2.7 Metals, Reactivity and the Rock Cycle: 10-minute Pack

Calculator allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The simple word equation for the reaction of zinc with hydrochloric acid is: zinc + hydrochloric acid -> zinc chloride + hydrogen. A student reacts 13 g of zinc with excess hydrochloric acid. Calculate the mass of hydrogen gas produced. (Relative atomic masses: H = 1, Zn = 65).

(3)

2 Describe one difference in appearance you would expect between an igneous rock and a sedimentary rock, and give a short reason for each observation.

(4)

3 A sample of rock is heated and squeezed deep inside the Earth and becomes more compact with new mineral bands. Identify the rock type and explain two changes that occur during this process.

(3)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 2.7 Metals, Reactivity and the Rock Cycle: 10-minute Pack

Question 1

use ratio from equation: 1 mol Zn produces 1 mol H_2	**M1**
calculate moles Zn = 13 / 65 = 0.2 mol	**M1**
mass H_2 = moles H_2 x Mr H_2 = 0.2 x 2 = 0.4 g cao	**A1**

Answer: **0.4 g**

Question 2

appearance of igneous: often has interlocking crystals or a glassy texture	**M1**
reason: cooled from molten rock so crystals grew and interlocked	**A1**
appearance of sedimentary: often has visible layers or contains fossils and grainy texture	**M1**
reason: formed from deposited sediments or remains cemented together cao	**A1**

Answer: **Igneous rock: interlocking crystals or glassy texture because it cooled from molten rock. Sedimentary rock: visible layers or fossils and grainy texture because sediments were deposited and cemented together.**

Question 3

identify rock as metamorphic	**M1**
change 1: minerals recrystallise, forming new crystals or mineral bands	**M1**
change 2: rock becomes more compact and harder due to heat and pressure altering structure cao	**A1**

Answer: **Metamorphic rock. Minerals recrystallise forming new mineral bands, and the rock becomes more compact and harder from heat and pressure.**

© Revision Library | revisionlibrary.co.uk