

- 1) B 2) C 3) B 4) A 5) A
- 6) C 7) D 8) A 9) B 10) C
- 11) D 12) C 13) A 14) B 15) D
- 16) D 17) C 18) D 19) B 20) D
- 21) A 22) B 23) D 24) A 25) C
- 26) A 27) C 28) B 29) A 30) D
- 31) D 32) D

- 33) SAMPLE ANSWERS: iron/Fe OR magnesium/Mg OR silicon/Si OR oxygen/O
- 34) SAMPLE ANSWERS: pencil lead OR lubricants OR Graphite is a component in composite materials in cars, aircraft, and sports equipment.
- 35) SAMPLE ANSWERS: Relative depth: greater depth OR deeper; Relative temperature: higher temperature OR hotter
- 36) SAMPLE ANSWERS: They have different internal arrangements of atoms. OR Diamonds form at greater depths than graphite. OR They formed under different conditions.

37) SAMPLE ANSWER:

Property	Diamond	Graphite
		<ul style="list-style-type: none"> – silver – gray – black
		– metallic
	<ul style="list-style-type: none"> – hard – 10 	<ul style="list-style-type: none"> – soft – 1 – 2 – 1–2

- 38) basalt OR vesicular basalt OR diabase
- 39) silicon (Si); AND oxygen (O); AND aluminum (Al)
- 40) diorite
- 41) SAMPLE ANSWERS: melting OR cooling OR solidification/ crystallization/ hardening OR heating
- 42) SAMPLE ANSWERS: Ca or calcium OR Na or sodium OR Al or aluminum OR Si or silicon OR O or oxygen
- 43) SAMPLE ANSWERS: hardness of 5–6 OR black to green color OR shows cleavages or cleaves in two directions at a 90° angle OR nonmetallic luster
- 44) gneiss
- 45) SAMPLE ANSWERS: The plagioclase feldspar in the basaltic rock is more calcium rich. OR The plagioclase feldspar in the granitic rock contains more sodium. OR less sodium in basaltic plagioclase feldspar OR The basaltic rock is more calcium rich.
- 46) SAMPLE ANSWERS: The minerals crystallize at different temperatures. OR Olivine is the first to crystallize and quartz is the last. OR Quartz crystallizes at a lower temperature than olivine. OR Olivine forms at a higher temperature.

- 47) SAMPLE ANSWERS: Similarity: Both form at lower temperatures. OR The rocks have similar mineral compositions. OR The minerals have similar densities. OR similar color; Difference: Andesite is extrusive and diorite is intrusive. OR Andesite has a finer texture. OR crystal size/grain size OR cooling rates OR environment of formation
- 48) SAMPLE ANSWERS: intrusive OR plutonic OR underground
- 49) SAMPLE ANSWERS: Color: lighter OR whiter OR pinker; Density: lower OR less dense
- 50) SAMPLE ANSWERS: foliated OR mineral alignment OR flattened crystals