

Solutions

Each answer shows the steps, then the **result**.

2.1

- a species is a group of organisms that can reproduce to make **fertile offspring**

2.2

- in *Homo sapiens* the genus is ***Homo***

3.1 B

- similar DNA base sequences mean **closely related**
- A is the opposite; C is one individual; D is false

3.2

(a)

- the genus should have a **capital** (*Homo*)
- the species should be **lower-case** (*sapiens*)

(b)

- use a **clear visible feature** (e.g. wings / no wings)
- avoid a feature that **changes**, such as size

3.3

- compare the **base sequences** of the two species
- the more similar they are, the **more closely related**

3.4

(a)

- a workable key, each step offering exactly two choices, e.g.

```
1 has legs → 2; has no legs → R
2 has 6 legs → 3; has more than 6 legs → 4
3 has wings → P; has no wings → S
4 has 8 legs → Q; has 10 legs → T
```

- two answers only; visible features; all five reached once

(b)

- **insects**
- both have **six legs** and a body in **three parts**

(c)

- *Daphnia* is the **genus**; *pulex* is the **species**
- genus capital, species small letter

- whole name in **italics**, or underlined by hand

(d)

- a common name can mean different animals, or one animal can have many names
- a scientific name is the **same all over the world**