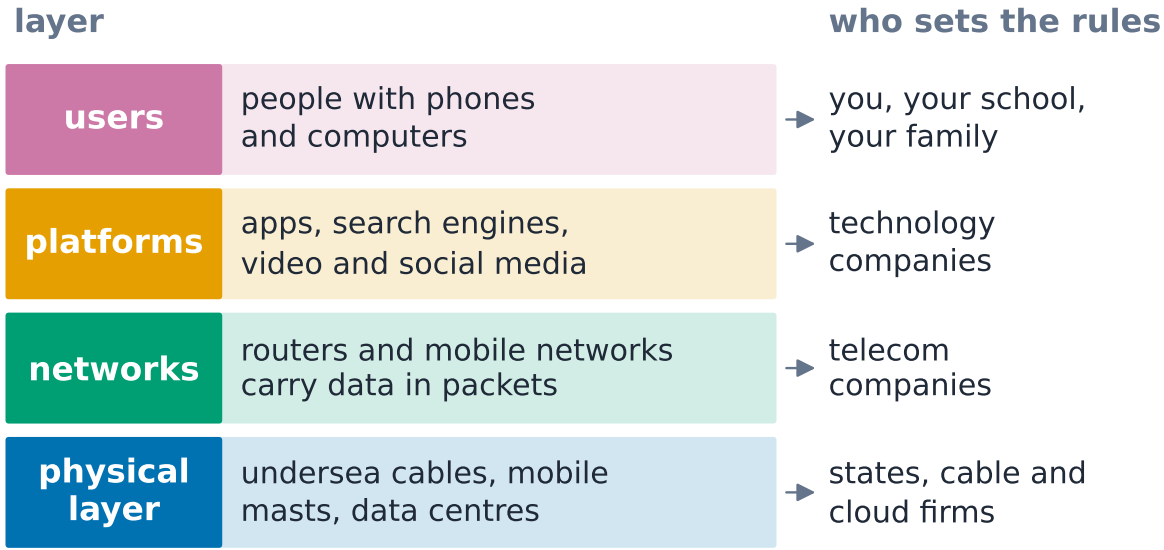
Exercise walk-through

2.2
Contexts and Paper 2 source skills

International Baccalaureate · IB Diploma · Digital Society · SL

Figure: Computers and networks



- Each layer has owners, and each owner can set rules for the layers above it.
- Match each part of the diagram to the text.

Working with sources

- Sources: the 2018 *Science* study (researchers: false news spreads faster); a platform statement about labelling false posts (company: the problem is under control).
- Own example: the 2011 salt panic, which spread by text message as well as social media, so the problem is older than today's apps.
- Judgement: social media makes false information faster and wider, but ranking by **engagement** is the main cause, and it can be changed.

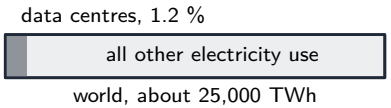
Sources for this lesson

- International Baccalaureate, *Digital Society guide* (first assessment 2024) and the specimen Paper 2.
- S. Vosoughi, D. Roy and S. Aral, "The spread of true and false news online", *Science* 359 (2018).
- US National Transportation Safety Board, *Collision Between Vehicle Controlled by Developmental Automated Driving System and Pedestrian, Tempe, Arizona, March 18, 2018* (2019).

Exercises 2.1·2.2

2.1 State the **claim** of Source B, and **one** word or phrase that shows its perspective. [2]

2.2 If world electricity use is about 25,000 TWh a year and data centres use 1.2 % of it, calculate their use in TWh, and explain why a small percentage can still matter. [3]



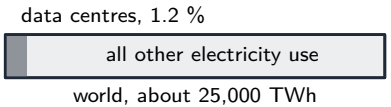
Exercises 2.1·2.2

2.1 State the **claim** of Source B, and **one** word or phrase that shows its perspective. [2]

2.1

claim: AI uses a lot of energy and water, and governments must force companies to publish its full cost; perspective shown by, e.g. “burns energy”, “promise”, “must force”

2.2 If world electricity use is about 25,000 TWh a year and data centres use 1.2 % of it, calculate their use in TWh, and explain why a small percentage can still matter. [3]



2.2

$25\,000 \times 0.012 = \mathbf{300}$ TWh; 300 TWh is about as much as a medium-sized country uses in a year; the share may grow quickly with AI, and data centres are concentrated in some places, where they strain local grids and water

Exercises 2.3·2.4

2.3 Compare and contrast Sources A and B. [4]

2.4 Evaluate the **origin** and **purpose** of Source B for a student investigating the environmental impact of AI. [6]

Exercises 2.3·2.4

2.3 Compare and contrast Sources A and B. [4]

2.3

similarity: both say data centres use energy; similarity: both say AI increases demand; difference: A gives a figure and mentions efficiency gains; B gives no figures; difference: A is neutral; B is emotional and calls for government action

2.4 Evaluate the **origin** and **purpose** of Source B for a student investigating the environmental impact of AI. [6]

2.4

origin: a campaign group; value: shows the concerns of environmental groups and the public debate; limitation: it may select facts that support its campaign; no data or sources given; purpose: to persuade governments and the public; value: makes a clear policy proposal; limitation: it ignores efficiency gains and the benefits of AI

Exercise 3.1

3.1 *(Paper 2 style.)* Using Sources A and B and your own knowledge, discuss whether governments should regulate the environmental impact of data centres. [15]



Exercise 3.1

3.1 *(Paper 2 style.)* Using Sources A and B and your own knowledge, discuss whether governments should regulate the environmental impact of data centres. [15]



3.1

Mark with the markbands: [top] a clear answer, both the sources and own knowledge used as evidence, different perspectives weighed, a reasoned judgement; [middle] sources and own knowledge used, some analysis, judgement not fully supported; [bottom] description of the sources only, little analysis. Points that may be included: uses Source A: data centres use about 1–1.5 % of world electricity, growing with AI; uses Source B: emissions rising despite promises; call for disclosure; for regulation: markets do not price emissions fully; disclosure lets users and investors compare companies; local impacts on grids and water in some regions; against: efficiency gains have limited growth (Source A); companies invest in renewable energy; rules may push data centres to countries with weaker rules; own knowledge, e.g. the EU's energy efficiency rules requiring data centres to report energy use; a reasoned judgement