

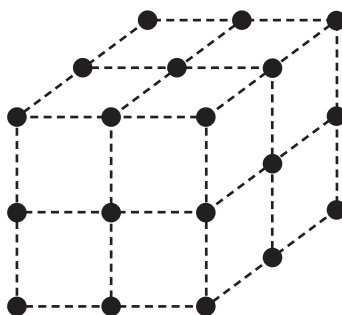
20 Descriptions of three different types of material are listed.

- 1 a polycrystalline material made up of large numbers of small crystals
- 2 an amorphous material with little or no ordered arrangement of molecules
- 3 a polymeric material consisting of long chains of molecules

Which row correctly matches the descriptions to nylon, copper and glass?

	1	2	3
A	copper	glass	nylon
B	copper	nylon	glass
C	glass	nylon	copper
D	nylon	copper	glass

21 The diagram shows the arrangement of atoms in a particular crystal.



Each atom is at the corner of a cube.

The mass of each atom is 3.5×10^{-25} kg. The density of the crystal is $9.2 \times 10^3 \text{ kg m}^{-3}$.

What is the shortest distance between the centres of two adjacent atoms?

- A** $3.8 \times 10^{-29} \text{ m}$
- B** $6.2 \times 10^{-15} \text{ m}$
- C** $3.4 \times 10^{-10} \text{ m}$
- D** $3.0 \times 10^{-9} \text{ m}$