

How the Internet Works — Position Brief

Name: _____ Period: _____ Date: _____

AP objective: CSN-1.B (models & protocols) Points: 40

Why handwritten, in class: this replaces a typed task AI can complete. Work every item by hand and **show all your steps** — no AI, phones, or notes. A correct answer with no work earns half credit; the work is what proves it's yours.

Complete each item by hand — show all work

1. Trace a request: describe what happens from typing a URL to the page loading (DNS, IP, packets, protocols) — 12 pts

2. Explain redundancy & fault tolerance using a specific real outage or path you know of — 8 pts

Anchor it to a real event or your own network (home Wi-Fi, school network) — not a generic textbook line.

3. Bandwidth vs. latency: give a concrete example from your own online life — 8 pts

Use something real: streaming at your house, lag in a game you play, the school Wi-Fi at a specific time.

4. Why is an open, redundant Internet valuable — and one risk of its scale? — 12 pts

Oral defense (teacher — 60 sec)

Student answers one cold question aloud before grading. A student who did their own work can answer instantly; a copied one can't. Strong OK Weak

Scoring (40 pts)

Criterion	Pts	Earned
Request trace accurate	12	
Redundancy/fault tolerance w/ real example	8	
Bandwidth vs. latency, real example	8	
Value + risk reasoning	12	
<i>Gate:</i> passed oral defense (can explain the work aloud)	req'd	<input type="radio"/> Y <input type="radio"/> N
Total	40	

Integrity gate: if the student can't explain their work aloud, cap the score at 50% and require a resubmit.