

Rocks and Minerals

2006 S. CO SO Regional Competition

Answer Key

Photo images of all fifteen rocks and minerals stations are available for purchase from Other Worlds Educational Enterprises <http://www.otherworlds-edu.com>. Images are printed on high quality paper and include four images on each of four 8½" x 11" sheets. Questions have been altered and mineral data charts added to accommodate the use of photos in lieu of actual specimens.

Station A.

A-1	chert	b
A-2	halite	c
A-3	conglomerate	a
A-4	breccia	a
A-5	calcite	c
A-6	gypsum or selenite	c
A-7	anthracite	b
A-Q	calcite (or A-5), gypsum (or A-6), halite (or A-2) [minerals must be stated in this order]	

Station B

B-8	lepidolite	a c d	*The term "mica" is optional.
B-9	muscovite (mica*)	a	
B-10	biotite (mica*)	a b e	
B-Q	mica schist		

Station C

C-11	diatomite	a b d
C-12	pumice	a b c
C-Q	rhyolite	

Station D

- D-13 **graphite** **d** *The term “feldspar” is optional.
D-14 **orthoclase (feldspar)** **b**
D-15 **talc** **a**
D-16 **copper** **c**
D-Q **graphite** (or **D-13**) and **copper (D-16)** [either order] Each correct response receives one point.

Station E

- E-17 **calcite** **b**
E-18 **pyrite** **a**
E-19 **quartz** **d**
E-20 **fluorite** **c**
E-Q **striations**

Station F

- F-21 **muscovite (mica)** **c** *Terms “mica” and “feldspar” are optional.
F-22 **obsidian** **d**
F-23 **orthoclase (feldspar)** **a**
F-24 **halite** **b**
F-Q **muscovite (mica) or F-21**

Station G

- G-25 **sodalite** **c**
G-26 **tourmaline** **a**
G-27 **fluorite** **b**
G-Q **cubic or isometric**

Station H

H-28	sphalerite	d
H-29	magnetite	c
H-30	galena	b
H-31	hematite	c
H-Q	specular	

Station I

I-32	basalt	b e
I-33	granite	a c
I-34	gabbro	b d
I-35	rhyolite	e c
I-Q	rhyolite (I-35)	

Station J

J-36	dolomite rock	c	marble
J-37	limestone	c	marble
J-38	granite	a	gneiss
J-39	sandstone	d	quartzite
J-40	shale	b	slate
J-Q	b. vertical and perpendicular to stress		

Station K.

- | | | |
|------|-----------------|----------|
| K-41 | granite | c |
| K-42 | diorite | c |
| K-43 | gabbro | c |
| K-44 | andesite | c |
| K-45 | basalt | a |
| K-46 | rhyolite | a |
- K-Q **rhyolite** (K-46) and **granite** (K-41) [either order] Each correct response receives one point.

Station L

- | | | |
|------|------------------|----------|
| L-47 | chert | e |
| L-48 | dolostone | d |
| L-49 | limestone | a |
| L-50 | sandstone | b |
| L-51 | shale | c |
- L-Q **shale** or L-51

Station M

- | | | |
|------|------------------------------|----------|
| M-52 | crystalline limestone | f |
| M-53 | travertine | d |
| M-54 | chalk | e |
| M-55 | coquina | c |
| M-56 | dolomite rock | a |
| M-57 | oolitic limestone | g |
| M-58 | halite or rock salt | b |
- M-Q **by rolling around on the shallow sea floor**

Station N

N-59	aragonite	a
N-60	sulfur	b
N-61	chalcopyrite	g
N-62	bornite	g
N-63	ulexite	d
N-64	epidote	e
N-65	barite	f
N-66	magnetite	c
N-67	malachite	a
N-68	azurite	a
N-Q	They form in very similar environments as may be determined by their having a nearly identical composition.	

Station O

O-69	schist	d (or 4)*
O-70	gneiss	e (or 5)*
O-71	shale	a (or 1)*
O-72	phyllite	c (or 3)*
O-73	slate	b (or 2)*
O-Q	1. (intense) heat	Responses may be stated either order.
	2. (intense) pressure	Each correct response receives one point. *Cuts down on confusion for participants.