

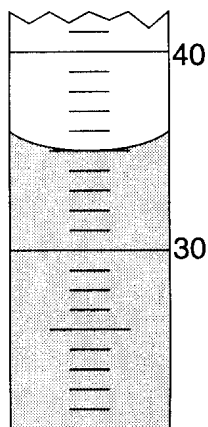
1. During a laboratory activity to investigate reaction rate, a student reacts 1.0-gram samples of solid zinc with 10.0-milliliter samples of HCl(aq). The table below shows information about the variables in five experiments the student performed.

Reaction of Zn(s) with HCl(aq)

Experiment	Description of Zinc Sample	HCl(aq) Concentration (M)	Temperature (K)
1	lumps	0.10	270.
2	powder	0.10	270.
3	lumps	0.10	290.
4	lumps	1.0	290.
5	powder	1.0	280.

Which two experiments can be used to investigate the effect of the concentration of HCl(aq) on the reaction rate?

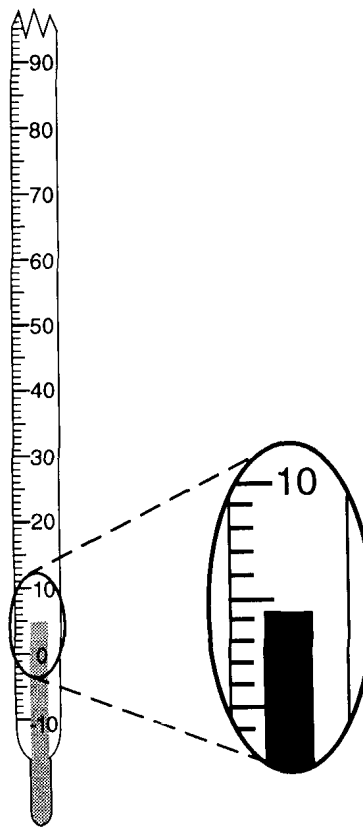
- A) 1 and 3 B) 1 and 5
 C) 4 and 2 D) 4 and 3
2. Which unit is used to express the pressure of a gas?
- A) mole B) joule
 C) kelvin D) pascal
3. Which quantity of heat is equal to 200. joules?
- A) 20.0 kJ B) 2.00 kJ
 C) 0.200 kJ D) 0.0200 kJ
4. The diagram below represents a portion of a 100-milliliter graduated cylinder.



What is the reading of the meniscus?

- A) 35.0 mL B) 36.0 mL
 C) 44.0 mL D) 45.0 mL

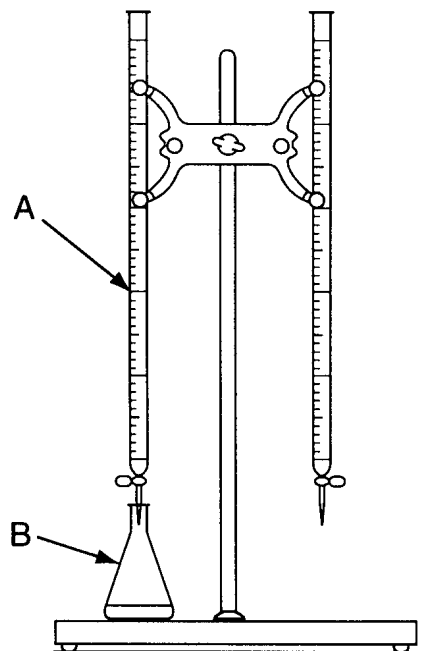
5. The diagram below represents a Celsius thermometer recording a certain temperature.



What is the correct reading of the thermometer?

- A) 5°C B) 4.3°C C) 0.3°C D) 4°C

6. The diagram below shows a laboratory setup that can be used in a titration.



Which pieces of equipment are indicated by arrows *A* and *B*, respectively?

- A) buret and Erlenmeyer flask
- B) buret and volumetric flask
- C) pipet and Erlenmeyer flask
- D) pipet and volumetric flask