



Name _____ Class _____ Date _____

AFTER THIS WORKSHEET YOU CAN

✓ Copper, fiber, wireless media ✓ Bandwidth vs throughput ✓ Cable types and uses ✓ Signal encoding



Section A · Concept Check

• BEGINNER

4 × 1 = 4

1 Layer 1 moves:

- ☐ A. bits as signals ☐ B. emails
- ☐ C. frames logic ☐ D. apps

3 Common LAN copper cable:

- ☐ A. UTP (twisted pair) ☐ B. garden hose
- ☐ C. serial only ☐ D. HDMI

2 Immune to electrical interference:

- ☐ A. fiber optic ☐ B. UTP ☐ C. coax
- ☐ D. STP fully

4 Actual measured transfer rate is:

- ☐ A. throughput ☐ B. bandwidth ☐ C. latency
- ☐ D. MTU



Section B · Problem Solving

• INTERMEDIATE

2 + 3×3 = 11

5 Bandwidth is the _____ capacity of a link.

6 Fiber carries data as pulses of _____

7 When choose fiber over copper?

8 Bandwidth vs throughput vs goodput?

9 Straight-through vs crossover cable use?



Section C · Challenge

• CHALLENGE

5

10 Three wireless standards examples?

Reflection — the most useful thing I learned: _____

A ___/4 B ___/11 C ___/5 Total ___/20

Teacher's Signature

Parent's Signature

✂ ANSWER KEY — FOLD OR CUT BEFORE HANDING OUT

1-A 2-A 3-A 4-A | 5 theoretical/maximum 6 light 7 = Long distances, high bandwidth, electrical interference environments 8 = Capacity vs actual rate vs usable data rate 9 = Unlike devices vs like devices (legacy - auto-MDIX now) | 10 = Wi-Fi 802.11, Bluetooth, cellular