

Abstract Map — Abstraction Worksheet

Name: _____ Date: _____

Part 1: Two Representations, One Place

Representation A — Satellite Photo of London: Shows the actual physical appearance from above. Every building visible with its real shape. Roads shown with actual curves and widths. Parks, trees, cars, shadows, and roof structures all visible. Geographically accurate distances.

Representation B — London Underground (Tube) Map: Shows only Underground lines and stations. Lines drawn as straight segments — NOT following their real geographic path. Distances between stations NOT geographically accurate (Central London stations spaced further apart for readability). Only station names, line colours, and interchange points are shown. No buildings, roads, or parks.

Comparison Table:

Feature	Satellite Photo	Tube Map
Actual building locations	✓	
Station names		
Accurate geographic distances		
Which line goes where		
Line colours		
Real road curves		
Parks and trees		
Interchange stations		

What has the tube map removed, and why?

What has the tube map kept, and why?

What would happen if the tube map tried to show everything the satellite photo shows?

Part 2: Design Your Abstraction

Choose your purpose (circle one):

FIRE EVACUATION | NEW STUDENT TOUR | DELIVERY DRIVER

Draw your abstracted map of the school (or local area) below. Only include what matters for your purpose. Label key elements.



Justify your choices:

What I included	Why it matters	What I left out	Why I removed it

Part 3: Compare With a Partner

Find someone who chose a **different purpose**.

Their purpose: _____

Three things they included that you didn't:

1. _____
2. _____
3. _____

Were any inclusions surprising? Why?

Part 4: CS Connection

Two examples from everyday technology where abstraction hides complexity:

1. _____ hides: _____
2. _____ hides: _____

Complete this sentence: "Abstraction is useful in programming because..."
