Unit 4 Shielding Effect Trend

Played on	**13 Nov 2019**
Hosted by	**JenKrug**
Played with	**27 players**
Played	**10 of 10**

Overall Performance

Total correct answers (%)	53,70%
Total incorrect answers (%)	46,30%
Average score (points)	5153,5

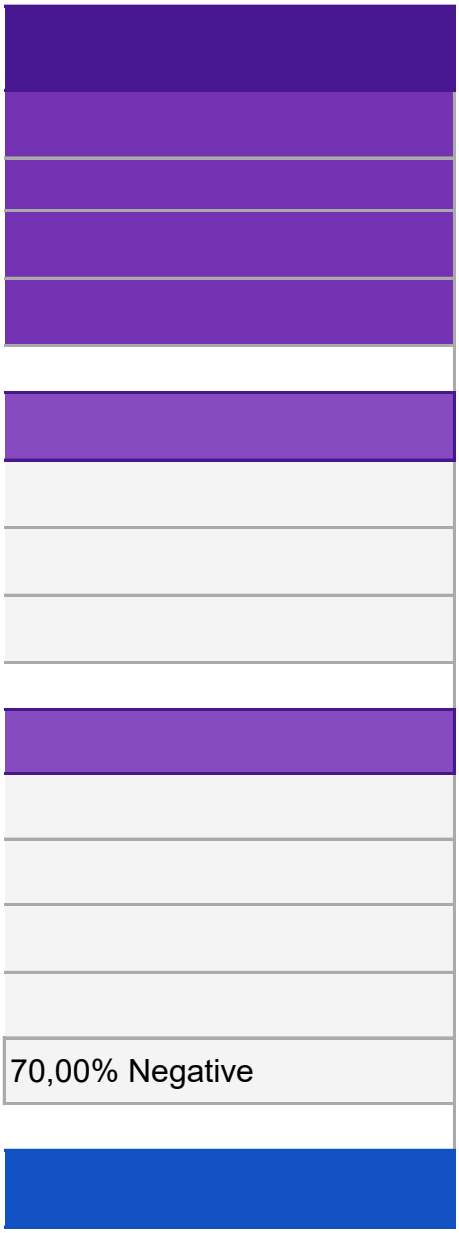
Feedback

Number of responses	10
How fun was it? (out of 5)	2,00 o
Did you learn something?	22,22%
Do you recommend it?	22,22%
How do you feel?	◉

Switch tabs/pages to view other result breakdown

%
%
59 points

ut of 5			
% Yes	77,78% No		
% Yes	77,78% No		
20,00% Positive	◉	10,00% Neutral	◉


70,00% Negative

Unit 4 Shielding Effect Trend

Final Scores

Rank	Players
1	melina
2	neha
3	CjCrUmP
4	GABEY
5	logan
6	Karanvir Singh
7	Sarah
8	grace
9	Brooke
10	liesel
11	campbell
12	Quinn
13	Shaimir
14	Abdullah
15	jennings
16	mason
17	beatrice
18	felicity
19	millie
20	Andrew
21	Ian
22	Lee

Final Scores

23	Moon
24	Campbell
25	jen
26	grant
27	Clay

Total Score (points)	Correct Answers	Incorrect Answers
13061	10	0
12967	10	0
12484	10	0
11447	9	1
6949	7	3
6855	8	2
5801	7	3
5773	7	3
5490	6	4
5014	6	4
4943	6	4
4468	5	5
4391	5	5
4316	5	5
4293	5	5
4247	5	5
4078	5	5
3368	4	6
3293	4	6
3039	4	6
2770	4	6
2481	3	7

Final Scores

2233	3	7
2080	2	8
1443	2	8
1328	2	8
535	1	9

Unit 4 Shielding Effect Trend

Kahoot! Summary

Rank	Players
1	melina
2	neha
3	CjCrUmP
4	GABEY
5	logan
6	Karanvir Singh
7	Sarah
8	grace
9	Brooke
10	liesel
11	campbell
12	Quinn
13	Shaimir
14	Abdullah
15	jennings

16	mason
17	beatrice
18	felicity
19	millie
20	Andrew
21	Ian
22	Lee
23	Moon
24	Campbell
25	jen
26	grant
27	Clay

Total Score (points)	Q1
13061	988
12967	963
12484	814
11447	0
6949	0
6855	0
5801	0
5773	0
5490	0
5014	0
4943	0
4468	0
4391	0
4316	0
4293	0

Kahoot! Summary

4247	941
4078	0
3368	0
3293	0
3039	919
2770	0
2481	916
2233	0
2080	0
1443	0
1328	0
535	0

What causes the shielding effect?	Q2
repulsion between core and valence electrons	1043
repulsion between core and valence electrons	1048
repulsion between core and valence electrons	993
attraction between nucleus and valence electrons	923
attraction between nucleus and valence electrons	910
attraction between valence electrons	633
attraction between nucleus and valence electrons	920
attraction between nucleus and valence electrons	588
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	908
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	645
attraction between valence electrons	698
attraction between nucleus and valence electrons	883

Kahoot! Summary

repulsion between core and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between valence electrons	0
attraction between nucleus and valence electrons	885
repulsion between core and valence electrons	0
attraction between nucleus and valence electrons	715
repulsion between core and valence electrons	0
attraction between nucleus and valence electrons	0
	0
attraction between nucleus and valence electrons	868
attraction between nucleus and valence electrons	525
attraction between nucleus and valence electrons	0

The shielding effect increases across a period?	Q3
False	1153
False	1123
False	1110
False	1030
False	0
False	618
False	0
False	0
True	0
False	0
True	0
True	0
False	0
False	0
False	0

Kahoot! Summary

True	0
True	0
	0
False	0
True	0
False	0
True	0
True	540
	0
False	0
False	0
True	0

Which two elements have similar shielding effects?	Q4
N and F	1279
N and F	1258
N and F	1243
N and F	1148
	943
N and F	0
Na and K	879
	906
	845
Na and K	925
	803
	893
	0
	0
	0

Kahoot! Summary

Na and K	896
	863
Na and K	923
Na and K	908
Ca and C	790
	0
Na and K	0
N and F	903
	0
Na and K	0
	0
Ne and Ar	0

How is effective nuclear charge calculated?	Q5
Zeff = atomic # − core electrons	1370
Zeff = atomic # − core electrons	1335
Zeff = atomic # − core electrons	1268
Zeff = atomic # − core electrons	1263
Zeff = atomic # − core electrons	0
Zeff = atomic # − valence electrons	505
Zeff = atomic # − core electrons	640
Zeff = atomic # − core electrons	610
Zeff = atomic # − core electrons	0
Zeff = atomic # − core electrons	638
Zeff = atomic # − core electrons	645
Zeff = atomic # − core electrons	1018
Zeff = total protons + core electrons	940
Zeff = atomic # − valence electrons	0
Zeff = atomic # − valence electrons	888

Kahoot! Summary

Zeff = atomic # − core electrons	0
Zeff = atomic # − core electrons	900
Zeff = atomic # − core electrons	0
Zeff = atomic # − core electrons	0
Zeff = atomic # − core electrons	0
Zeff = total protons + total electrons	538
Zeff = total protons + total electrons	0
Zeff = atomic # − core electrons	0
	0
	0
Zeff = total protons + total electrons	0
Zeff = total protons + core electrons	0

Which of the following trends increase with more shielding?	Q6
Metallic Properties	1443
Atomic Radius	1425
Metallic Properties	1418
Metallic Properties	1328
Ionization Energy	910
Metallic Properties	613
Atomic Radius	750
Metallic Properties	758
Electronegativity	630
Atomic Radius	0
Atomic Radius	843
Atomic Radius	0
Atomic Radius	998
	0
Atomic Radius	0

Kahoot! Summary

Electronegativity	0
Atomic Radius	0
Electronegativity	727
Ionization Energy	0
Electronegativity	0
Atomic Radius	0
	0
	0
Ionization Energy	0
	0
Ionization Energy	0
Electronegativity	0

How does shielding effect chemical reactions?	Q7
less shielding helps nonmetals react quickly	1467
less shielding helps nonmetals react quickly	1450
less shielding helps nonmetals react quickly	1438
less shielding helps nonmetals react quickly	1448
less shielding helps nonmetals react quickly	647
less shielding helps nonmetals react quickly	702
less shielding helps nonmetals react quickly	0
less shielding helps nonmetals react quickly	825
less shielding helps nonmetals react quickly	652
less shielding helps metals react quickly	0
less shielding helps nonmetals react quickly	820
more shielding helps nonmetals react quickly	0
less shielding helps nonmetals react quickly	0
more shielding helps nonmetals react quickly	573
more shielding helps nonmetals react quickly	562

less shielding helps metals react quickly	0
more shielding helps nonmetals react quickly	0
less shielding helps nonmetals react quickly	0
less shielding helps metals react quickly	0
less shielding helps metals react quickly	0
	0
less shielding helps metals react quickly	0
	0
shielding has no effect on reactivity	0
less shielding helps metals react quickly	0
less shielding helps metals react quickly	0
more shielding helps nonmetals react quickly	0

The effective nuclear charge of a sodium ion (atomic #11) is	Q8
Zeff = 11 - 2 = +9	1397
Zeff = 11 - 2 = +9	1457
Zeff = 11 - 2 = +9	1400
Zeff = 11 - 2 = +9	1437
Zeff = 11 - 2 = +9	1142
Zeff = 11 - 2 = +9	1117
Zeff = 11 - 8 = +3	700
Zeff = 11 - 2 = +9	1278
Zeff = 11 - 2 = +9	1107
Zeff = 11 - 1 = +10	762
Zeff = 11 - 2 = +9	1010
Zeff = 11 - 1 = +10	552
Zeff = 11 - 8 = +3	903
Zeff = 11 - 2 = +9	882
Zeff = 11 - 2 = +9	827

Kahoot! Summary

Zeff = 11 - 8 = +3	522
Zeff = 11 - 1 = +10	507
Zeff = 11 - 1 = +10	683
Zeff = 11 - 8 = +3	0
Zeff = 11 - 1 = +10	580
Zeff = 11 - 1 = +10	0
Zeff = 11 - 10 = +1	592
Zeff = 11 - 10 = +1	0
Zeff = 11 - 1 = +10	0
	0
Zeff = 11 - 1 = +10	0
Zeff = 11 - 10 = +1	535

When comparing the shielding effect for magnesium and oxygen	Q9
Mg has more shielding	1438
Mg has more shielding	1458
Mg has more shielding	1353
Mg has more shielding	1405
Mg has more shielding	1055
Mg has more shielding	1205
Mg has more shielding	930
Mg has more shielding	0
Mg has more shielding	1048
Mg has more shielding	758
Mg has more shielding	0
Mg has more shielding	995
Mg has more shielding	0
Mg has more shielding	935
Mg has more shielding	1133

Kahoot! Summary

Mg has more shielding	785
Mg has more shielding	853
Mg has more shielding	1035
Mg has less shielding	588
Mg has more shielding	750
O has more shielding	710
Mg has more shielding	973
O has more shielding	790
O has more shielding	988
Mg has less shielding	575
	803
Mg has more shielding	0

Which period (row) has the greatest shielding effect?	Q10
Period 7	1483
Period 7	1450
Period 7	1447
Period 7	1465
Period 7	1342
Period 7	1462
Period 7	982
Period 1	808
Period 7	1208
Period 7	1023
Period 1	822
Period 7	1010
Period 1	905
Period 7	1228
Period 7	0

Kahoot! Summary

Period 7	1103
Period 7	955
Period 7	0
Period 7	912
Period 7	0
Period 7	807
Period 7	0
Period 7	0
Period 7	1092
Period 7	0
Period 7	0
Period 3	0

Which ion has the least shielding effect?
H +1
H +1
H +1
H +1
H +1
H +1
H +1
H +1
H +1
H +1
H +1
H +1
H +1
H +1
N −3

H +1
H +1
N −3
H +1
F −1
H +1
Mg +2
H +1
F −1
Mg +2
N −3

Unit 4 Shi

1 Quiz

Correct answers
Players correct (
Question duratic

Answer Sun

Answer options
Is answer correc
Number of answ
Average time tal

Answer Det

Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee

Moon
Quinn
Sarah
Shaimir
beatrice
campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha

ielding Effect Trend

What causes the shielding effect?

s	repulsior
(%)	22,22%
on	60 secor

mmary

	▲
ct?	
vers received	
ken to answer (seconds)	

ails

	Answer
	✗
	☑
	✗
	✗
	☑
	✗
	✗
	✗
	✗
	☑

	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✓
	✓
	✗
	✓

n between core and valence electrons
nds

repulsion between valence electrons	♦
✗	
0	
0,00	

	Score (p
attraction between valence electrons	0
repulsion between core and valence electrons	919
attraction between nucleus and valence electrons	0
	0
repulsion between core and valence electrons	814
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between valence electrons	0
repulsion between core and valence electrons	916

attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
attraction between nucleus and valence electrons	0
repulsion between core and valence electrons	941
repulsion between core and valence electrons	988
attraction between nucleus and valence electrons	0
repulsion between core and valence electrons	963

repulsion between core and valence electrons	●
✓	
6	
9,18	

oints)	Current
	0
	919
	0
	0
	814
	0
	0
	0
	0
	916

	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	0
	941
	988
	0
	963

attraction between valence electrons	■
✗	
3	
6,70	

Total Score (points)	Answer ti
	6,2
	9,7
	13,1
	0
	22,3
	13,6
	4
	18,1
	9,8
	10,1

	31,9
	12,6
	9,4
	12,2
	20,4
	8,8
	4,1
	19,5
	33,6
	13
	7,6
	12,9
	8,2
	7,1
	1,4
	12,5
	4,5

attraction between nucleus and valence electrons

✗

17

14,79

me (seconds)

Unit 4 Shi
2 Quiz
Correct answers
Players correct (
Question duratic
Answer Sun
Answer options
Is answer correc
Number of answ
Average time tal
Answer Deta
Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee

Moon
Quinn
Sarah
Shaimir
beatrice
campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha

ielding Effect Trend

The shielding effect increases across a period?

s	False
(%)	59,26%
on	20 secor

nmary

	▲
ct?	
vers received	
ken to answer (seconds)	

ails

	Answer
	☑
	✗
	✗
	✗
	☑
	✗
	☑
	☑
	☑
	✗

	✗
	✗
	☑
	☑
	✗
	✗
	✗
	☑
	☑
	☑
	☑
	☑
	☑
	✗
	☑
	☑
	☑

nds

False	♦
✓	
16	
7,80	

	Score (p
False	698
True	0
True	0
	0
False	993
True	0
False	923
False	715
False	633
True	0

True	0
True	0
False	920
False	645
True	0
True	0
	0
False	588
False	525
False	868
False	883
False	908
False	910
True	0
False	1043
False	885
False	1048

True	●
✗	
9	
11,07	

oints)	Current
	698
	919
	0
	0
	1807
	0
	923
	715
	633
	916

	0
	0
	920
	645
	0
	0
	0
	588
	525
	868
	883
	908
	910
	941
	2031
	885
	2011

Total Score (points)	Answer ti
	12,1
	9,1
	4,9
	0
	4,3
	9
	3,1
	11,4
	14,7
	18,7

	18,1
	17,9
	3,2
	14,2
	15,8
	4,1
	20
	16,5
	19
	5,3
	4,7
	3,7
	3,6
	2
	2,3
	4,6
	2,1

ime (seconds)

Unit 4 Shi

3 Quiz

Correct answers
Players correct (
Question duratic

Answer Sun

Answer options
Is answer correc
Number of answ
Average time tal

Answer Det

Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee

Moon
Quinn
Sarah
Shaimir
beatrice
campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha

ielding Effect Trend

Which two elements have similar shielding effects?

s	N and F
(%)	22,22%
on	20 secor

mmary

	▲
ct?	
vers received	
ken to answer (seconds)	

ails

	Answer
	✗
	✗
	✗
	✗
	☑
	✗
	☑
	✗
	☑
	✗

	☑
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	✗
	☑
	✗
	☑

nds

Na and K	♦
✗	
7	
14,80	

	Score (p
	0
Ca and C	0
	0
	0
N and F	1110
Ne and Ar	0
N and F	1030
	0
N and F	618
Na and K	0

N and F	540
	0
Na and K	0
	0
	0
	0
Na and K	0
	0
	0
Na and K	0
	0
Na and K	0
	0
Na and K	0
N and F	1153
Na and K	0
N and F	1123

Ne and Ar	●
✗	
1	
19,70	

oints)	Current
	698
	919
	0
	0
	2917
	0
	1953
	715
	1251
	916

	540
	0
	920
	645
	0
	0
	0
	588
	525
	868
	883
	908
	910
	941
	3184
	885
	3134

Ca and C	■
✗	
1	
17,00	

Total Score (points)	Answer ti
	20
	17
	20
	0
	3,6
	19,7
	2,8
	20
	19,3
	19,1

	18,4
	20
	4,4
	20
	20
	20
	9,2
	20
	20
	18,9
	20
	19,5
	20
	14,8
	1,9
	17,7
	3,1

N and F
✓
6
8,18
me (seconds)

Unit 4 Shi
4 Quiz
Correct answers
Players correct (
Question duratic
Answer Sun
Answer options
Is answer correc
Number of answ
Average time tal
Answer Det
Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee

Moon
Quinn
Sarah
Shaimir
beatrice
campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha

ielding Effect Trend

How is effective nuclear charge calculated?

s	Zeff = at
(%)	62,96%
on	60 secor

mmary

	▲
ct?	
vers received	
ken to answer (seconds)	

ails

	Answer
	✗
	☑
	☑
	✗
	☑
	✗
	☑
	✗
	✗
	✗

	☑
	☑
	☑
	✗
	☑
	☑
	☑
	☑
	✗
	✗
	✗
	☑
	☑
	☑
	☑
	☑
	☑

omic # − core electrons
nds

Zeff = atomic # − valence electrons	♦
✗	
3	
24,20	

	Score (p
Zeff = atomic # − valence electrons	0
Zeff = atomic # − core electrons	790
Zeff = atomic # − core electrons	845
	0
Zeff = atomic # − core electrons	1243
Zeff = total protons + core electrons	0
Zeff = atomic # − core electrons	1148
Zeff = total protons + total electrons	0
Zeff = atomic # − valence electrons	0
Zeff = total protons + total electrons	0

Zeff = atomic # − core electrons	903
Zeff = atomic # − core electrons	893
Zeff = atomic # − core electrons	879
Zeff = total protons + core electrons	0
Zeff = atomic # − core electrons	863
Zeff = atomic # − core electrons	803
Zeff = atomic # − core electrons	923
Zeff = atomic # − core electrons	906
Zeff = total protons + total electrons	0
	0
Zeff = atomic # − valence electrons	0
Zeff = atomic # − core electrons	925
Zeff = atomic # − core electrons	943
Zeff = atomic # − core electrons	896
Zeff = atomic # − core electrons	1279
Zeff = atomic # − core electrons	908
Zeff = atomic # − core electrons	1258

Zeff = total protons + total electrons	●
✗	
3	
37,07	

oints)	Current
	698
	1709
	845
	0
	4160
	0
	3101
	715
	1251
	916

	1443
	893
	1799
	645
	863
	803
	923
	1494
	525
	868
	883
	1833
	1853
	1837
	4463
	1793
	4392

Zeff = atomic # − core electrons	■
✓	
17	
12,68	

Total Score (points)	Answer ti
	29,5
	25,2
	18,6
	0
	6,8
	23,4
	6,2
	50,8
	29
	27,1

	23,6
	12,8
	14,5
	8,7
	16,5
	23,7
	9,3
	11,3
	33,3
	60
	14,1
	9
	6,9
	12,5
	2,5
	11,1
	5,1

Zeff = total protons + core electrons
✗
2
16,05
ime (seconds)

Unit 4 Shi
5 Quiz
Correct answers
Players correct (
Question duratic
Answer Sun
Answer options
Is answer correc
Number of answ
Average time tal
Answer Deta
Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee

Moon
Quinn
Sarah
Shaimir
beatrice
campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha

ielding Effect Trend

Which of the following trends increase with more shielding?

s	Atomic F
(%)	51,85%
on	20 secor

mmary

	▲
ct?	
vers received	
ken to answer (seconds)	

ails

	Answer
	✗
	✗
	✗
	✗
	☑
	✗
	☑
	☑
	☑
	✗

	✗
	☑
	☑
	☑
	☑
	☑
	✗
	☑
	✗
	✗
	☑
	☑
	✗
	✗
	☑
	✗
	☑

Radius, Metallic Properties
nds

Atomic Radius	♦
✓	
9	
10,49	

	Score (p
	0
Electronegativity	0
Electronegativity	0
Ionization Energy	0
Metallic Properties	1268
Electronegativity	0
Metallic Properties	1263
Atomic Radius	538
Metallic Properties	505
	0

	0
Atomic Radius	1018
Atomic Radius	640
Atomic Radius	940
Atomic Radius	900
Atomic Radius	645
Electronegativity	0
Metallic Properties	610
Ionization Energy	0
	0
Atomic Radius	888
Atomic Radius	638
Ionization Energy	0
Electronegativity	0
Metallic Properties	1370
Ionization Energy	0
Atomic Radius	1335

Ionization Energy
✗
4
16,35

oints)	Current
	698
	1709
	845
	0
	5428
	0
	4364
	1253
	1756
	916

	1443
	1911
	2439
	1585
	1763
	1448
	923
	2104
	525
	868
	1771
	2471
	1853
	1837
	5833
	1793
	5727

Electronegativity	■
✗	
5	
13,44	

Total Score (points)	Answer ti
	20
	14,6
	9,2
	12,3
	5,3
	17,7
	1,5
	18,5
	19,8
	20

	20
	3,3
	18,4
	2,4
	8
	18,2
	9
	19,6
	18,7
	20
	4,5
	18,5
	14,8
	16,7
	1,2
	19,6
	2,6

Metallic Properties
☑
5
9,48
ime (seconds)

Unit 4 Shi
6 Quiz
Correct answers
Players correct (
Question duratic
Answer Sun
Answer options
Is answer correc
Number of answ
Average time tal
Answer Deta
Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee

Moon
Quinn
Sarah
Shaimir
beatrice
campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha

ielding Effect Trend

How does shielding effect chemical reactions?

s	less&nbs
(%)	44,44%
on	30 secor

mmary

	▲
ct?	
vers received	
ken to answer (seconds)	

ails

	Answer
	✗
	✗
	☑
	✗
	☑
	✗
	☑
	✗
	☑
	✗

	✗
	✗
	☑
	☑
	✗
	☑
	☑
	☑
	✗
	✗
	✗
	✗
	☑
	✗
	☑
	✗
	☑

sp;shielding helps nonmetals react quickly
nds

less shielding helps metals react quickly	♦
✗	
7	
20,04	

	Score (p
more shielding helps nonmetals react quickly	0
less shielding helps metals react quickly	0
less shielding helps nonmetals react quickly	630
shielding has no effect on reactivity	0
less shielding helps nonmetals react quickly	1418
more shielding helps nonmetals react quickly	0
less shielding helps nonmetals react quickly	1328
	0
less shielding helps nonmetals react quickly	613
less shielding helps metals react quickly	0

	0
more shielding helps nonmetals react quickly	0
less shielding helps nonmetals react quickly	750
less shielding helps nonmetals react quickly	998
more shielding helps nonmetals react quickly	0
less shielding helps nonmetals react quickly	843
less shielding helps nonmetals react quickly	727
less shielding helps nonmetals react quickly	758
less shielding helps metals react quickly	0
less shielding helps metals react quickly	0
more shielding helps nonmetals react quickly	0
less shielding helps metals react quickly	0
less shielding helps nonmetals react quickly	910
less shielding helps metals react quickly	0
less shielding helps nonmetals react quickly	1443
less shielding helps metals react quickly	0
less shielding helps nonmetals react quickly	1425

less shielding helps nonmetals react quickly	
✓	
12	
14,28	

oints)	Current
	698
	1709
	1475
	0
	6846
	0
	5692
	1253
	2369
	916

	1443
	1911
	3189
	2583
	1763
	2291
	1650
	2862
	525
	868
	1771
	2471
	2763
	1837
	7276
	1793
	7152

more shielding helps nonmetals react quickly	■
✗	
5	
19,48	

Total Score (points)	Answer ti
	22,3
	28,4
	22,2
	0,5
	4,9
	28
	4,3
	30
	29,2
	28,2

	30
	10,9
	27
	6,1
	15,3
	21,4
	16,4
	26,5
	28,9
	16,5
	20,9
	16,1
	5,4
	7,1
	3,4
	15,1
	4,5

shielding has no effect on reactivity

✗

1

0,50

me (seconds)

Unit 4 Shi

7 Quiz

Correct answers
Players correct (
Question duratic

Answer Sun

Answer options
Is answer correc
Number of answ
Average time tal

Answer Det

Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee

Moon
Quinn
Sarah
Shaimir
beatrice
campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha

ielding Effect Trend

The effective nuclear charge of a sodium ion (atomic #11) is

s	Zeff = 11
(%)	40,74%
on	30 secor

mmary

	▲
ct?	
vers received	
ken to answer (seconds)	

ails

	Answer
	☑
	✗
	☑
	✗
	☑
	✗
	☑
	✗
	☑
	✗

	✗
	✗
	✗
	✗
	✗
	☑
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	✗
	✗
	☑
	✗
	☑
	✗
	☑
	✗
	☑

- 2 = +9
nds

Zeff = 11 - 2 = +9	♦
☑	
11	
18,64	

	Score (p
Zeff = 11 - 2 = +9	573
Zeff = 11 - 1 = +10	0
Zeff = 11 - 2 = +9	652
Zeff = 11 - 1 = +10	0
Zeff = 11 - 2 = +9	1438
Zeff = 11 - 10 = +1	0
Zeff = 11 - 2 = +9	1448
Zeff = 11 - 1 = +10	0
Zeff = 11 - 2 = +9	702
Zeff = 11 - 10 = +1	0

Zeff = 11 - 10 = +1	0
Zeff = 11 - 1 = +10	0
Zeff = 11 - 8 = +3	0
Zeff = 11 - 8 = +3	0
Zeff = 11 - 1 = +10	0
Zeff = 11 - 2 = +9	820
Zeff = 11 - 1 = +10	0
Zeff = 11 - 2 = +9	825
Zeff = 11 - 1 = +10	0
	0
Zeff = 11 - 2 = +9	562
Zeff = 11 - 1 = +10	0
Zeff = 11 - 2 = +9	647
Zeff = 11 - 8 = +3	0
Zeff = 11 - 2 = +9	1467
Zeff = 11 - 8 = +3	0
Zeff = 11 - 2 = +9	1450

Zeff = 11 - 8 = +3	●
✗	
4	
21,90	

oints)	Current
	1271
	1709
	2127
	0
	8284
	0
	7140
	1253
	3071
	916

	1443
	1911
	3189
	2583
	1763
	3111
	1650
	3687
	525
	868
	2333
	2471
	3410
	1837
	8743
	1793
	8602

Zeff = 11 - 10 = +1	■
✗	
3	
25,53	

Total Score (points)	Answer ti
	25,6
	14,3
	26,9
	4,1
	3,7
	28,7
	3,1
	27,6
	29,9
	27,4

	20,5
	13,9
	17,1
	20,4
	21,5
	28,8
	22,6
	28,5
	28,4
	30
	26,3
	25,4
	27,2
	25,5
	2
	24,6
	3

Zeff = 11 - 1 = +10
✗
8
19,73
ime (seconds)

Unit 4 Shi
8 Quiz
Correct answers
Players correct (
Question duratic
Answer Sun
Answer options
Is answer correc
Number of answ
Average time tal
Answer Deta
Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee

Moon
Quinn
Sarah
Shaimir
beatrice
campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha

ielding Effect Trend

When comparing the shielding effect for magnesium and o

s	Mg has&
(%)	77,78%
on	30 secor

nmary

	▲
ct?	
vers received	
ken to answer (seconds)	

ails

	Answer
	☑
	☑
	☑
	✗
	☑
	☑
	☑
	✗
	☑
	☑

	✗
	☑
	☑
	☑
	☑
	☑
	☑
	☑
	✗
	✗
	☑
	☑
	☑
	☑
	☑
	✗
	☑

xygen
;nbsp;more shielding
nds

Mg has less shielding	♦
✗	
2	
12,90	

	Score (p
Mg has more shielding	882
Mg has more shielding	580
Mg has more shielding	1107
O has more shielding	0
Mg has more shielding	1400
Mg has more shielding	535
Mg has more shielding	1437
O has more shielding	0
Mg has more shielding	1117
Mg has more shielding	592

O has more shielding	0
Mg has more shielding	552
Mg has more shielding	700
Mg has more shielding	903
Mg has more shielding	507
Mg has more shielding	1010
Mg has more shielding	683
Mg has more shielding	1278
	0
Mg has less shielding	0
Mg has more shielding	827
Mg has more shielding	762
Mg has more shielding	1142
Mg has more shielding	522
Mg has more shielding	1397
Mg has less shielding	0
Mg has more shielding	1457

Mg and O have the same shielding	●
✗	
0	
0,00	

oints)	Current
	2153
	2289
	3234
	0
	9684
	535
	8577
	1253
	4188
	1508

	1443
	2463
	3889
	3486
	2270
	4121
	2333
	4965
	525
	868
	3160
	3233
	4552
	2359
	10140
	1793
	10059

Mg has more shielding	■
√	
21	
15,18	

Total Score (points)	Answer ti
	13,1
	25,2
	5,6
	0,3
	6
	27,9
	3,8
	29,5
	11
	24,5

	19,5
	26,9
	18
	5,8
	29,6
	23,4
	19
	7,3
	30
	15,8
	16,4
	14,3
	3,5
	28,7
	6,2
	10
	2,6

O has more shielding
✗
3
16,43
me (seconds)

Unit 4 Shi
9 Quiz
Correct answers
Players correct (
Question duratic
Answer Sun
Answer options
Is answer correc
Number of answ
Average time tal
Answer Deta
Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee

Moon
Quinn
Sarah
Shaimir
beatrice
campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha

ielding Effect Trend

Which period (row) has the greatest shielding effect?

s	Period 7
(%)	85,19%
on	20 secor

mmary

	▲
ct?	
vers received	
ken to answer (seconds)	

ails

	Answer
	☑
	☑
	☑
	☑
	☑
	✗
	☑
	☑
	☑
	☑

	☑
	☑
	☑
	✗
	☑
	✗
	☑
	✗
	☑
	☑
	☑
	☑
	☑
	☑
	☑
	☑

nds

Period 1	♦
✗	
3	
7,47	

	Score (p
Period 7	935
Period 7	750
Period 7	1048
Period 7	988
Period 7	1353
Period 3	0
Period 7	1405
Period 7	710
Period 7	1205
Period 7	973

Period 7	790
Period 7	995
Period 7	930
Period 1	0
Period 7	853
Period 1	0
Period 7	1035
Period 1	0
Period 7	803
Period 7	575
Period 7	1133
Period 7	758
Period 7	1055
Period 7	785
Period 7	1438
Period 7	588
Period 7	1458

Period 3	●
✗	
1	
13,90	

oints)	Current
	3088
	3039
	4282
	988
	11037
	535
	9982
	1963
	5393
	2481

	2233
	3458
	4819
	3486
	3123
	4121
	3368
	4965
	1328
	1443
	4293
	3991
	5607
	3144
	11578
	2381
	11517

Period 5	■
✗	
0	
0,00	

Total Score (points)	Answer ti
	10,6
	14
	10,1
	0,5
	5,9
	13,9
	3,8
	11,6
	7,8
	5,1

	8,4
	4,2
	6,8
	3,2
	9,9
	8,3
	2,6
	10,9
	7,9
	17
	2,7
	13,7
	9,8
	12,6
	2,5
	16,5
	1,7

Period 7
☑
23
8,07
ime (seconds)

Unit 4 Shi
10 Quiz
Correct answers
Players correct (
Question duratic
Answer Sun
Answer options
Is answer correc
Number of answ
Average time tal
Answer Det
Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee

Moon
Quinn
Sarah
Shaimir
beatrice
campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha

ielding Effect Trend

Which ion has the least shielding effect?

s	H +1
(%)	70,37%
on	30 secor

mmary

	▲
ct?	
vers received	
ken to answer (seconds)	

ails

	Answer
	☑
	✗
	☑
	☑
	☑
	✗
	☑
	☑
	☑
	✗

	✗
	☑
	☑
	☑
	☑
	☑
	✗
	☑
	✗
	✗
	✗
	☑
	☑
	☑
	☑
	☑
	☑

nds

F −1	♦
✗	
2	
21,45	

	Score (p
H +1	1228
F −1	0
H +1	1208
H +1	1092
H +1	1447
N −3	0
H +1	1465
H +1	807
H +1	1462
Mg +2	0

	0
H +1	1010
H +1	982
H +1	905
H +1	955
H +1	822
N −3	0
H +1	808
Mg +2	0
F −1	0
N −3	0
H +1	1023
H +1	1342
H +1	1103
H +1	1483
H +1	912
H +1	1450

H +1	●
✓	
19	
7,57	

oints)	Current
	4316
	3039
	5490
	2080
	12484
	535
	11447
	2770
	6855
	2481

	2233
	4468
	5801
	4391
	4078
	4943
	3368
	5773
	1328
	1443
	4293
	5014
	6949
	4247
	13061
	3293
	12967

Mg +2	■
✗	
2	
16,95	

Total Score (points)	Answer ti
	4,3
	28
	11,5
	0,5
	3,2
	19,7
	2,1
	17,6
	2,3
	16,5

	30
	11,4
	13,1
	5,7
	14,7
	10,7
	16
	11,5
	17,4
	14,9
	14,2
	10,6
	3,5
	5,8
	1
	11,3
	3

N −3
✗
3
16,63
ime (seconds)

Question Number
1 Quiz
1 Quiz
1 Quiz
1 Quiz
1 Quiz
1 Quiz
1 Quiz
1 Quiz
1 Quiz
1 Quiz
1 Quiz
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10 Quiz

Question
What causes the shielding effect?
What causes the shielding effect?
What causes the shielding effect?
What causes the shielding effect?
What causes the shielding effect?
What causes the shielding effect?
What causes the shielding effect?
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What causes the shielding effect?
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What causes the shielding effect?
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What causes the shielding effect?
What causes the shielding effect?
The shielding effect increases across a period?
The shielding effect increases across a period?
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The shielding effect increases across a period?

The shielding effect increases across a period?
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The shielding effect increases across a period?
The shielding effect increases across a period?
The shielding effect increases across a period?
The shielding effect increases across a period?
The shielding effect increases across a period?
The shielding effect increases across a period?
The shielding effect increases across a period?
Which two elements have similar shielding effects?
Which two elements have similar shielding effects?
Which two elements have similar shielding effects?
Which two elements have similar shielding effects?
Which two elements have similar shielding effects?
Which two elements have similar shielding effects?
Which two elements have similar shielding effects?
Which two elements have similar shielding effects?
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Which two elements have similar shielding effects?
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Which two elements have similar shielding effects?
Which two elements have similar shielding effects?
Which two elements have similar shielding effects?
Which two elements have similar shielding effects?

Which two elements have similar shielding effects?
Which two elements have similar shielding effects?
How is effective nuclear charge calculated?
How is effective nuclear charge calculated?
How is effective nuclear charge calculated?
How is effective nuclear charge calculated?
How is effective nuclear charge calculated?
How is effective nuclear charge calculated?
How is effective nuclear charge calculated?
How is effective nuclear charge calculated?
How is effective nuclear charge calculated?
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How is effective nuclear charge calculated?
How is effective nuclear charge calculated?
How is effective nuclear charge calculated?
Which of the following trends increase with more shielding?
Which of the following trends increase with more shielding?
Which of the following trends increase with more shielding?

Which of the following trends increase with more shielding?
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Which of the following trends increase with more shielding?
How does shielding effect chemical reactions?
How does shielding effect chemical reactions?
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How does shielding effect chemical reactions?
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How does shielding effect chemical reactions?
How does shielding effect chemical reactions?
How does shielding effect chemical reactions?
The effective nuclear charge of a sodium ion (atomic #11) is
The effective nuclear charge of a sodium ion (atomic #11) is
The effective nuclear charge of a sodium ion (atomic #11) is
The effective nuclear charge of a sodium ion (atomic #11) is
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The effective nuclear charge of a sodium ion (atomic #11) is
The effective nuclear charge of a sodium ion (atomic #11) is
The effective nuclear charge of a sodium ion (atomic #11) is
The effective nuclear charge of a sodium ion (atomic #11) is
When comparing the shielding effect for magnesium and oxygen
When comparing the shielding effect for magnesium and oxygen

When comparing the shielding effect for magnesium and oxygen
When comparing the shielding effect for magnesium and oxygen
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When comparing the shielding effect for magnesium and oxygen
When comparing the shielding effect for magnesium and oxygen
When comparing the shielding effect for magnesium and oxygen
Which period (row) has the greatest shielding effect?
Which period (row) has the greatest shielding effect?
Which period (row) has the greatest shielding effect?
Which period (row) has the greatest shielding effect?
Which period (row) has the greatest shielding effect?
Which period (row) has the greatest shielding effect?
Which period (row) has the greatest shielding effect?

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Which period (row) has the greatest shielding effect?
Which period (row) has the greatest shielding effect?
Which period (row) has the greatest shielding effect?
Which period (row) has the greatest shielding effect?
Which ion has the least shielding effect?
Which ion has the least shielding effect?
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Which ion has the least shielding effect?
Which ion has the least shielding effect?
Which ion has the least shielding effect?
Which ion has the least shielding effect?

Answer 1	Answer 2
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons

repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
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repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
repulsion between valence electrons	repulsion between core and valence electrons
False	True
False	True
False	True
False	True

False	True
False	True
False	True
False	True
False	True
False	True
False	True
False	True
False	True
False	True
False	True
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False	True
False	True
False	True
False	True
False	True

False	True
False	True
False	True
False	True
False	True
False	True
False	True
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar

Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar
Na and K	Ne and Ar

Na and K	Ne and Ar
Na and K	Ne and Ar
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons

Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Zeff = atomic # − valence electrons	Zeff = total protons + total electrons
Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy

Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
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Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
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Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
Atomic Radius	Ionization Energy
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly

less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly

less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
less shielding helps metals react quickly	less shielding helps nonmetals react quickly
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3

Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Zeff = 11 - 2 = +9	Zeff = 11 - 8 = +3
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding

Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding

Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Mg has less shielding	Mg and O have the same shielding
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3

Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
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Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3

Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
Period 1	Period 3
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1

F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1
F −1	H +1

Answer 3	Answer 4
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons

attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons
attraction between valence electrons	attraction between nucleus and valence electrons

Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F

Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F
Ca and C	N and F

Ca and C	N and F
Ca and C	N and F
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons

Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Zeff = atomic # − core electrons	Zeff = total protons + core electrons
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties

Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties

Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
Electronegativity	Metallic Properties
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity

more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity

more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
more shielding helps nonmetals react quickly	shielding has no effect on reactivity
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10

Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Zeff = 11 - 10 = +1	Zeff = 11 - 1 = +10
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding

Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding

Mg has more shielding	O has more shielding
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Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Mg has more shielding	O has more shielding
Period 5	Period 7
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Period 5	Period 7
Period 5	Period 7
Period 5	Period 7
Period 5	Period 7
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3

Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3
Mg +2	N −3

Correct Answers	Time Allotted to Answer (seconds)
repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
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repulsion between core and valence electrons	60
repulsion between core and valence electrons	60

repulsion between core and valence electrons	60
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repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
repulsion between core and valence electrons	60
False	20
False	20
False	20
False	20

False	20
False	20
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False	20
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False	20
False	20
False	20
False	20
False	20
False	20
False	20
N and F	20
N and F	20
N and F	20
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N and F	20

N and F	20
N and F	20
Zeff = atomic # − core electrons	60
Zeff = atomic # − core electrons	60
Zeff = atomic # − core electrons	60
Zeff = atomic # − core electrons	60
Zeff = atomic # − core electrons	60
Zeff = atomic # − core electrons	60
Zeff = atomic # − core electrons	60
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Zeff = atomic # − core electrons	60
Zeff = atomic # − core electrons	60
Zeff = atomic # − core electrons	60
Zeff = atomic # − core electrons	60
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20

Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
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Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20

Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
Atomic Radius, Metallic Properties	20
less shielding helps nonmetals react quickly	30
less shielding helps nonmetals react quickly	30
less shielding helps nonmetals react quickly	30
less shielding helps nonmetals react quickly	30
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less shielding helps nonmetals react quickly	30
less shielding helps nonmetals react quickly	30
less shielding helps nonmetals react quickly	30
Zeff = 11 - 2 = +9	30
Zeff = 11 - 2 = +9	30
Zeff = 11 - 2 = +9	30
Zeff = 11 - 2 = +9	30
Zeff = 11 - 2 = +9	30
Zeff = 11 - 2 = +9	30
Zeff = 11 - 2 = +9	30
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Zeff = 11 - 2 = +9	30
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Zeff = 11 - 2 = +9	30
Mg has more shielding	30
Mg has more shielding	30

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Period 7	20
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H +1	30
H +1	30
H +1	30
H +1	30
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H +1	30
H +1	30
H +1	30
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H +1	30

Players
Abdullah
Andrew
Brooke
Campbell
CjCrUmP
Clay
GABEY
Ian
Karanvir Singh
Lee
Moon
Quinn
Sarah
Shaimir
beatrice

campbell
felicity
grace
grant
jen
jennings
liesel
logan
mason
melina
millie
neha
Abdullah
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liesel
logan
mason
melina
millie
neha

Answer	Correct / Incorrect	Correct
attraction between valence electrons	Incorrect	0
repulsion between core and valence electrons	Correct	1
attraction between nucleus and valence electrons	Incorrect	0
	Incorrect	0
repulsion between core and valence electrons	Correct	1
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
attraction between valence electrons	Incorrect	0
repulsion between core and valence electrons	Correct	1
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0

attraction between nucleus and valence electrons	Incorrect	0
attraction between valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
attraction between nucleus and valence electrons	Incorrect	0
repulsion between core and valence electrons	Correct	1
repulsion between core and valence electrons	Correct	1
attraction between nucleus and valence electrons	Incorrect	0
repulsion between core and valence electrons	Correct	1
False	Correct	1
True	Incorrect	0
True	Incorrect	0
	Incorrect	0

False	Correct	1
True	Incorrect	0
False	Correct	1
False	Correct	1
False	Correct	1
True	Incorrect	0
True	Incorrect	0
True	Incorrect	0
False	Correct	1
False	Correct	1
True	Incorrect	0
True	Incorrect	0
	Incorrect	0
False	Correct	1
False	Correct	1
False	Correct	1

False	Correct	1
False	Correct	1
False	Correct	1
True	Incorrect	0
False	Correct	1
False	Correct	1
False	Correct	1
	Incorrect	0
Ca and C	Incorrect	0
	Incorrect	0
	Incorrect	0
N and F	Correct	1
Ne and Ar	Incorrect	0
N and F	Correct	1
	Incorrect	0
N and F	Correct	1

Na and K	Incorrect	0
N and F	Correct	1
	Incorrect	0
Na and K	Incorrect	0
	Incorrect	0
	Incorrect	0
	Incorrect	0
Na and K	Incorrect	0
	Incorrect	0
	Incorrect	0
Na and K	Incorrect	0
	Incorrect	0
Na and K	Incorrect	0
	Incorrect	0
Na and K	Incorrect	0
N and F	Correct	1

Na and K	Incorrect	0
N and F	Correct	1
Zeff = atomic # − valence electrons	Incorrect	0
Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
	Incorrect	0
Zeff = atomic # − core electrons	Correct	1
Zeff = total protons + core electrons	Incorrect	0
Zeff = atomic # − core electrons	Correct	1
Zeff = total protons + total electrons	Incorrect	0
Zeff = atomic # − valence electrons	Incorrect	0
Zeff = total protons + total electrons	Incorrect	0
Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
Zeff = total protons + core electrons	Incorrect	0

Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
Zeff = total protons + total electrons	Incorrect	0
	Incorrect	0
Zeff = atomic # − valence electrons	Incorrect	0
Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
Zeff = atomic # − core electrons	Correct	1
	Incorrect	0
Electronegativity	Incorrect	0
Electronegativity	Incorrect	0

Ionization Energy	Incorrect	0
Metallic Properties	Correct	1
Electronegativity	Incorrect	0
Metallic Properties	Correct	1
Atomic Radius	Correct	1
Metallic Properties	Correct	1
	Incorrect	0
	Incorrect	0
Atomic Radius	Correct	1
Atomic Radius	Correct	1
Atomic Radius	Correct	1
Atomic Radius	Correct	1
Atomic Radius	Correct	1
Electronegativity	Incorrect	0
Metallic Properties	Correct	1
Ionization Energy	Incorrect	0

	Incorrect	0
Atomic Radius	Correct	1
Atomic Radius	Correct	1
Ionization Energy	Incorrect	0
Electronegativity	Incorrect	0
Metallic Properties	Correct	1
Ionization Energy	Incorrect	0
Atomic Radius	Correct	1
more shielding helps nonmetals react quickly	Incorrect	0
less shielding helps metals react quickly	Incorrect	0
less shielding helps nonmetals react quickly	Correct	1
shielding has no effect on reactivity	Incorrect	0
less shielding helps nonmetals react quickly	Correct	1
more shielding helps nonmetals react quickly	Incorrect	0
less shielding helps nonmetals react quickly	Correct	1
	Incorrect	0

less shielding helps nonmetals react quickly	Correct	1
less shielding helps metals react quickly	Incorrect	0
	Incorrect	0
more shielding helps nonmetals react quickly	Incorrect	0
less shielding helps nonmetals react quickly	Correct	1
less shielding helps nonmetals react quickly	Correct	1
more shielding helps nonmetals react quickly	Incorrect	0
less shielding helps nonmetals react quickly	Correct	1
less shielding helps nonmetals react quickly	Correct	1
less shielding helps nonmetals react quickly	Correct	1
less shielding helps metals react quickly	Incorrect	0
less shielding helps metals react quickly	Incorrect	0
more shielding helps nonmetals react quickly	Incorrect	0
less shielding helps metals react quickly	Incorrect	0
less shielding helps nonmetals react quickly	Correct	1
less shielding helps metals react quickly	Incorrect	0

less shielding helps nonmetals react quickly	Correct	1
less shielding helps metals react quickly	Incorrect	0
less shielding helps nonmetals react quickly	Correct	1
Zeff = 11 - 2 = +9	Correct	1
Zeff = 11 - 1 = +10	Incorrect	0
Zeff = 11 - 2 = +9	Correct	1
Zeff = 11 - 1 = +10	Incorrect	0
Zeff = 11 - 2 = +9	Correct	1
Zeff = 11 - 10 = +1	Incorrect	0
Zeff = 11 - 2 = +9	Correct	1
Zeff = 11 - 1 = +10	Incorrect	0
Zeff = 11 - 2 = +9	Correct	1
Zeff = 11 - 10 = +1	Incorrect	0
Zeff = 11 - 10 = +1	Incorrect	0
Zeff = 11 - 1 = +10	Incorrect	0
Zeff = 11 - 8 = +3	Incorrect	0

Zeff = 11 - 8 = +3	Incorrect	0
Zeff = 11 - 1 = +10	Incorrect	0
Zeff = 11 - 2 = +9	Correct	1
Zeff = 11 - 1 = +10	Incorrect	0
Zeff = 11 - 2 = +9	Correct	1
Zeff = 11 - 1 = +10	Incorrect	0
	Incorrect	0
Zeff = 11 - 2 = +9	Correct	1
Zeff = 11 - 1 = +10	Incorrect	0
Zeff = 11 - 2 = +9	Correct	1
Zeff = 11 - 8 = +3	Incorrect	0
Zeff = 11 - 2 = +9	Correct	1
Zeff = 11 - 8 = +3	Incorrect	0
Zeff = 11 - 2 = +9	Correct	1
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1

Mg has more shielding	Correct	1
O has more shielding	Incorrect	0
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
O has more shielding	Incorrect	0
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
O has more shielding	Incorrect	0
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1

	Incorrect	0
Mg has less shielding	Incorrect	0
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
Mg has more shielding	Correct	1
Mg has less shielding	Incorrect	0
Mg has more shielding	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 3	Incorrect	0
Period 7	Correct	1

Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 1	Incorrect	0
Period 7	Correct	1
Period 1	Incorrect	0
Period 7	Correct	1
Period 1	Incorrect	0
Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1

Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
Period 7	Correct	1
H +1	Correct	1
F −1	Incorrect	0
H +1	Correct	1
H +1	Correct	1
H +1	Correct	1
N −3	Incorrect	0
H +1	Correct	1
H +1	Correct	1
H +1	Correct	1
Mg +2	Incorrect	0
	Incorrect	0
H +1	Correct	1

H +1	Correct	1
H +1	Correct	1
H +1	Correct	1
H +1	Correct	1
N −3	Incorrect	0
H +1	Correct	1
Mg +2	Incorrect	0
F −1	Incorrect	0
N −3	Incorrect	0
H +1	Correct	1
H +1	Correct	1
H +1	Correct	1
H +1	Correct	1
H +1	Correct	1
H +1	Correct	1

Incorrect	Score (points)	Score without Answer Streak Bonus (points)
1	0	0
0	919	919
1	0	0
1	0	0
0	814	814
1	0	0
1	0	0
1	0	0
1	0	0
0	916	916
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0

1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
0	941	941
0	988	988
1	0	0
0	963	963
0	698	698
1	0	0
1	0	0
1	0	0

0	993	893
1	0	0
0	923	923
0	715	715
0	633	633
1	0	0
1	0	0
1	0	0
0	920	920
0	645	645
1	0	0
1	0	0
1	0	0
0	588	588
0	525	525
0	868	868

0	883	883
0	908	908
0	910	910
1	0	0
0	1043	943
0	885	885
0	1048	948
1	0	0
1	0	0
1	0	0
1	0	0
0	1110	910
1	0	0
0	1030	930
1	0	0
0	618	518

1	0	0
0	540	540
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
0	1153	953

1	0	0
0	1123	923
1	0	0
0	790	790
0	845	845
1	0	0
0	1243	943
1	0	0
0	1148	948
1	0	0
1	0	0
1	0	0
0	903	803
0	893	893
0	879	879
1	0	0

0	863	863
0	803	803
0	923	923
0	906	906
1	0	0
1	0	0
1	0	0
0	925	925
0	943	943
0	896	896
0	1279	979
0	908	908
0	1258	958
1	0	0
1	0	0
1	0	0

1	0	0
0	1268	868
1	0	0
0	1263	963
0	538	538
0	505	505
1	0	0
1	0	0
0	1018	918
0	640	540
0	940	940
0	900	800
0	645	545
1	0	0
0	610	510
1	0	0

1	0	0
0	888	888
0	638	538
1	0	0
1	0	0
0	1370	970
1	0	0
0	1335	935
1	0	0
1	0	0
0	630	630
1	0	0
0	1418	918
1	0	0
0	1328	928
1	0	0

0	613	513
1	0	0
1	0	0
1	0	0
0	750	550
0	998	898
1	0	0
0	843	643
0	727	727
0	758	558
1	0	0
1	0	0
1	0	0
1	0	0
0	910	910
1	0	0

0	1443	943
1	0	0
0	1425	925
0	573	573
1	0	0
0	652	552
1	0	0
0	1438	938
1	0	0
0	1448	948
1	0	0
0	702	502
1	0	0
1	0	0
1	0	0
1	0	0

1	0	0
1	0	0
0	820	520
1	0	0
0	825	525
1	0	0
1	0	0
0	562	562
1	0	0
0	647	547
1	0	0
0	1467	967
1	0	0
0	1450	950
0	882	782
0	580	580

0	1107	907
1	0	0
0	1400	900
0	535	535
0	1437	937
1	0	0
0	1117	817
0	592	592
1	0	0
0	552	552
0	700	700
0	903	903
0	507	507
0	1010	610
0	683	683
0	1278	878

1	0	0
1	0	0
0	827	727
0	762	762
0	1142	942
0	522	522
0	1397	897
1	0	0
0	1457	957
0	935	735
0	750	650
0	1048	748
0	988	988
0	1353	853
1	0	0
0	1405	905

0	710	710
0	1205	805
0	973	873
0	790	790
0	995	895
0	930	830
1	0	0
0	853	753
1	0	0
0	1035	935
1	0	0
0	803	803
0	575	575
0	1133	933
0	758	658
0	1055	755

0	785	685
0	1438	938
0	588	588
0	1458	958
0	1228	928
1	0	0
0	1208	808
0	1092	992
0	1447	947
1	0	0
0	1465	965
0	807	707
0	1462	962
1	0	0
1	0	0
0	1010	810

0	982	782
0	905	905
0	955	755
0	822	822
1	0	0
0	808	808
1	0	0
1	0	0
1	0	0
0	1023	823
0	1342	942
0	1103	903
0	1483	983
0	912	812
0	1450	950

Current Total Score (points)	Answer Time (%)
0	10.33%
919	16.17%
0	21.83%
0	0.00%
814	37.17%
0	22.67%
0	6.67%
0	30.17%
0	16.33%
916	16.83%
0	53.17%
0	21.00%
0	15.67%
0	20.33%
0	34.00%

0	14.67%
0	6.83%
0	32.50%
0	56.00%
0	21.67%
0	12.67%
0	21.50%
0	13.67%
941	11.83%
988	2.33%
0	20.83%
963	7.50%
698	60.50%
919	45.50%
0	24.50%
0	0.00%

1807	21.50%
0	45.00%
923	15.50%
715	57.00%
633	73.50%
916	93.50%
0	90.50%
0	89.50%
920	16.00%
645	71.00%
0	79.00%
0	20.50%
0	100.00%
588	82.50%
525	95.00%
868	26.50%

883	23.50%
908	18.50%
910	18.00%
941	10.00%
2031	11.50%
885	23.00%
2011	10.50%
698	100.00%
919	85.00%
0	100.00%
0	0.00%
2917	18.00%
0	98.50%
1953	14.00%
715	100.00%
1251	96.50%

916	95.50%
540	92.00%
0	100.00%
920	22.00%
645	100.00%
0	100.00%
0	100.00%
0	46.00%
588	100.00%
525	100.00%
868	94.50%
883	100.00%
908	97.50%
910	100.00%
941	74.00%
3184	9.50%

885	88.50%
3134	15.50%
698	49.17%
1709	42.00%
845	31.00%
0	0.00%
4160	11.33%
0	39.00%
3101	10.33%
715	84.67%
1251	48.33%
916	45.17%
1443	39.33%
893	21.33%
1799	24.17%
645	14.50%

863	27.50%
803	39.50%
923	15.50%
1494	18.83%
525	55.50%
868	100.00%
883	23.50%
1833	15.00%
1853	11.50%
1837	20.83%
4463	4.17%
1793	18.50%
4392	8.50%
698	100.00%
1709	73.00%
845	46.00%

0	61.50%
5428	26.50%
0	88.50%
4364	7.50%
1253	92.50%
1756	99.00%
916	100.00%
1443	100.00%
1911	16.50%
2439	92.00%
1585	12.00%
1763	40.00%
1448	91.00%
923	45.00%
2104	98.00%
525	93.50%

868	100.00%
1771	22.50%
2471	92.50%
1853	74.00%
1837	83.50%
5833	6.00%
1793	98.00%
5727	13.00%
698	74.33%
1709	94.67%
1475	74.00%
0	1.67%
6846	16.33%
0	93.33%
5692	14.33%
1253	100.00%

2369	97.33%
916	94.00%
1443	100.00%
1911	36.33%
3189	90.00%
2583	20.33%
1763	51.00%
2291	71.33%
1650	54.67%
2862	88.33%
525	96.33%
868	55.00%
1771	69.67%
2471	53.67%
2763	18.00%
1837	23.67%

7276	11.33%
1793	50.33%
7152	15.00%
1271	85.33%
1709	47.67%
2127	89.67%
0	13.67%
8284	12.33%
0	95.67%
7140	10.33%
1253	92.00%
3071	99.67%
916	91.33%
1443	68.33%
1911	46.33%
3189	57.00%

2583	68.00%
1763	71.67%
3111	96.00%
1650	75.33%
3687	95.00%
525	94.67%
868	100.00%
2333	87.67%
2471	84.67%
3410	90.67%
1837	85.00%
8743	6.67%
1793	82.00%
8602	10.00%
2153	43.67%
2289	84.00%

3234	18.67%
0	1.00%
9684	20.00%
535	93.00%
8577	12.67%
1253	98.33%
4188	36.67%
1508	81.67%
1443	65.00%
2463	89.67%
3889	60.00%
3486	19.33%
2270	98.67%
4121	78.00%
2333	63.33%
4965	24.33%

525	100.00%
868	52.67%
3160	54.67%
3233	47.67%
4552	11.67%
2359	95.67%
10140	20.67%
1793	33.33%
10059	8.67%
3088	53.00%
3039	70.00%
4282	50.50%
988	2.50%
11037	29.50%
535	69.50%
9982	19.00%

1963	58.00%
5393	39.00%
2481	25.50%
2233	42.00%
3458	21.00%
4819	34.00%
3486	16.00%
3123	49.50%
4121	41.50%
3368	13.00%
4965	54.50%
1328	39.50%
1443	85.00%
4293	13.50%
3991	68.50%
5607	49.00%

3144	63.00%
11578	12.50%
2381	82.50%
11517	8.50%
4316	14.33%
3039	93.33%
5490	38.33%
2080	1.67%
12484	10.67%
535	65.67%
11447	7.00%
2770	58.67%
6855	7.67%
2481	55.00%
2233	100.00%
4468	38.00%

5801	43.67%
4391	19.00%
4078	49.00%
4943	35.67%
3368	53.33%
5773	38.33%
1328	58.00%
1443	49.67%
4293	47.33%
5014	35.33%
6949	11.67%
4247	19.33%
13061	3.33%
3293	37.67%
12967	10.00%

Answer Time (seconds)
6,2
9,7
13,1
0
22,3
13,6
4
18,1
9,8
10,1
31,9
12,6
9,4
12,2
20,4

8,8
4,1
19,5
33,6
13
7,6
12,9
8,2
7,1
1,4
12,5
4,5
12,1
9,1
4,9
0

4,3
9
3,1
11,4
14,7
18,7
18,1
17,9
3,2
14,2
15,8
4,1
20
16,5
19
5,3

4,7
3,7
3,6
2
2,3
4,6
2,1
20
17
20
0
3,6
19,7
2,8
20
19,3

19,1
18,4
20
4,4
20
20
20
9,2
20
20
18,9
20
19,5
20
14,8
1,9

17,7
3,1
29,5
25,2
18,6
0
6,8
23,4
6,2
50,8
29
27,1
23,6
12,8
14,5
8,7

16,5
23,7
9,3
11,3
33,3
60
14,1
9
6,9
12,5
2,5
11,1
5,1
20
14,6
9,2

12,3
5,3
17,7
1,5
18,5
19,8
20
20
3,3
18,4
2,4
8
18,2
9
19,6
18,7

20
4,5
18,5
14,8
16,7
1,2
19,6
2,6
22,3
28,4
22,2
0,5
4,9
28
4,3
30

29,2
28,2
30
10,9
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6,1
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21,4
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16,5
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7,1

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17,1

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24,6
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13,1
25,2

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24,5
19,5
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19
7,3

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11,3
3