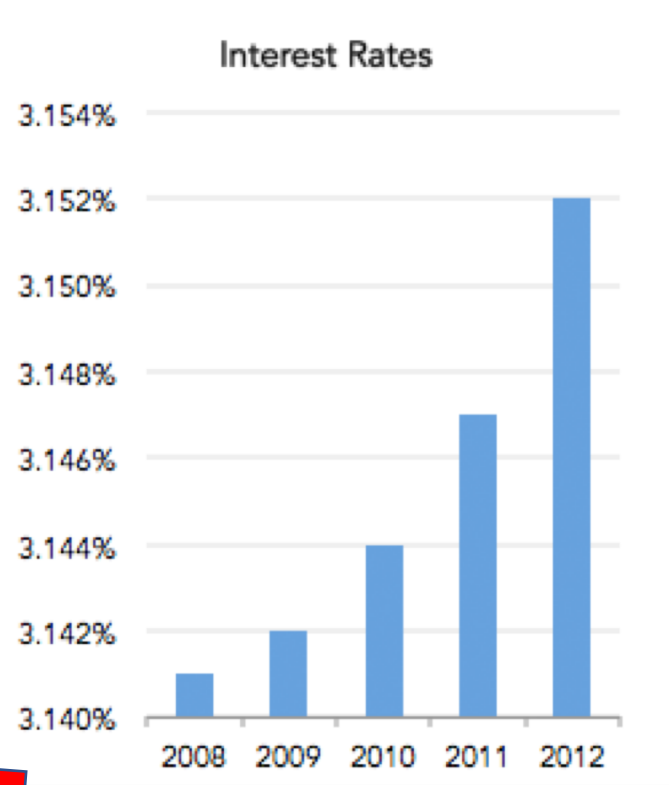
Covid-19 deaths per day in UK (March 2020-May 2021)



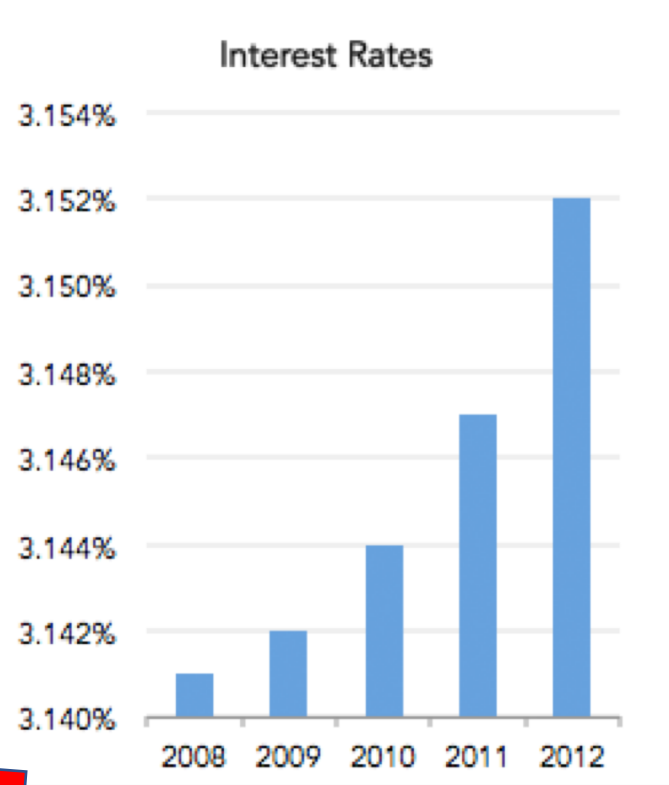
Example 2 – The 'y' axis not starting at 0



Interest rates (*www.datapine.com*)

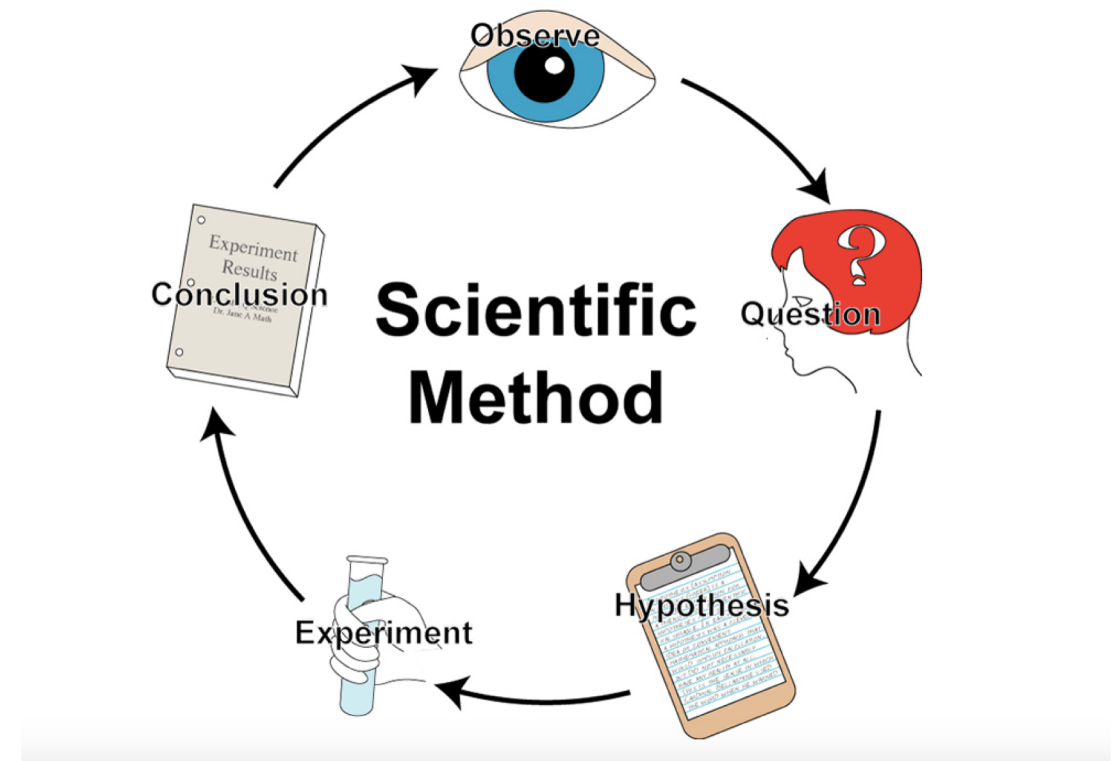


Interest rates (*www.datapine.com*)



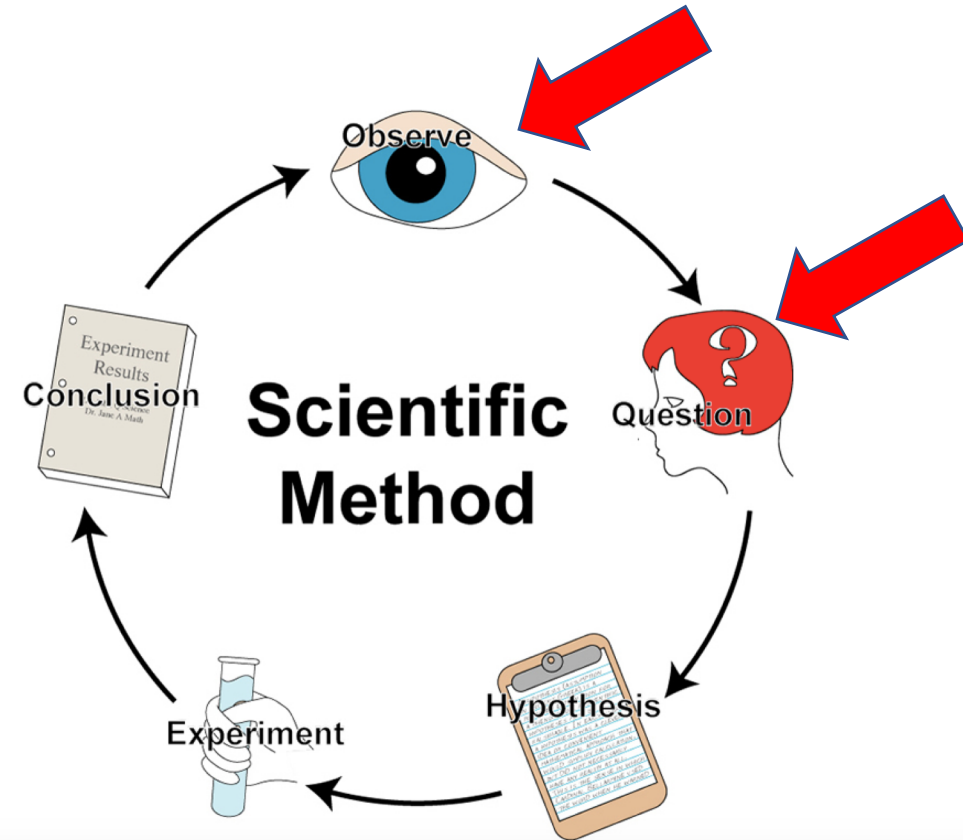
The scientific method

1. **Observe** and ask a **question**.
2. Gather information (research)
3. Make a **hypothesis** (guess the answer).
4. Carry out an **experiment** to test your hypothesis.
5. Analyse your test results.
6. Present a **conclusion**.



Steps in the scientific method:

1. **Observe** and ask a **question**.



Worksheet: How would you use the scientific method to find the answer to the question below.

1. Ask a question.

Do mice grow larger if they are given Vitamin C?

2. Gather information (research)

3. Make a hypothesis (guess the answer).

4. Carry out an experiment to test your hypothesis.

5. Analyse your test results.

6. Present a conclusion.



More questions ...

- ***Do cats prefer fish or meat?***
 - ***Does music affect the growth of a plant?***
 - ***What is the fastest route to school/college/university?***
 - ***Is a classroom noisier when the teacher leaves the room?***
-
- www.khanacademy.org; www.kiwico.com; www.sciencebuddies.org
; www.softschools.com; www.flocabulary.com

4 Explanation (of a process or procedure)

“If you can’t explain it simply, you don’t understand it well enough.”

Einstein

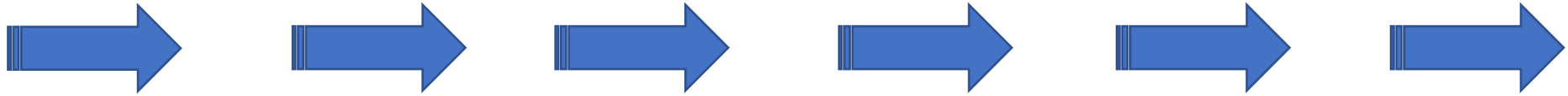
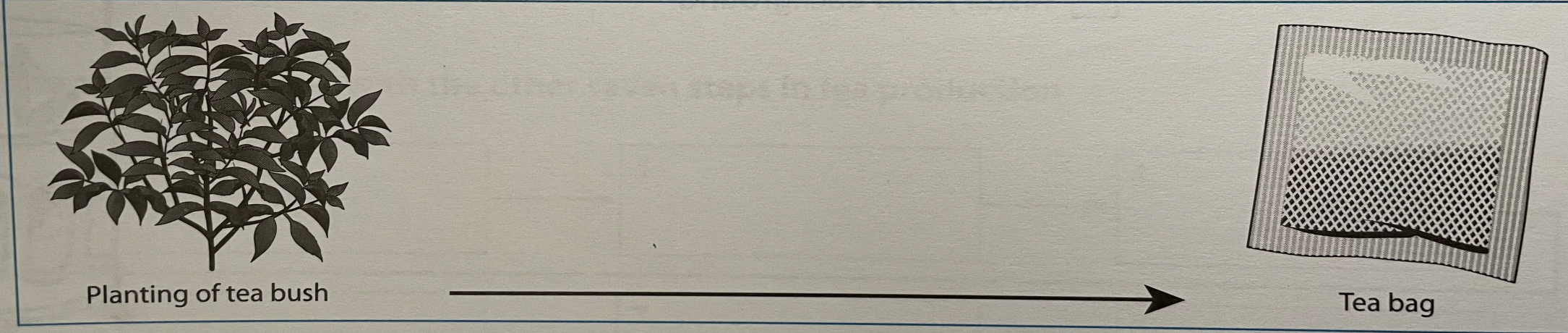
“Mama always had a way of explaining things so that I could understand them.”

Tom Hanks

Analysing a process : *e.g. tea production*



Analysing a process : *e.g. tea production*



PROCESS: _____

STEPS	REASONS/PURPOSE
1. <i>Plant tea bushes</i>	1
2	2
3	3
4	4
5	5
6	6

PROCESS: _____

INTRODUCTION

STEPS

REASONS/PURPOSE

1

1

2

2

3

3

4

4

5

5

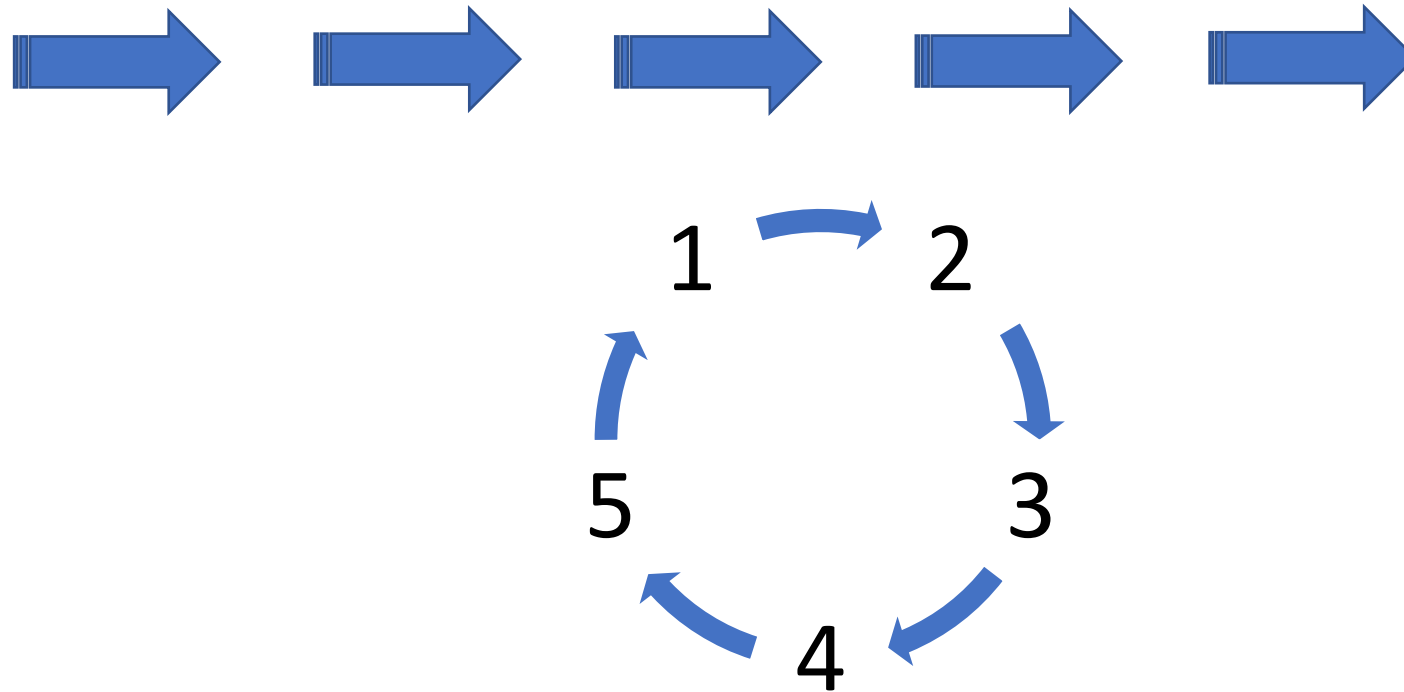
6

6

CONCLUSION

..... or a procedure

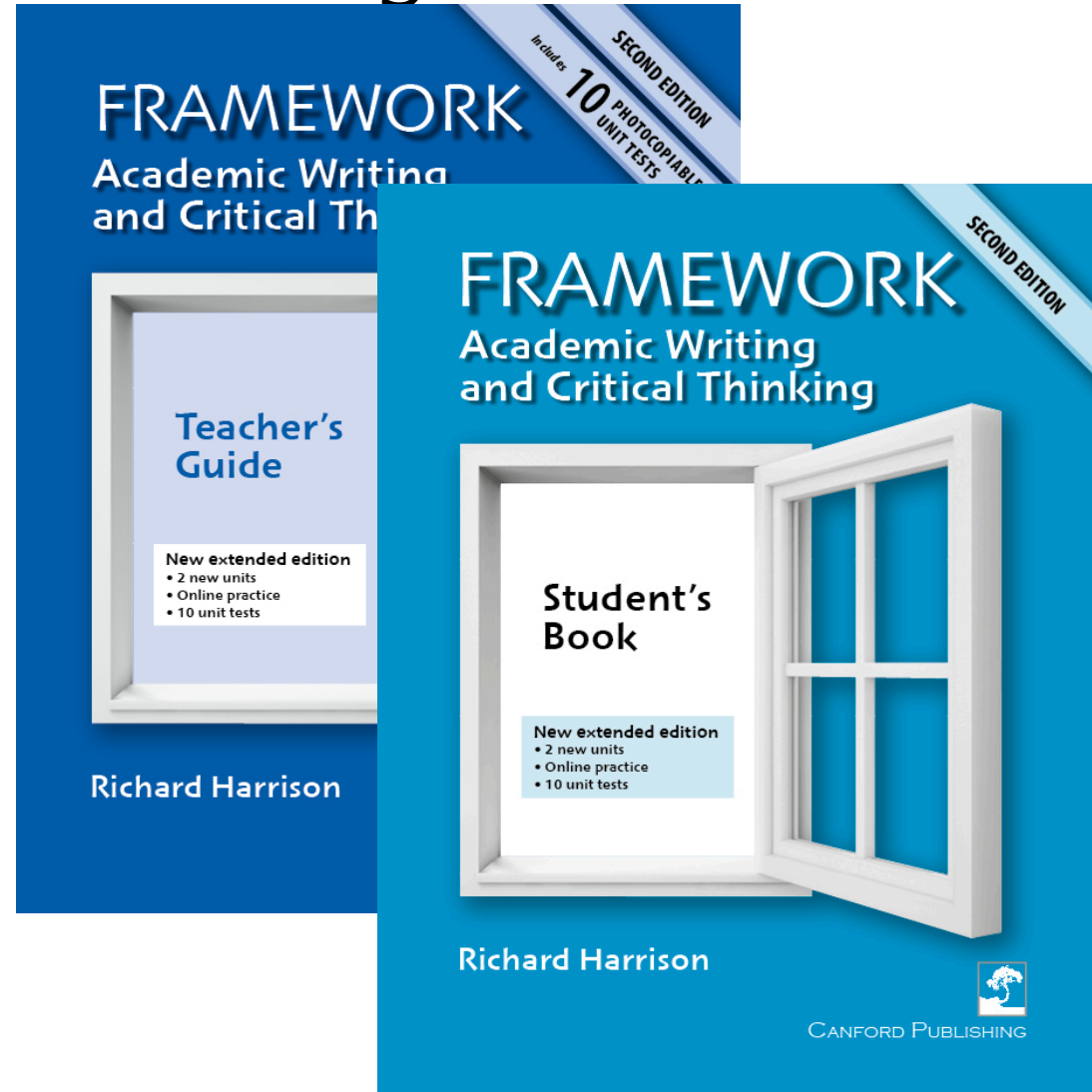
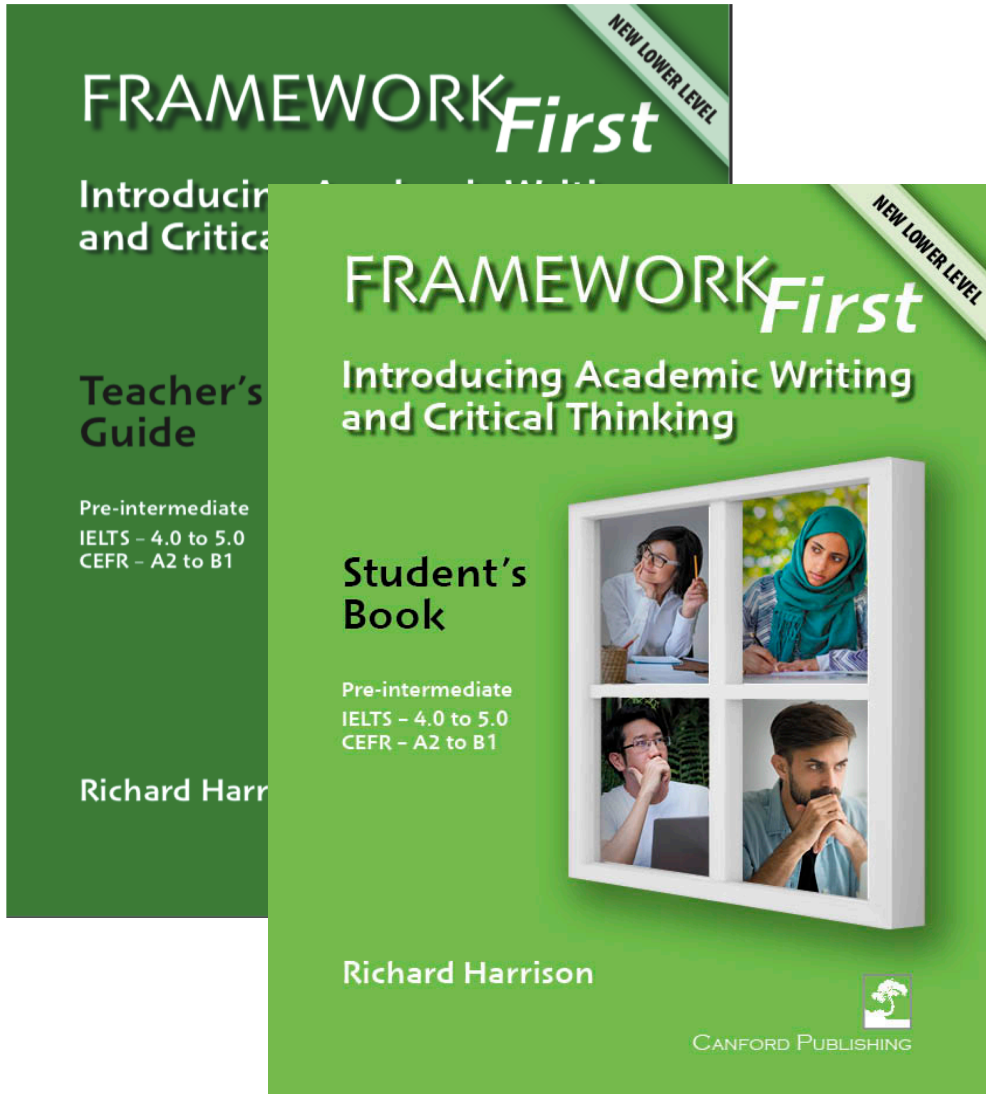
*e.g. sending a parcel overseas
applying for a visa
writing an academic essay*

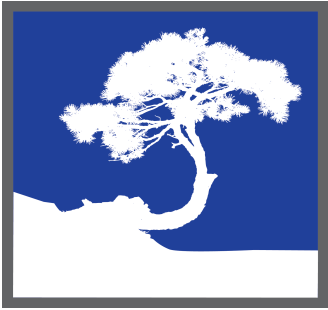


Summary

- *The best way to teach people critical thinking is to teach them to write.*
Jordan Peterson
- *Whenever you find yourself on the side of the majority, it is time to pause and reflect.*
Mark Twain
- *Judge a man by his questions rather than by his answers.*
Voltaire
- *If you can't explain it simply, you don't understand it well enough.*
Einstein

Framework: *Academic Writing and Critical Thinking*





Richard Harrison

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Bournemouth English Book Centre
(www.bebc.co.uk)

Thank you for your attention!