Comparing Molecular Representations Worksheet

Scoring guide · one credit per question · review written work against each rubric

Comparing Molecular Representations

Question 1

Choice (2)

Subscripts count atoms. A missing subscript means one atom.

Question 2

Each line identifies a bond. The structural form shows that O is bonded to each H.

Question 3

Choice (3)

O=C=O shows two C=O bonds sharing the central carbon atom.

Question 4

A flat diagram may show connectivity without encoding bond angles or which bonds point toward or away from the viewer. A spatial representation or additional geometry information can show those features.

Two Models with the Same Atom Counts

Question 5

Choice (2)

Each diagram has two carbon atoms, six hydrogen atoms, and one oxygen atom.

Question 6

Model A contains an O–H bond. Its oxygen has a line to H. Model B’s oxygen has lines to two carbon atoms.

Question 7

Choice (1)

The oxygen in B connects to two carbon atoms. Each hydrogen is attached to a carbon.

Question 8

The shared formula gives atom counts only. The diagrams show different connections. In B the O lies between the two C atoms, while A has a C–C bond.