ROYAL SOCIETY OF CHEMISTRY

Chemistry for All

Reducing inequalities in chemistry aspirations and attitudes

Supplementary material

UCL Institute of Education

- A a a c e ec d A e e

Sig le i em h a ed f ci ce a Yea Yea Yea d chemi a Yea Yea
l d c e d ci ce a A le el e i al

	ec						ec						B c c l b e					
	Cl a		C A e		D ece		Cl a		C A e		D ece		Cl a		C A e		D ece	
		SD		SD	D	S -		SD		SD	D	S -		SD		SD	D	S -
Yea																		
Yea																		
Yea																		
Yea						-//-												-//-
Yea						-//-											/	-//

N e The able h he mea M he a e age d da d de ia i SD he e f di e i a d he mea ge he i h he ma de D C he D d ig fica ce Sig al e f he diffe ce ac g

Re ea ed mea e m del g

Y ge c h e ea ed mea e m del g ime g amme F hi eflec diffe a e f cha ge ac he g f da ac ime

Olde c h e ea ed mea e m del g ime g amme F hi eflec imila a e f cha ge ac he g f da ac ime

B h c h e ea ed mea e m del g ime g amme F hi eflec diffe a e f cha ge ac he g f da ac ime

- A a a c e ec d e

Sig le i em h a ed f ci ce a Yea Yea Yea d chemi a Yea Yea
l d c e d ci ce a e i

Table 1: Single item health education science

Single item health education science Yea Yea Yea and chemi a Yea Yea

The eache e cience hel me ide and he ld ide ch l

		SD		SD				SD		SD				SD		SD	
Yea																	
Yea																	
Yea																	
Yea																	
Yea																	

N The able h he mea M he a e age and ada d de ia i SD hee a f di e i a d he mea ge he i h he ma de D C ha D and igni ficance Sig r al e f he diffe ce ac g

Re ea ed mea e m del g

Y ge c h e ea ed mea e m del g ime g amme F hi eflec diffe a e f cha ge ac he g f da ac ime

Olde c h e ea ed mea e m del g ime g amme F hi eflec imila a e f cha ge ac he g f da ac ime

B h c h e ea ed mea e m del g ime g amme F hi eflec diffe a e f cha ge ac he g f da ac ime

Table 2: Average fm li lei em h a ed f cience a Yea Yea Yea and chemi a Yea Yea

Average fm li lei em h a ed f cience a Yea Yea Yea and chemi a Yea Yea

I am gi en he e la m idea

The le le l e all de ab he ic

I am l ed cla deba e di c i

I and ime he lab d g ac ical e e ime

I am all ed de ig m e e ime

The eache e cience hel me ide and he ld ide ch l

		SD		SD				SD		SD				SD		SD	
Yea																	
Yea																	
Yea																	
Yea																	
Yea																	

N The able h he mea M he a e age and ada d de ia i SD hee a f di e i a d he mea ge he i h he ma de D C ha D and igni ficance Sig r al e f he diffe ce ac g

Re ea ed mea e m del g

Y ge c h e ea ed mea e m del g ime g amme F hi eflec diffe a e f cha ge ac he g f da ac ime

Olde c h e ea ed mea e m del g ime g amme F hi eflec diffe a e f cha ge ac he g f da ac ime

B h c h e ea ed mea e m del g ime g amme F hi eflec diffe a e f cha ge ac he g f da ac ime

A a a c e ec d a

A e age f m l i le i em h a ed f ci ce a Yea Yea Yea d chemi a Yea Yea

l a d c e d ci ce a A le el e i al

l a d c e d ci ce a e i

N ld like a j b ha cl de ci ce h g

b e e e a e a e e ea c a e

- - - A a a c e c e c d . . A e e .

Single i em h a ed f cie ce a Yea Yea Yea and chemi a Yea Yea
l and c e d cie ce a A le el e i ale

b e e e e a e a e e ea - . c a e

+ e	A . e .						A e e a ea . e a æ . . e e .				A e e l e a e a æ . . e e .			
	C l a . e .		C e . A		D e e c e c l a . e .		C e A a e e a ea . e a æ . . e e .		D e e c e c l a . e .		C e A a e e l e a e a æ . . e e .		D e e c e c l a . e .	
		SD		SD	D	S - .		SD	D	S - .		SD	D	S - .
Yea														

- A a a c e ec d e

S gle i em h a ed f cie ce a Yea Yea Yea a d chemi a Yea Yea
l ed d c e d cie ce a e i

b e e e a e a e e ea - c a e

t e	A e						A e e a ea e a æ e e				A e e l e a e a æ e e			
	C l a e		C d e A		D e e c e c l a e		C d A e a e e a ea e a æ e e		D e e c e c l a e		C d A e a e e l e a e a æ e e		D e e c e c l a e	
		SD		SD	D	S -		SD	D	S -		SD	D	S -
Yea														
Yea														
Yea									-	-/			;	-/-
Yea					;	-/-			; -	-/-			;	-/-
Yea					;	-/-			; -	-/-			; -	-/-

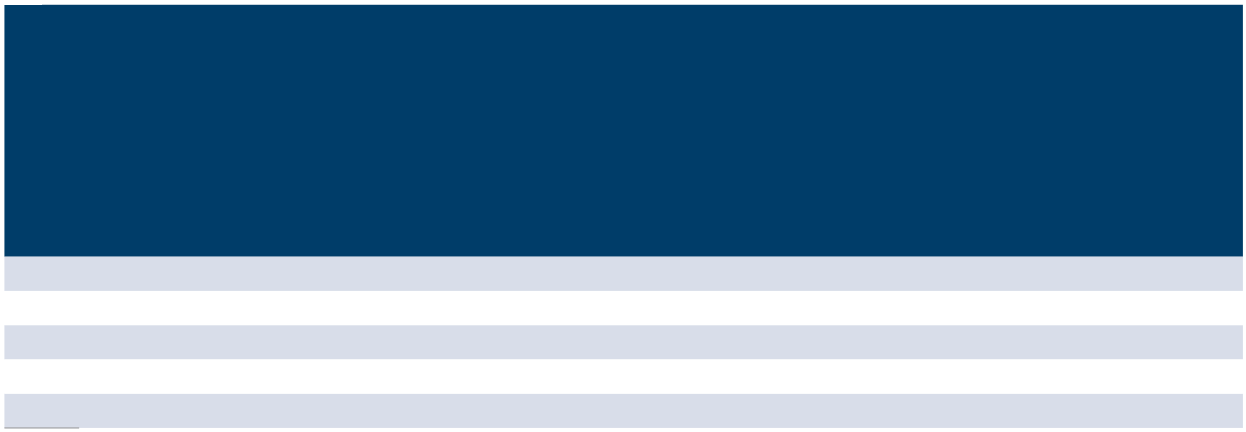
Y ge c h e ea ed mea e m del g ime g amme . F
Y ge c h e ea ed mea e m del g ime a ded a lea e i alac i i /e d . F
Y ge c h e ea ed mea e m del g ime a ded m e h e i alac i i /e d . F

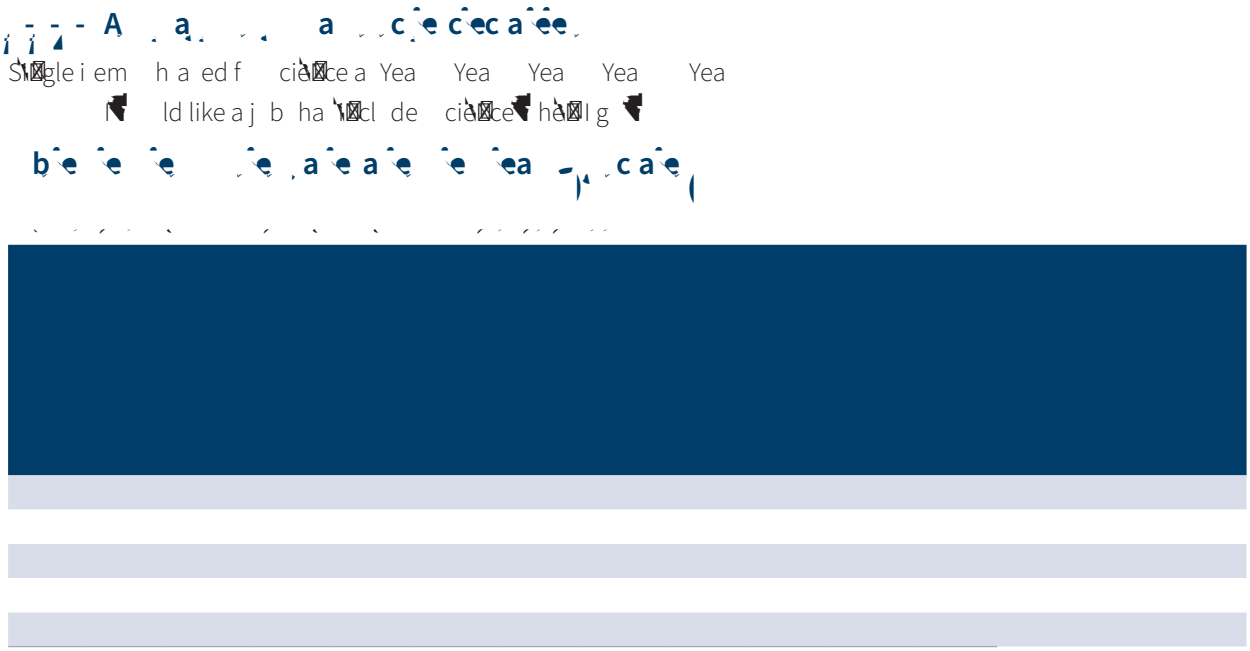
- - A a a c e c ec d . c a ee

Single i em h a ed f cie ce a Yea Yea Yea and chemi a Yea Yea

ld like a j b ha cl de cie ce h g

b e e e a e a e ea c a e





i i - a e c e c ec d c e

A e age f m l i le i em h a ed f cie ce a Yea Yea Yea ad chemi a Yea Yea

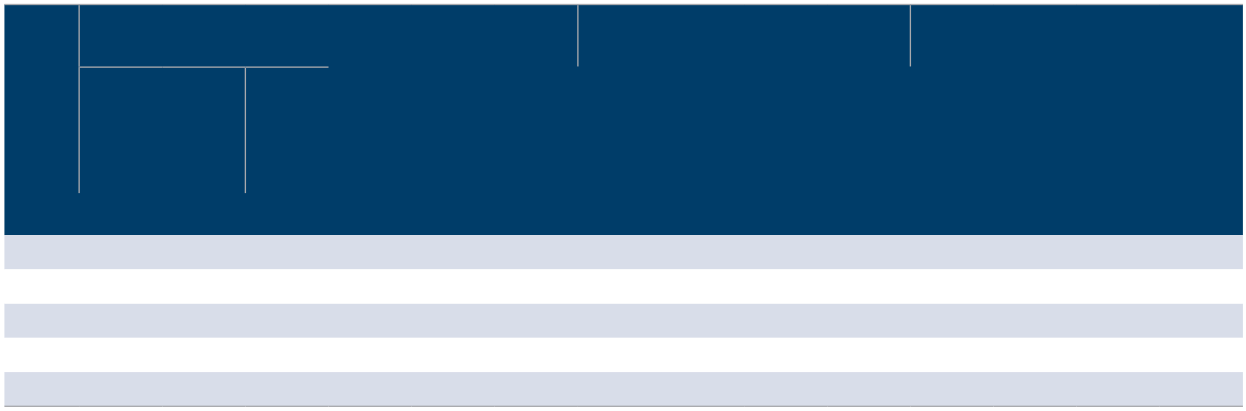
Ad a ce cie ce a d ech l g all im e e le li g c di i

Scie ce i im a f hel g de a d he a a ld

I ill e cie ce m a a h l am a ad l

Scie ce i al able cie

b e e a e a e ea c a e



A e age f m l i le i em h a ed f ci ce a Yea Yea Yea a d chemi a Yea Yea

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
A i a i [illegible] a d ci[illegible]ce/chemi all	-/1,		
A i a i [illegible] a d ci[illegible]ce/chemi . A Le el d [illegible]g	-/-,		
A i a i [illegible] a d ci[illegible]ce/chemi . [illegible] e i d [illegible]g			
A i a i [illegible] a d ci[illegible]ce/chemi . ca ee	-/1,		-/-
A i a i [illegible] a d ci[illegible]ce ca ee	-/1,		-/,
Pe cei ed ili f ci[illegible]ce/chemi	-/, /		
[illegible]e e [illegible] ci[illegible]ce/chemi	-/1		
Self c[illegible]fid[illegible]ce[illegible] ci[illegible]ce/chemi			
Val e f ci[illegible]ce/chemi cie	-/-	-/1	-/-,
Teach[illegible]g/lea[illegible]g e ie[illegible]ce [illegible]e ac i[illegible]/deba e/di c i[illegible]	-/1,		
Teach[illegible]g/lea[illegible]g e ie[illegible]ce . ac ical/e e im[illegible]al			
Teach[illegible]g/lea[illegible]g e ie[illegible]ce . ele [illegible]ce/a lica i[illegible]	-/-,		
Teach[illegible]g [illegible]d lea[illegible]g e ie[illegible]ce all	-/1,		
Pe ce i[illegible] f eache	-/1-		
[illegible]c agem[illegible] d ci[illegible]ce/chemi			
H me f ci[illegible]ce/chemi achie em[illegible]			
E a c ic la [illegible]gagem[illegible] i h ci[illegible]ce/chemi			
[illegible]c agem[illegible] / ha ed e a c ic la [illegible]gagem[illegible]			

N e . The able h [illegible] he i[illegible]fic[illegible]ce al e f he[illegible] e ac i[illegible] f ime g amme g[illegible]de f m e ea ed mea e m del[illegible]g i[illegible]fic[illegible] [illegible] e ac i[illegible] eflec diffe [illegible] a e[illegible] f ch[illegible]ge ac Chemi f All [illegible]d c m a i [illegible] d[illegible] ac ime ac g[illegible]de

A a a c e c d a

A e age f m l i le i em h a ed f ci e a Yea Yea Yea a d chemi a Yea Yea
l a d c e d ci ce a A le el e i al e
l a d c e d ci ce a e i

A e age f m l i le i em h a ed f ci Yea Yea Yea a chemi a Yea Yea
Il k f a d m ci le
l j d g ci ce
Sci ce i a e e g bjec

Se c e c ec d

A e age f m l i le i em h a ed f ci e a Yea Yea Yea d chemi a Yea Yea

I am g d a ci ce
Id ell ci ce e
Id eed hel i h ci ce
Whe I am d g ci ce I a a ha I am d g
Id be e ci ce ha m e le m cla
Im ce a I ca fig e h d he m di ic l ci ce a k cla e
I am able lea ci ce ickl

b e e a e ea c a e

	Cl a						Cd A e					
	G		B		D e e ce		G		B		D e e ce	
		SD		SD	D	S -		SD		SD	D	S -
Yea						-/ /-						-/ /-
Yea						-/ /-						-/ /-
Yea						-/ /-						-/ /-
Yea						-/ /-						-/ /-
Yea						-/ /-						-/ /-

N e The able h he mea M he a e age a d a da d de ia i SD he e a f di e i a d he mea ge he i h he mag de D C he D a d ig ficа ce Sig al e f he diffe a ce ac g
Re ea ed mea e m del g ime g amme ge de F

	Cl a						Cd A e					
	G		B		D e e ce		G		B		D e e ce	
		SD		SD	D	S -		SD		SD	D	S -
Yea												-/ /-
Yea						-/						-/ /-
Yea						-/ /-						-/ /-
Yea												-/ /-

N e The able h he mea M he a e age a d a da d de ia i SD he e a f di e i a d he mea ge he i h he mag de D C he D a d ig ficа ce Sig al e f he diffe a ce ac g

A e age f m l i le i em h a ed f cie ce a Yea Yea Yea d chemi a Yea Yea

I am gi he e la m idea

The le l e all de ab he ic

I am l ed cla deba e di c i

Yea													
Yea													
Yea													
Yea													
Yea													

N e The able h he mea M he a e age d da d de ia i SD he e f di e i a d he mea ge he i h he ma de D C h D d i ficace Sig al e f he diffe ce ac g

Re ea ed mea e m dell g ime g amme ge de F

Yea													
Yea													
Yea													
Yea													

N e The able h he mea M he a e age d da d de ia i SD he e f di e i a d he mea ge he i h he ma de D C h D d i ficace Sig al e f he diffe ce ac g

Re ea ed mea e m dell g ime g amme ge de F

Ì ¬ -- - ¬ æ . a ea . e e e c e . æ . c a e e l e . a

A e age f m l i le i em h a ed f cie ce a Yea Yea Yea a d chemi a Yea Yea

I a d ime he lab d g ac ical e e ime

I am all ed de ig m e e ime

b e e e . e . a e a e e ea - . c a e (

i - ac a ea e e c e a

A e age f m l i le i em h a ed f ci ce a Yea Yea Yea d chemi a Yea Yea

I am gi he e la m idea

The le l e all de ab he ic

I am l ed cla deba e di c i

I d ime he lab d g ac ical e e ima

I am all ed de ig m e e ima

The eache e ci ce hel me de d he ld ide ch l

b e e a e e ea - c a e

Yea												

[illegible]

A e age f m l i le i em h a ed f ci ce a Yea Yea Yea a d chemi a Yea Yea

I like m ci ce eache

M ci ce eache belie e ha all de ca lea ci ce

M ci ce eache i e e ed me a a e

M ci ce eache ea all de he ame ega dle f h ell he ca d ci ce

M ci ce eache i g d a e la g ci ce

[illegible]

-Ec a c

Sig le i em h a ed f cie ce a Yea Yea Yea a d chemi a Yea Yea
S me m famil h k ha l h ld c e i h cie ce a e m GCSE

b a ea ca

	Cl a						Cd A					
	G		B		D ece		G		B		D ece	
		SD		SD	D	S -		SD		SD	D	S -
Yea												-/
Yea												
Yea						-/						-/
Yea												
Yea						-/						

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]				[illegible]	
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]						
	[illegible]						
	[illegible]						
	[illegible]						
[illegible]	[illegible]						
	[illegible]						
	[illegible]						
	[illegible]						
[illegible]	[illegible]						
	[illegible]						
	[illegible]						
	[illegible]						
[illegible]	[illegible]						
	[illegible]						
	[illegible]						
	[illegible]						
[illegible]	[illegible]						
	[illegible]						
	[illegible]						
	[illegible]						

[illegible]

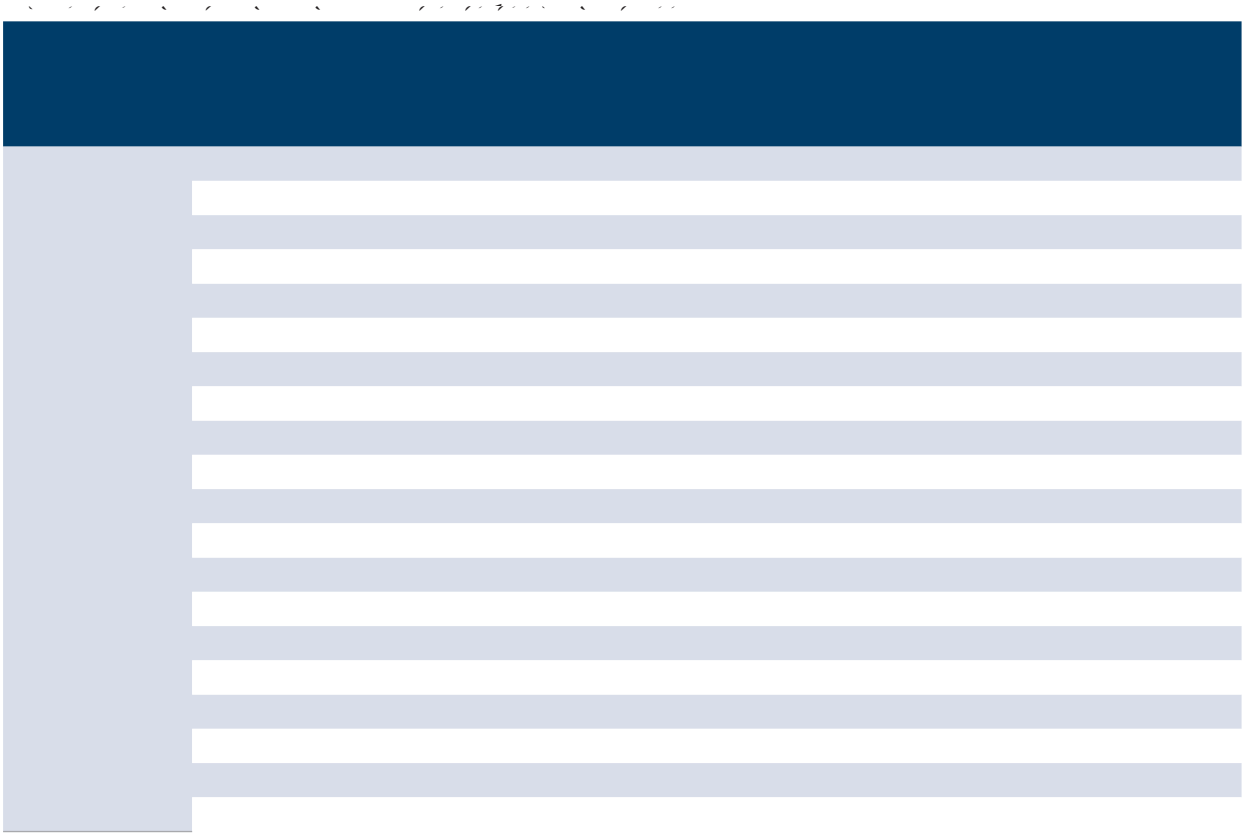
ca	Ca e	e				D e ce. cl a	
		S D a ee	D a ee	A ee	S A ee		S
A iai\ ad cià ce/chemi A Le el d\ g Yea	C m ai\ dà						
	Chemi f All dà					-/ .	-/--
	a à ded a lea \ e i\ ale à					-/	-//
	a à ded m e hà \ e i\ ale à					-/	-/-/
A iai\ ad cià ce/chemi A Le el d\ g Yea	C m ai\ dà						
	Chemi f All dà						
	a à ded a lea \ e i\ ale à					-/	-//
	a à ded m e hà \ e i\ ale à					-/	-/-
A iai\ ad cià ce/chemi A Le el d\ g Yea	C m ai\ dà						
	Chemi f All dà						
	a à ded a lea \ e i\ ale à					-/	-//
	a à ded m e hà \ e i\ ale à					-/	-//
A iai\ ad cià ce/chemi A Le el d\ g Yea	C m ai\ dà						
	Chemi f All dà					-/	-/
	a à ded a lea \ e i\ ale à					-/	-/-
	a à ded m e hà \ e i\ ale à					-/	-//

N e Re l f m he lde c h f dà r he able h he e cà age e e \ e ca eg e e i\ ai e iem The ma à de V r C ame V à d ig ficà ce Sig r al e f he diffe à ce be ee à he c m ai\ dà à d he Chemi f All dà a eal h \

- B c

	Ca e	S D a ee	D a ee	A ee	S A ee	D ee ce c l a
	C m a i \ dà					
	Chemi f All dà a à ded m e hà \ e i \ ale à					
	C m a i \ dà Chemi f All dà a à ded a lea \ e i \ ale à a à ded m e hà \ e i \ ale à					-/ /- -/ /-
	C m a i \ dà Chemi f All dà a à ded a lea \ e i \ ale à a à ded m e hà \ e i \ ale à					-/ /- -/ /- -/ /-
	C m a i \ dà Chemi f All dà a à ded a lea \ e i \ ale à a à ded m e hà \ e i \ ale à					-/ /- -/ /- -/ /-

N e Re l f mb h c h c mb ed he able h he e cà age e e e ca eg e e i ai e i em The ma de V Came V d i ficà ce Sig al e f he diffe à ce be ee à he c m a i \ dà à d he Chemi f All dà a e al h



3. Students' likes and dislikes about science/chemistry

e c

C ide g he lde c h f da ac Yea Yea Yea ad Yea ac m a g da i h
ch l ha ecei ed he Chemi f All g amme ad da i h he ch l he m e ala heme
f Wha h g d like ab cia ce/chemi a ch l e e he f ll g

E e ima al ad/ ac ical k ce ac Yea Yea Yea ad Yea f all
e e

Ma i g a ic la cia ce ic ac all cia ce bjec ce

F ej ma ad/ e e ce

Teache be g g d ba eficial ad/ i i el e cei ed ac all a ec ked i h eache
cl dg eache facili a g de ad dg ad ej ma ce

Lea g e hg ce

Lea g ma hg ad/ a a ie f hg ce

Lea g ab ele a hg ce

Ca e	Cl a			
	ea	ea	ea /	ea --
E e im al d/ ac ical k				
M i g a ic la ci ce ic				
F m d/ e e				
Teache				

a eab c ec ec d a c

e c

C ide g he ge c h f da ac Yea Yea Yea Yea ad Yea ac m a g da i h ch l ha ecei ed he Chemi f All g amme ad da i h he ch l he m e al heme f Wha h g d like ab ci ce/chemi a ch l e e he f ll g

W i g i h each g/lea g ce ac Yea Yea Yea Yea ad Yea f all e e

Self c fida ce ela ed a ec ac /all a ec ce Thi ca eg c m a ed da ma c e g ha ci ce/chemi a ha d di jc l c m le c f g ad/ ha d de ad

B ed m j ma ad/ di e e ce

Teache be g e cei ed ega i el ac /all a ec ela ed eache ce Thi ca eg c m a ed e ce i f eache ad/ hei eachg gade al eache be g e cei ed a id g eache be g e cei ed a facili a g de dchg ad/ a j ma ce f l eache ad/ ma cha ge f eache ad eache c l g cla beha i

N d g m e e e ima al ad/ ac ical k ce

Ma i g a ic la ci ce ic ac all ci ce bjec ce Thi ca eg a f med f m da ma i g a ic la ic ad/ a ea i h ci ce

E e h g ad/ ha ci ce/chemi a ga e all e cei ed ega i el i h f he de ail be g ided ce Thi ca eg c m a ed da li e all e e g e e h g ha ci ce/chemi a g d ad he e i al ie

Te i e ad e am a i i h eachg/lea g ce

V l me f k i h eachg/lea g ce

Pee be g blema ic a h gh di i e beha i ce

E a i f m lae ad mb l ce

D g e e ima al ad/ ac ical k ce

Te b k i h eachg/lea g ce

W i g e e ima ce

H e e me da highligh ed i h hi e i ha h g a di liked ad/ ha ci ce/chemi a e cei ed i i el ce ac Yea Yea Yea Yea f all e e

Ca e	A e C l a e a C d A e				
	ea	ea	ea	ea /	ea
W i g					
Self c fida ce ela ed a ec					
B ed m f di e e					
E e h g					
Ma i g a ic la ci ce ic					
Teache					
N d g m e ac ical k					
Te i e ad e am a i					
E a i f m lae mb l					

Ca e . d e	C l a . . e .				
	ea	ea .	ea .	ea -/	ea --
W i g					
Self c fid ce ela ed a ec					
B ed m f di e e					
E e h g					
Ma i g a ic la ci ce ic					
Teache					
N d g m e ac ical k					
Te i e d e am a i					
E a i f m lae mb l					
V l me f k					
Pee be g di i e					
D g ac ical k					
Te b k					
Mem i a i / emembe g					

N e The able h he e ca age f ided e e ca eg / heme e m e ca eg ie ma ha e a lied e e he e ed e ca age ma m m e h e ea

C ide g he lde c h f da ac Yea Yea Yea ad Yea ac m a g da i h
ch l ha ecei ed he Chemi f All g amme ad da i h he ch l he m e ale heme
f Wha h g d like ab cie ce/chemi a ch l e e he f ll g

W i g i h each g/lea g ce ac Yea Yea Yea ad Yea f all
e e

Self c fida ce ela ed a ec ac a /all a ec ce Thi ca eg ac m a ed
da ma c e g ha cie ce/chemi a ha d di c l c m le c f g ad/ ha d
de ad

Ma i g a ic la cie ce ic ac all cie ce bjec ce Thi ca eg a
f med f m da ma i g a ic la ic ad/ a ea i h cie ce

B ed m aj ma ad/ di e e ce

E e h g ad/ ha cie ce/chemi a ga e all e cei ed ega i el i h f he de ail be g

- B c

C ide g b h c h f d c mb ed ac Yea Yea Yea d Yea c m a g d i h ch l ha ecei ed he Chemi f All g amme d d i h he ch l he m e al heme f Wha h g d like ab ci ce/chemi a ch l e e he f ll g

W i g i h each g/lea g ce ac Yea Yea Yea d Yea f all e e

Self c fid ce ela ed a ec ac /all a ec ce Thi ca eg c m a ed d ma c e g ha ci ce/chemi a ha d di c l c m le c f g d/ ha d de d

B ed m m j m d/ di e e ce

E e h g d/ ha ci ce/chemi a ga e all e cei ed ega i el i h f he de ail be g ided ce Thi ca eg c m a ed d li e all e e g e e h g ha ci ce/chemi a g d d he e i al ie

M i g a ic la ci ce ic ac all ci ce bjec ce Thi ca eg a f med f m d m i g a ic la ic d/ a ea i h ci ce

Teache be g e cei ed ega i el ac /all a ec ela ed eache ce

N d g m e e ime al d/ ac ical k ce

Te i e d e am a i h each g/lea g ce