Q1.(2018)

work is done on the air (in the tyre)

so the temperature (of the air) increases

Q2.(2019)

a)

the (mean) kinetic energy of the particles increases

which increases the (internal) energy of the water

b)

Particles in a gas have more potential energy than particles in a liquid.

c)

Energy given to water E = mL with quantities defined

$$\text{power output (of Bunsen burner)} = \frac{\text{energy transferred (to water)}}{\text{time}}$$

$$\text{power output} = \frac{\text{change in mass} \times \text{specific latent heat}}{\text{time}}$$

time should be converted to seconds
or
use a time of 300 seconds

Q3.(2024)

a)

the mean kinetic energy of the particles increases

b)

c = 1010 (J/kg °C)

$0.0130 = 2.60\times10^{-8} \times 1010 \times \Delta\theta$

$$\Delta\theta = \frac{0.0130}{(2.60 \times 10^{-8} \times 1010)}$$

$\Delta\theta$ = 495 (°C)