

# 2 Data packets – Part 1

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

## Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

| English  | 中文   | Write it 3 times (English) |
|----------|------|----------------------------|
| packets  | 数据包  | _____                      |
| header   | 报头   | _____                      |
| payload  | 有效载荷 | _____                      |
| trailer  | 报尾   | _____                      |
| serial   | 串行   | _____                      |
| parallel | 并行   | _____                      |

## Recall

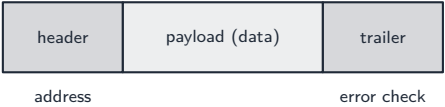
Data is sent across a network in small **packets** 数据包.

## New ideas

Read these first, then do the Practice.

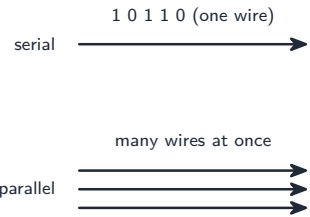
### ■ 1 A data packet

A packet has three parts:



- the **header** 报头 holds the address and packet number;
- the **payload** 有效载荷 is the actual data;
- the **trailer** 报尾 holds an error check.

### ■ 2 Serial and parallel



- **serial** 串行 sends bits one at a time, down one wire;
- **parallel** 并行 sends several bits at once, down many wires.

**Watch out:** a packet's three parts have set jobs — the **header** holds the address and packet number, the **payload** is the data, the **trailer** holds the error check. **Serial** (one wire, one bit at a time) suits long distances; **parallel** is faster but only over short ones.

## Practice

Try these in order.

2.1 What is a *packet*? [1]

2.2 Name the three parts of a packet. [2]

**2.3** What is held in the header of a packet? [1]

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**2.4** How is serial transmission different from parallel? [2]

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**2.5** Which is usually used over long distances — serial or parallel? [1]

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**2.6 Challenge.** Explain why serial transmission, not parallel, is used to send data over a long distance such as the Internet. [2]