

# Observing Trends (VCE Unit 1 AoS 1)

Name:

## Pre-Activity

1. Define the following terms:

Term	Definition
Pattern	Repeated occurrences or sequences.
Trend	General direction in which something is changing.

## Activity

2a. Using the physical element set, identify an element that is a metal, metalloid and non-metal. Justify your response referring to the properties of the elements.

	Element	Justification
Metal		
Non-Metal		

3. Using the physical element set, describe the metallic and non-metallic character trends in:

- the following **Periods**:

Period	Elements	Description of the trend in metallic character
2	B, C, N	
3	Mg, Al, Si, S	
4	Ti, V, Mn, Fe, Co, Ni, Cu, Zn, Ga, Se	
5	Zr, Nb, Mo, Ag, Cd, In, Sn, Sb, Te	
6	Ta, W, Au, Pb, Bi	

- the following **Groups**:

Group	Elements	Description of the trend in metallic character
13	B, Al, Ga, In	
14	C, Si, Sn, Pb	
15	N, Sb, Bi	
16	S, Se, Te	

### End of Unit: Activity

**Accuracy:** The extent to which an experimental result obtained from an investigation agrees with the accepted, or 'true', value of the particular quantity being measured.

1a. Do you think the trends observed are an accurate measure of any of the trends we've learnt about? What about metallic and non-metallic character? Why/why not?

---



---



---

1b. Describe a more accurate way to measure metallic character or non-metallic character.

---



---



---

4. In Year 7 & 8 you learnt about metals, non-metal and metalloids (properties of metals and non-metals). Using your understanding of metal and non-metal character trends, explain the shapes of the metal, metalloid and non-metal sections.

<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		Metals, Nonmetals, and Metalloids																															
		H																	He														
		Li	Be															B	C	N	O	F	Ne										
		Na	Mg															Al	Si	P	S	Cl	Ar	metals									
		K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr														
		Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	metalloids													
		Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn														
		Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Uub	—	Uuq	—	—	—	nonmetals														
																				Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
																				Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr