YEAR 8 GEOGRAPHY – CYCLE 1 – VOLCANOES

BOX 1: NATURAL HAZARDS	
natural hazard	**natural event** which **has potential** to **cause damage**, **destruction**, **death**
natural disaster	**natural event** which **has caused damage**, **destruction** and **death**
hazard risk	the **probability** (chance) that a **natural hazard** may **take place → risk increases if→ high population density, low development, climate change**
tectonic hazards	e.g. **earthquakes** and **volcanoes**
weather hazards	e.g. **tropical storms** (hurricane, cyclone, typhoon), **drought**, **flood**

BOX 2: PLATE TECTONICS	
inner core	**solid → iron** and **nickel → 5000° C** → under high pressure
outer core	**liquid → iron** and **nickel**
mantle	**semi-molten** (melted) **rock → 3800° C**
crust	**surface layer** of **Earth** → two types → **oceanic** (thin), **continental** (thick)
tectonic plate	**section/segment** of **crust**
plate margin	where **plates meet** (plate boundary)
convection	**convection currents → magma heated** by core → **rises → moves plates**
conservative	**conservative margin** → plates move **side by side**
constructive	**constructive margin** → plates move **away** from each other
destructive	**destructive margin** → plates move **towards** each other
Alfred Wegner	**1912** → he proposed the **theory of plate tectonics → Continental Drift**

BOX 3: VOLCANOES	
molten	**hot**, **liquid** and **melted** e.g. lava
lava	**molten rock** → flowing **over** the **ground**
magma	**molten rock** → flowing **under** the **ground**
crater	**volcanic crater → hole** left in **top of volcano** after **eruption**
vent	**volcano vent** → where the **lava flows out from**
magma chamber	**pool** of **molten rock under volcano** → under **huge pressure**
VEI	**Volcanic Exposivity Index** → shows **magnitude** (strength), **1=low, 8=high**
composite	**composite volcanoes → cone** shaped → occur at **destructive margins**
shield	**shield volcanoes → flat** like shield → occur at **constructive margins**
high viscosity	**very thick lava → violent** eruptions → e.g. **composite** volcanoes
low viscosity	**very thin, runny lava → less violent** eruptions → e.g. **shield** volcanoes
active	**active** volcanoes → **erupt frequently** (very often)
dormant	**dormant** volcanoes → have **not erupted** for a **long time**
extinct	**extinct** volcanoes → will **not erupt ever again**
pyroclastic flow	**hot gas** from volcano (**1000° C**)→ **fast moving along ground** (**400mph**)
ash	volcanic **ash → powdered rock → very heavy** in **large amounts**
tephra	**lumps** of **rock → blasted out** of **volcano** like missiles

BOX 4: IMPACTS AND RESPONSES KEYWORDS	
effects	**primary effects → what** happens **straight away** **secondary effects → what** happens **later on**
responses	**immediate responses** → how people **help straight away** **long term responses** → how people **help later on**

BOX 5: CASE STUDY → MOUNT VESUVIUS (POMPEII, ITALY)	
date	**79 AD** → nearly **2000 years ago**
location	**Pompeii → Italy, Europe**
population	about **12,000 people** lived in Pompeii at this time
plate tectonics	**African plate → subducted under** (pushed under) **Eurasian plate**
volcano type	**Mount Vesuvius → composite volcano → destructive plate margin**
volcanic hazards	• **ash cloud → 32 km high** into atmosphere • **1.5 million tonnes** of **ash** and **tephra** were **ejected every second** • at least **three pyroclastic flows** (**400 mph, 1000° C)**
primary effects	• **death** and **injury** → about **2000 people died** in Pompeii • **destruction → heavy ash collected** on **roof tops → roofs collapsed** • **cities Pompeii** and **Herculaneum hidden under ash → 2000 years** • many **animals killed** e.g. bodies of **dogs** and **horses** discovered
secondary effects	• **10,000** local **people displaced** → made **homeless** • **livelihoods** and **businesses destroyed** →local people **lost jobs** • **looting → people returned** to **steal** from **abandoned houses** • **fewer tourists** visited area afterwards → **fearful of another eruption** • **some enslaved people escaped** to **freedom → positive effect**
immediate responses	• **10,000** people managed to **escape → lives saved** • **Roman Navy** sent **warships** to **evacuate people**
long term responses	• people who escaped **rebuilt houses** in **other areas** of country • **Romans→ studied volcanoes more→** wanted to **save lives in future**

BOX 6: SUPER VOLCANOES	
super volcano	**very explosive → 100 km wide → VEI 8 → 1000 times more ash**
caldera	**super volcanoes create** a **caldera** → a **sunken depression** in **ground**
case study	**Yellowstone Caldera**, **Wyoming, USA → super volcano**

BOX 7: REDUCING IMPACTS OF VOLCANIC ERUPTIONS IN THE FUTURE	
monitoring volcanoes to predict eruptions	• using **tiltmeters** → to **monitor changes** in **volcano shape** → to **predict** when **eruption** will happen → so people can **evacuate** • using **spider robots** → to **monitor gases** escaping from volcano → to **predict** when **eruption** will happen → so people can **evacuate**
planning for eruptions	• towns can practise **evacuation drills** • **loud warning sirens** (alarms) → to alert people about an eruption • people can make a **survival kit** e.g. medicines, water, food