

POGIL

**Process-Oriented
Guided Inquiry Learning**

Group Formation

Form groups of 4-5 students.

You may have different preferences of problem solving strategies.

As you discuss problems within your groups you may learn new approaches from each other.

Teamwork is important for scientists so this is an opportunity to practice.

Roles within Groups

- **Leader** - sets pace to allow 100% participation
- **Recorder** - records group answers
- **Technician** - computational work
- **Speaker** - reports to class
- **Reflector** - monitors group performance

Role of Instructor

- Constructs groups
- Selects / develops POGIL activity
- Facilitates learning process:
Circulates to observe groups, answer questions (response may be another question!).

■ Metals (main-group)
 ■ Metals (transition)
 ■ Metals (inner transition)
 ■ Metalloids
 ■ Nonmetals

Period		MAIN-GROUP ELEMENTS										MAIN-GROUP ELEMENTS										
		1A (1)	2A (2)		3B (3)	4B (4)	5B (5)	6B (6)	7B (7)	8B (8) (9) (10)			1B (11)	2B (12)	3A (13)	4A (14)	5A (15)	6A (16)	7A (17)	8A (18)		
1		1 H 1.008															2 He 4.003					
2		3 Li 6.941	4 Be 9.012														5 B 10.81	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.18
3		11 Na 22.99	12 Mg 24.31		TRANSITION ELEMENTS												13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.95
4		19 K 39.10	20 Ca 40.08		21 Sc 44.96	22 Ti 47.88	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.55	30 Zn 65.39	31 Ga 69.72	32 Ge 72.61	33 As 74.92	34 Se 78.96	35 Br 79.90	36 Kr 83.80		
5		37 Rb 85.47	38 Sr 87.62		39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.94	43 Tc (98)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3		
6		55 Cs 132.9	56 Ba 137.3		57 La 138.9	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)		
7		87 Fr (223)	88 Ra (226)		89 Ac (227)	104 Rf (261)	105 Db (262)	106 Sg (266)	107 Bh (262)	108 Hs (265)	109 Mt (266)	110 (269)	111 (272)	112 (277)	114 (285)							
		INNER TRANSITION ELEMENTS																				
6	Lanthanides	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (145)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0							
7	Actinides	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)							

Group Construction

Watch male/female and majority/minority balance – different communication styles can interfere with group dynamics.

Spread out academically strong and academically weak students to ensure that groups have similar rates of progress through an activity.

Faculty : Student Ratio

One instructor can facilitate six groups (about 24 students).

Larger classes may use **Peer-Led Teams**: students who have completed course return to assist.

Training materials are available from Prentice Hall.