

Answer Key

Unit 1 constructed response practice

1. –An aluminum pan has less mass than a copper pan of the same size because aluminum is less dense. –Aluminum is less dense than copper. –A Cu pan would weigh more.

2. Copper is very malleable *or* a good conductor of heat *or* a high melting point

3. Acceptable responses include, but are not limited to: • Wear protective gloves. • Avoid spills.

Note: Do *not* allow credit for “wearing goggles” or “wearing an apron.”

4.
$$d = \frac{m}{V} = \frac{129.5 \text{ g}}{14.8 \text{ cm}^3}$$

5.
$$\frac{332 \text{ J/g} - 334 \text{ J/g}}{100} \times 334 \text{ J/g}$$

Examples: –3.6%; 4%

6. *Examples:* – density – mass – volume

7. a) *Examples:*

$$\frac{10.23}{21.5-20.0} c \geq 6.8$$
 or,
$$\frac{10.23}{1.5} c \geq 6.8$$
 or,
$$\frac{10.23g}{1.5ml} c \geq 6.8 \text{ g/ml}$$

and accept only to the nearest tenth with a range from 6.7 - 6.9

Proper Units: g/ml or grams per milliliter

b) Range of 1.8 - 2.0%

c) The density would increase because the sample was wet when weighed

8.
$$V = \frac{m}{d} = \frac{0.200 \text{ g}}{3.51 \text{ g/cm}^3}$$

$$\frac{0.200 \text{ g}}{3.51 \text{ g}} \left| \frac{1 \text{ cm}^3}{3.51 \text{ g}} \right.$$

$$\frac{0.2}{3.51}$$

9. *Examples:* – Place the sample on a solid surface. Strike the sample with a hammer several times to see if the sample flattens. – Try to bend the sample to change the shape.

10. –14% *or* 14%.