

**Scientific Communication:
Written, Oral, Visual**

The periodic table is shown with communication methods overlaid on various elements:

- Written Communication:** H, He, Li, Be, B, C, N, O, F, Ne, Na, Mg, Al, Si, P, S, Cl, Ar, 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, Cs, Ba, * 57-70, Lu, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn, Fr, Ra, ** 89-102, Lr, Rf, Db, Sg, Bh, Hs, Mt, Uun, Uuu, Uub, Uuq.
- Oral Communication:** 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, Cs, Ba, * 57-70, Lu, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn, Fr, Ra, ** 89-102, Lr, Rf, Db, Sg, Bh, Hs, Mt, Uun, Uuu, Uub, Uuq.
- Visual Communication:** 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, Cs, Ba, * 57-70, Lu, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn, Fr, Ra, ** 89-102, Lr, Rf, Db, Sg, Bh, Hs, Mt, Uun, Uuu, Uub, Uuq.

* Lanthanide series
** Actinide series



Written Communication

- E-mail
- Resume/CV
- Report
- Journal Article
- Review Article
- Book

Oral Communication

- Lecture
- Meeting
- Presentation
- Interview

Visual Communication

- Poster Session
- Lecture
- Presentation

The periodic table is shown with communication methods overlaid on various elements:

- Written Communication:** H, He, Li, Be, B, C, N, O, F, Ne, Na, Mg, Al, Si, P, S, Cl, Ar, 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, Cs, Ba, * 57-70, Lu, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn, Fr, Ra, ** 89-102, Lr, Rf, Db, Sg, Bh, Hs, Mt, Uun, Uuu, Uub, Uuq.
- Oral Communication:** 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, Cs, Ba, * 57-70, Lu, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn, Fr, Ra, ** 89-102, Lr, Rf, Db, Sg, Bh, Hs, Mt, Uun, Uuu, Uub, Uuq.
- Visual Communication:** 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, Cs, Ba, * 57-70, Lu, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn, Fr, Ra, ** 89-102, Lr, Rf, Db, Sg, Bh, Hs, Mt, Uun, Uuu, Uub, Uuq.

* Lanthanide series
** Actinide series



Written Communication

Should :

- be clear
- be logical
- be factual
- use correct grammar
- use correct sentence structure
- avoid (rampant) speculation

* Lanthanide series

57	58	59	60	61	62	63	64	65	66	67	68	69	70
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb

* Actinide series

89	90	91	92	93	94	95	96	97	98	99	100	101	102
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No



Grammar

There were 60 odd samples. vs *There were 60-odd samples.*

"ie" is an abbreviation for the Latin "id est", which means "that is".
 "eg" is an abbreviation for the Latin "exempli gratia", which means "for example".

"The deadline for this project is in two days - ie, on Friday." – the deadline is on a **specific** day (Friday).

"Please bring something to share to the seminar - eg, some of your famous nachos." – "... **for example**, some of your world-famous nachos."
 If ie had been used here, it would have meant that you have been asked **specifically** to bring some nachos. Is that what was intended?

* Actinide series

89	90	91	92	93	94	95	96	97	98	99	100	101	102
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No



Common Redundancies

(absolutely) necessary
 (actual) facts
 (advance) preview
 assemble (together)
 (basic) fundamentals
 blend (together)
 brief (in duration)
 (brief) moment
 (brief) summary
 cancel (out)
 circulate (around)
 (close) proximity
 collaborate (together)
 combine (together)
 (completely) eliminate
 (component) parts
 connect (together)
 connect (up)

could (possibly)
 (current) trend
 descend (down)
 drop (down)
 earlier (in time)
 eliminate (altogether)
 (empty) space
 equal (to one another)
 eradicate (completely)
 estimated at (about)
 (exact) same
 (exposed) opening
 (face) mask
 few (in number)
 (final) conclusion
 follow (after)
 (frozen) ice
 full (to capacity)

fuse (together)
 green [or blue or
 whatever] (in color)
 grow (in size)
 hoist (up)
 (hollow) tube
 (illustrated) drawing
 ntegrate (together)
 integrate (with each other)
 (ir)regardless
 join (together)
 (joint) collaboration
 made (out) of
 merge (together)
 might (possibly)
 mix (together)
 (new) beginning
 none (at all)



Common Redundancies

(now) pending
 off (of)
 open (up)
 (originally) created
 output (out of)
 outside (of)
 (past) history
 penetrate (into)
 period (of time)
 postpone (until later)
 previously listed (above)
 proceed (ahead)
 (proposed) plan
 pursue (after)
 recur (again)
 refer (back)
 repeat (again)
 round (in shape)

same (exact)
 scrutinize (in detail)
 separated (apart from each
 other)
 shiny (in appearance)
 slow (speed)
 small (size)
 (small) speck
 soft (in texture)
 spell out (in detail)
 spliced (together)
 start (off) or (out)
 (still) persists
 (still) remains
 (sum) total
 surrounded (on all sides)
 tall (in height)
 ten (in number)

time (period)
 (true) facts
 (two equal) halves
 (unexpected) surprise
 (unintentional) mistake
 vacillate (back and forth)
 visible (to the eye)
 warn (in advance)
 whether (or not)
 write (down)

...and many others



NOT in so many words

Food or drink supplied on or from any premises is "hot" for the purposes of this Schedule if the food or drink, or any part of it,-- (a) before it is supplied, is heated on the premises or elsewhere for the purpose of enabling it to be consumed at a temperature above the ambient air temperature and, at the time of supply, is above that temperature, or (b) after it is supplied, may be heated on the premises for the purpose of enabling it to be consumed at a temperature above the ambient air temperature.

Department for Culture, Media, and Sport in Great Britain

* Lanthanide series

57	58	59	60	61	62	63	64	65	66	67	68	69	70
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb

* Actinide series

89	90	91	92	93	94	95	96	97	98	99	100	101	102
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No



Some points of Style

Do not use nouns as adjectives
 Not: ATP Formation; reaction product
 But: formation of ATP; product of the reaction

The word "this" must always be followed by a noun, so that its reference is explicit.
 Not: This is a fast reaction; This leads us to conclude
 But: This reaction is fast; This observation leads us to conclude

Describe Experimental results uniformly in the past tense
 Not: Addition of water gives product.
 But: Addition of water gave product.

Complete all comparisons
 Not: The yield was higher using iodine.
 But: The yield was higher using iodine than chlorine.

G.M. Whitesides Adv. Mater. 2004, 16(15), 1375-1377.



PowerPoint Presentation Creation

1 H	2 He																														
3 Li	4 Be	5 B	6 C	7 N	8 O	9 F	10 Ne																								
11 Na	12 Mg	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar																								
19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr														
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe														
55 Cs	56 Ba	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
87 Fr	88 Ra	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Nh	114 Fl	115 Mc	116 Lv	117 Ts	118 Og

Slide Master
Slides for the seminar need to be consistent both in text and color. An easy way to set up your slides so that they will all look the same is by using the Slide Master.

Color
The judicious use of color can make makes slides more interesting and can help illustrate a point (such as color-coding certain molecules or parts of molecules throughout the talk). However, there are some colors that are difficult to read. **Yellow my not be the best choice on a white background.**

Importing objects
For a chemistry seminar, it may be necessary to import objects into the presentation, namely images. Don't insert as link to an internet image (hotlink). It may change!

Animation
Animation, used sparingly, can add to a seminar. Use it to show certain structures or concepts, but use sparingly.



Powerpoint presentations look better on a LCD screen compared to a LCD projector.

Hear Reports on Achievements

- Congratulate award winners.
- Note areas of growth.
- Have impromptu reports on success.

* Lanthanide series

* Actinide series



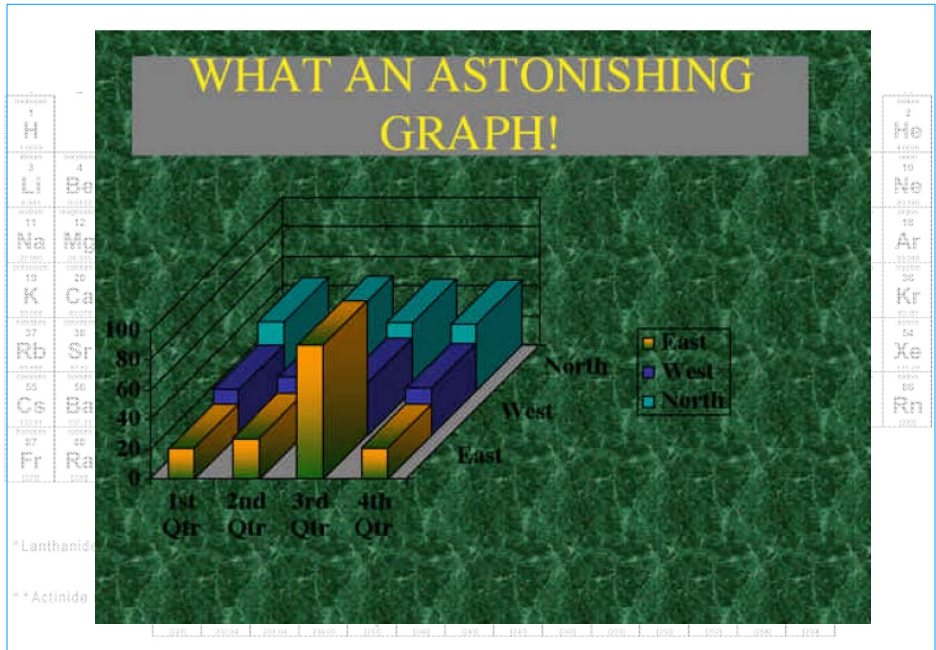
Competitive Analysis

- **Competitors**
 - (You may want to allocate one slide per competitor)
- **Strengths**
 - Your strengths relative to competitors
- **Weaknesses**
 - Your weaknesses relative to competitor

* Lanthanide series

* Actinide series





Don't...

- Go overboard on transitions and change often, like using Appear
- Then Blinds
- Then Box
- Then Checkerboard
- Then Diamond
- Then Fade
- Then Fly In
- Then Strips
- Then Wipe
- Then Random Bars
- Then Circle



Don't...

- Use sounds that are not pertinent.
- Use bizarre slide transitions.

* Lanthanide series

57	58	59	60	61	62	63	64	65	66	67	68	69	70
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb

* Actinide series

89	90	91	92	93	94	95	96	97	98	99	100	101	102
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No



PowerPoint Presentation Guidelines

1. **Speak to your audience** before launching your visuals.
2. **Keep eye contact primarily with your audience**, not with your visual aids.
3. **Avoid reading your slides** or overheads to your audience.
4. **Keep text to a minimum**; let images and graphics illustrate and dramatize your points.
5. **Use a font style that is simple and large** enough (generally sans serif styles at least 18-24 points) to be read at a distance. *No strange fonts*
6. **Minimize** the number of points per slide.
7. **Ensure consistency of syntax** on each slide (e.g., if the first bullet point starts with a verb, all subsequent bullet points should start with a verb-it's easier to comprehend and more powerful).
8. **Take time to introduce** - and pause to allow the audience time to absorb - any - **complex information** (e.g., from a graph or chart).
9. **Put your slide titles to work**: help deliver the message, not merely give a name to the slide.
10. **Blank the Screen** to focus attention and re-claim the spotlight. (press b key to blank screen)

* Lanthanide series

57	58	59	60	61	62	63	64	65	66	67	68	69	70
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb

* Actinide series

89	90	91	92	93	94	95	96	97	98	99	100	101	102
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No

