(The reactivity series)

Q1. (2018)

carbon is more reactive (than nickel)

(so) carbon will displace / replace nickel (from nickel oxide)
or
(so) carbon will remove oxygen (from nickel oxide)

Q2. (2019)

magnesium and tin

Q3. (2020)

the (grey) crystals are silver

the copper ions (produced) are blue

(because) copper displaces silver

Q4. (2022)

silicon is less reactive than carbon

(because) carbon displaces silicon (from silicon dioxide)

Q5. (2022)

more energy is needed (to obtain aluminium)

(because) aluminium is obtained (from aluminium oxide) by electrolysis

Q6. (2023)

sodium is more reactive than aluminium

Q7. a). (2024)

(most reactive)
Mg Zn Ni Cu Ag
(least reactive)

(justification)
the higher the (positive) voltage the more reactive the metal

Q7. b). (2024)

Indicative content

- **set up cell with sodium chloride solution as the electrolyte**
- **use two different metals as electrodes**

- **measure voltage**

- **repeat at different concentrations of electrolyte solution**
- **by diluting the sodium chloride solution with water**

- using measured volumes of sodium chloride solution and water
- measure volumes with a measuring cylinder (allow pipette / burette)

- use the same two metals each time

- use the same volume of electrolyte solution