

Vertical Grouping and the Student Sorting Kit

Every year we receive several requests for advice about how to use the Sorting Kit to create vertical tutor groups across the whole school. The following example is designed to help you with this process:

Scenario

The school's current pastoral structure has Years 7 to 13, each year group containing 8 tutor groups. The Head wished to create a vertical structure containing 56 tutor groups where each tutor group has:

- A gender balance
- An age balance
- An ethnic balance
- An ability balance
- An attitude balance

Procedure

First set up your Student Sorting Kit Factors sheet.

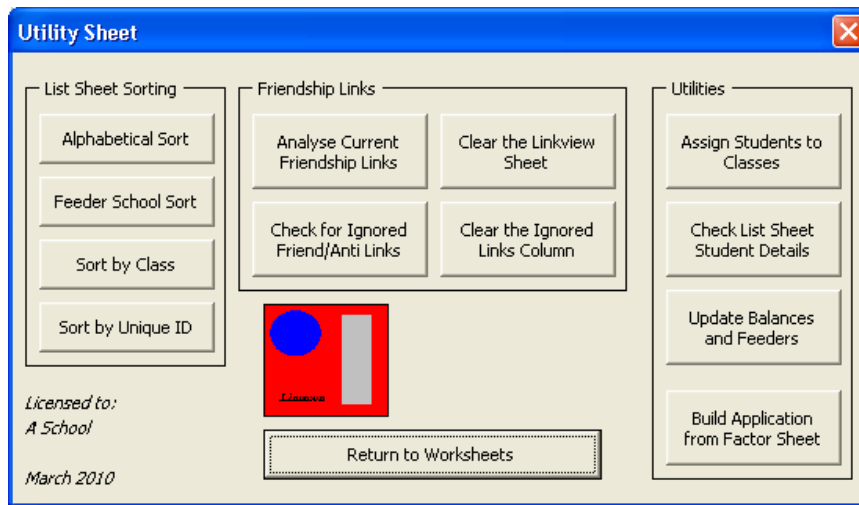
Microsoft Excel - Student Sorting Kit 2010.xls									
Type a question for help									
File Edit View Insert Format Tools Data Window Help Adobe PDF									
A1 Max Classes =									
A	B	C	D	E	F	G	H	I	J
1	Max Classes =	56	min=2, max=70	Student Weight =	1	min=1, max=10	Friend Cols =	2	min=1, max=20
2	Link Method =	Unique ID		Restrict Cols =	2	min=1, max=20	Anti Cols =	2	min=1, max=20
3	Don't forget to press the "Build" button on the Utilities sheet after you have finished here								
4	Factor 1			Factor 2			Factor 3		
5	Status	On		Status	On		Status	On	
6	Name	Gender		Name	Year		Name	Ethnicity	
7	Entry Type	Text		Entry Type	Integer		Entry Type	Text	
8	Balance Others?	No		Balance Others?	No		Balance Others?	No	
9		Text	Weight (0-10)		Integer	Weight (0-10)		Text	
10	Category 1	M	2	Category 1	7	1	Category 1	B	
11	Category 2	F	2	Category 2	8	1	Category 2	W	
12	Category 3			Category 3	9	1	Category 3	A	
13	Category 4			Category 4	10	1	Category 4	M	
14	Category 5			Category 5	11	1	Category 5	O	
15	Category 6			Category 6	12	1	Category 6		
16	Category 7			Category 7	13	1	Category 7		
17	Category 8			Category 8			Category 8		
18	Category 9			Category 9			Category 9		
19	Category 10			Category 10			Category 10		
20	Category 11			Category 11			Category 11		
21	Category 12			Category 12			Category 12		
22	Category 13			Category 13			Category 13		
23	Category 14			Category 14			Category 14		
24	Category 15			Category 15			Category 15		
25	Category 16			Category 16			Category 16		
26	Category 17			Category 17			Category 17		
27	Category 18			Category 18			Category 18		
28	Category 19			Category 19			Category 19		
29	Category 20			Category 20			Category 20		
30	Combinations with Factor 1			Combinations with Factor 2			Combinations with Factor 3		
31	Name	Formula	Weight (0-10)	Name	Formula	Weight (0-10)	Name	Formula	Weight (0-10)
32	Extra 1			Extra 1			Extra 1		

- Set the Max Classes to 56
- Set the Link Method to Unique ID (much easier with large numbers of students)
- Set the Friend and Anti columns to 2 (to tie students together or force them apart)
- Set the first factor to Gender (Text) with categories M and F. Give them a weight of 2 because they're more important than the other factors
- Set the second factor to Year (Integer) with categories 7,8,9,10,11,12,13 and weights 1
- Set the third factor to Ethnicity (Text) with categories B,W,A,M,O and weights 1
- Set the fourth factor to Ability (Integer) with factors 1,2,3,4,5 and weights 1

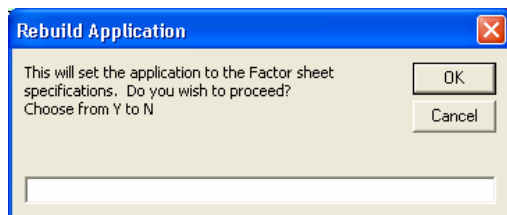
- Set the final factor to Attitude (Text) with categories A,B,C and weights 1

Make sure that all other factors are turned off.

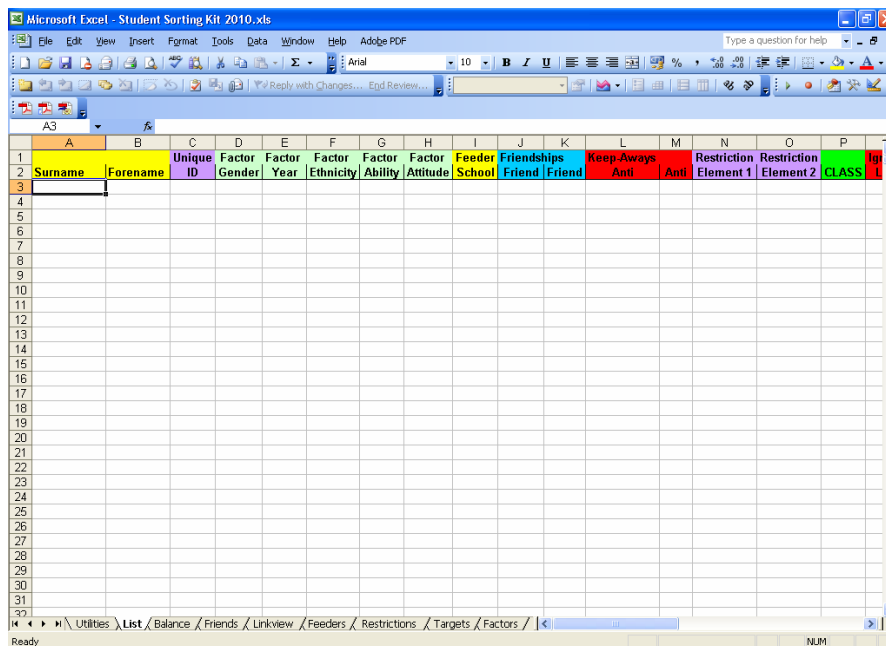
Click the Utilities sheet



Press the button “Build Application from Factor Sheet”. The following question will appear.



Answer the warning with a “Y” to proceed.



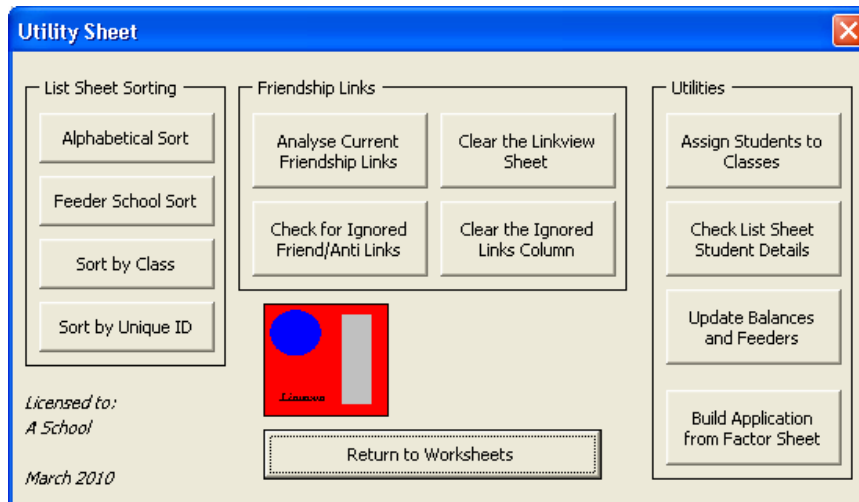
You will see that all the columns you want are now available on the List sheet.

Now collect all your student information together (make use of your school's student database) and copy it into the List sheet.

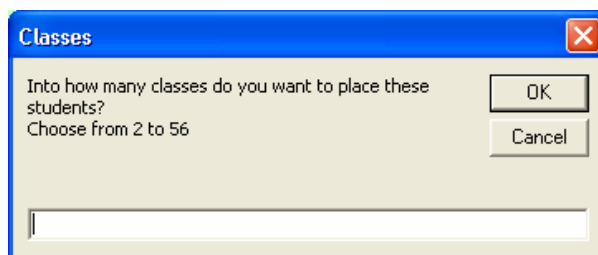
	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Surname	Forename	Unique ID	Factor Gender	Factor Year	Factor Ethnicity	Factor Ability	Factor Attitude	Feeder School	Friendships Friend	Friendships Friend	Keep-Aways Anti	Keep-Aways Anti
3	Abaide	A	11503	M	11	A	5	A					
4	Abdi	B	11270	M	13	A	1	B					
5	Abdi	C	11267	F	13	B	5	A					
6	Abeng	B	11059	M	12	W	2	C					
7	Abid	R	12372	M	7	M	4	B					
8	Abidoye	I	12014	M	9	O	2	C					
9	Abidoye	M	12015	M	8	A	2	A					
10	Aborah	F	12623	F	13	O	3	C					
11	Aborah	M	12622	M	10	O	2	A					
12	Abraham	R	12807	M	9	O	1	B					
13	Abraham	T	12808	F	12	O	3	B					
14	Abresham	S	11748	F	12	O	1	C					
15	Adan	F	11698	M	13	A	5	A					
16	Adan	T	11389	M	8	A	4	B					
17	Adeeko	L	12583	M	10	A	3	B					
18	Adeeko	M	12582	M	9	A	3	A					
19	Adelodun	H	10797	F	7	A	4	B					
20	Adelodun	H	10785	M	9	O	4	A					
21	Ademokun	Z	12874	M	13	O	4	C					
22	Aden	H	10810	F	10	O	5	B					
23	Adjei	A	11222	F	8	B	2	A					
24	Adjei	J	11224	F	7	B	4	A					

Note the use of the students' admissions numbers for the Unique ID. If you wish to add friendships or keep-aways, you can do so using the Unique IDs.

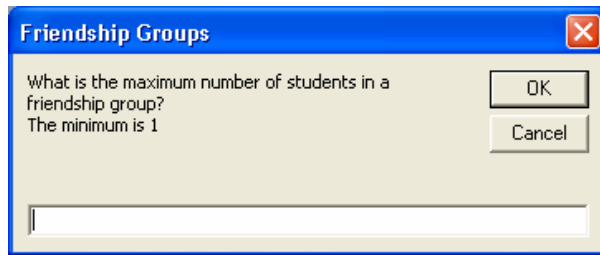
When you are sure you have input all the necessary information into the List sheet, click the Utilities sheet again.



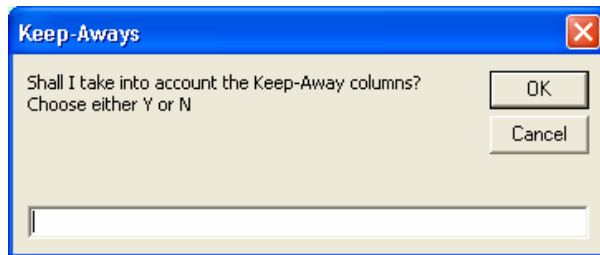
This time, press the "Assign Students to Classes" button.



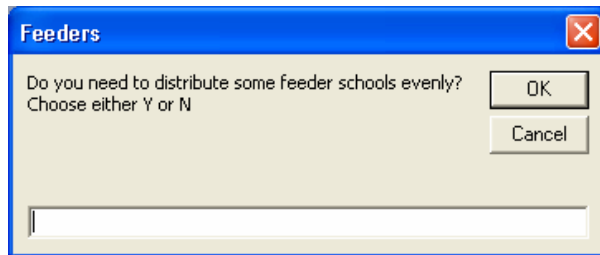
Choose 56 and press OK



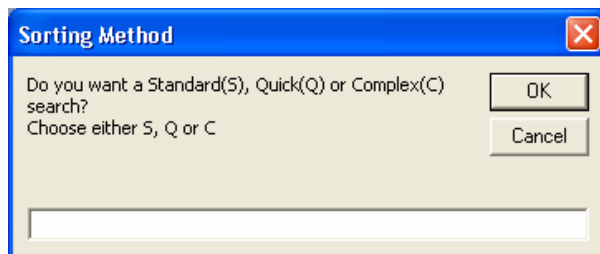
If you don't want to link friends, choose 1, otherwise choose a number which suites you.



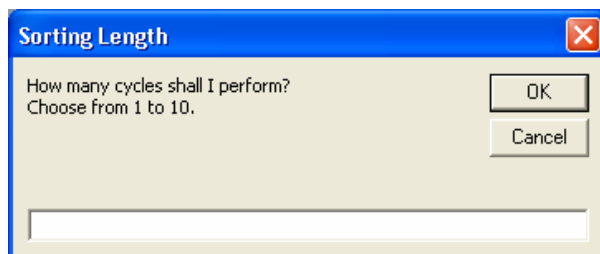
If you have named some keep-aways, choose Y, otherwise choose N.



Choose N



We recommend choosing S at first



We recommend you choose 1 at first because, with the large number of students, the process may take some time. You can always run the routine again with more cycles once you have found out how long one cycle takes.

The time taken to run the routine depends on your choices and the speed of your computer. I have just run this exact routine for one cycle on a fairly new computer and it took just over two minutes to finish.

You'll now see that the List sheet has been sorted into class order. Select the Balance sheet. Hopefully it will look something like this:

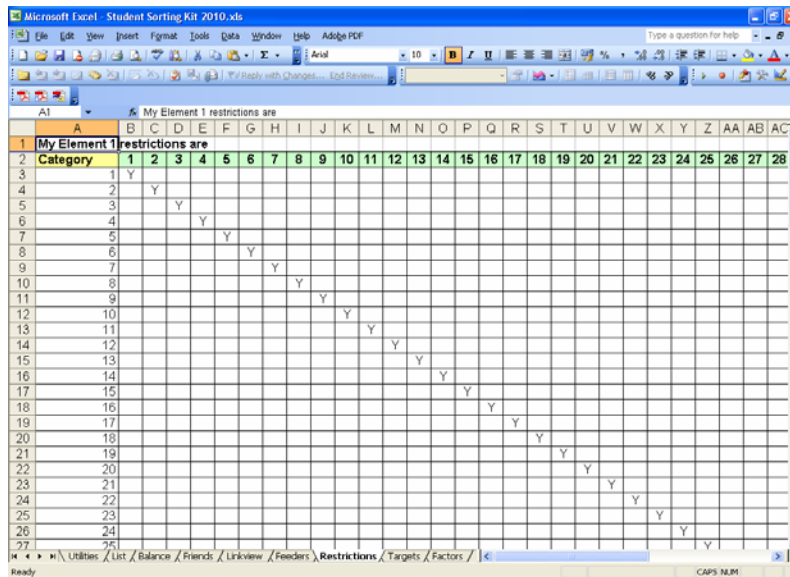
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Students	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
2	Students	29	30	29	29	30	29	29	29	29	29	29	29	29	29	29	29	30	29
3																			
4	Gender	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
5	M	15	16	16	16	16	16	15	16	16	16	16	15	16	16	16	15	16	16
6	F	14	14	13	13	14	13	14	13	13	13	13	14	13	13	13	14	14	14
7	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8																			
9	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
10	7	4	5	4	4	4	4	5	4	4	4	4	5	5	4	4	5	4	4
11	8	4	5	5	4	5	4	4	4	4	4	4	5	5	5	5	4	5	4
12	9	5	4	4	5	4	5	4	4	4	4	5	4	4	5	5	4	4	5
13	10	5	5	5	4	4	4	4	4	5	5	5	4	4	4	4	4	5	5
14	11	4	4	4	5	5	4	5	4	4	4	4	4	4	4	4	4	4	4
15	12	3	4	4	4	4	4	4	4	5	4	3	4	4	4	4	4	4	4
16	13	4	3	3	3	4	4	3	5	3	4	3	3	3	3	3	3	3	4
17	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18																			
19	Ethnicity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
20	B	3	3	3	3	4	3	4	3	3	4	3	3	3	3	4	3	3	4
21	W	5	5	5	5	5	5	5	5	5	6	4	5	5	5	5	5	5	5
22	A	17	18	17	17	18	17	17	18	18	17	17	17	17	18	17	18	18	18
23	M	1	1	1	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1
24	O	3	3	3	3	2	2	2	2	2	2	2	3	3	2	2	2	3	2
25	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26																			
27	Ability	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
28	Ability	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Note the following points:

- There are either 29 or 30 in a tutor group
- In this school there are more boys than girls so a typical distribution is 16,14
- Students from each Year Group have been distributed evenly
- Students from each ethnicity have been distributed evenly
- And so on....

Other Requirements

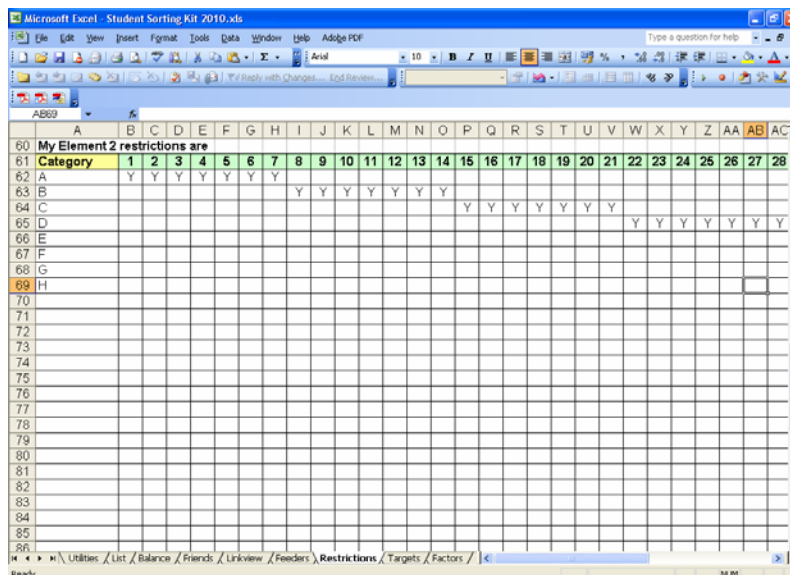
If you want to “pin” certain students to particular classes, you can do so using the Restrictions sheet.



Category	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	Y																											
2		Y																										
3			Y																									
4				Y																								
5					Y																							
6						Y																						
7							Y																					
8								Y																				
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24																								Y				
25																									Y			
26																										Y		
27																											Y	
28																												Y

In the above diagram Categories 1 to 28 have been declared so that if, for example, a student has a “15” in his first Restriction Column, then this student will be automatically placed in Class 15 when the Assign routine is run.

If you have a House system, you may wish to restrict the Houses to particular tutor groups. This is also solved using the Restriction sheet.



Category	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
A	Y	Y	Y	Y	Y	Y	Y																					
B								Y	Y	Y	Y	Y	Y	Y														
C															Y	Y	Y	Y	Y	Y	Y							
D																						Y	Y	Y	Y	Y	Y	Y
E																												
F																												
G																												
H																												

In the above diagram Categories A to H have been used on the second restriction table to represent membership of a House. House A students can be placed in classes 1 to 7, House B students can be placed in Classes 8 to 14 etc...

This means that a student who has the letter B in their second restriction column must be placed in any class from 8 to 14.