

Using *Options* in Scotland

The essential reference before using *Options* in any school is the orange *Options Handbook*, especially pages 14 – 54.

You can download a PDF of the latest version by going to the [Support Centre](#) and typing **Handbook** in the Search Box.

But there are some aspects of *Options* which have a different significance in Scottish schools and this document discusses these extra ideas.

If you are responsible for doing the timetable, then please also read the 16 documents about Scottish timetabling in the KnowledgeBase in the Support Centre.

You can find these PDFs in the [Support Centre](#) by typing **Scotland** in the Search Box.

They are also listed at: www.timetabler.com/scotland

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Extra Notes to consider, in addition to the *Options Handbook*

1. Speed

Schools in Scotland tend to have bigger **Options** Patterns, with much bigger columns/blocks, especially if you have a Joint S4/5/6, in a large school.

You may also have more columns (especially if the Core subjects are included within the columns).

The result is that the processing time may be much longer than for other schools.

You may have to leave the program running overnight or even longer. The software will be doing a truly enormous amount of work.

At Design a Pattern -> Auto-Create -> Customize you have some control over the length of time.

For initial runs you can use the fastest settings (below) knowing that they may not find all solutions.

Then when you think you are close to a good pattern you can switch to a better setting and run it again, taking more time.

Search with this Scanning method:

Scanning method:

1. Thorough scan for 4 solutions
2. Thorough scan for 1 solution
3. Brief scan for 1 solution
4. Feasibility scan (no group limits)

Method 3 "Brief scan for 1 solution" is the quickest here, if you are doing trial runs.

For a final run choose Method 1 "Thorough scan for 4 solutions".

Search with this Scanning method:

Depth of Search:

1. Shallow (half the standard time)
2. Standard
3. Deep (double the standard time)
4. Take Shortcuts (for big populations)
5. Take further Shortcuts

Method 5 "Take further Shortcuts" is the fastest if you are doing trial runs. Or use Method 4.

For a final run choose Method 2 "Standard". Or Method 3.

Search with this Scanning method:

Speed of Search:

1. Default (recommended)
2. Full search (but may take some time)
3. Faster (but may not find all the solutions)

Method 3 "Faster but may not find all the solutions" is the fastest if you are doing trial runs. Or use Method 1.

For a final run choose Method 1, the default.

On the same screen, at 'Max group sizes', you can choose from:

1. Apply loosely & use own judgement later ✓
2. Apply strictly
3. Allow up to +10%
4. Allow up to +20%

We *strongly* recommend that you only use 1. "**Apply loosely**".

Although the other choices are there because of the WishList system that we run, they cannot be justified educationally !

Reason: If you use any of 2, 3, 4 then some pupils are being excluded from groups by the computer, without any valid evidence for who should be excluded.

It is much better to use Method 1 "**Apply loosely**" and then if a group is bigger than is wished, make a human decision about how big the group can be and who should (not) be in it, based on:

- the characteristics and behaviour of this group of students,
- the recommendation of the Head of Subject,
- the ability and experience of the group's Teacher,
- perhaps truancy and other factors.

2. Core subjects and using Rules

The examples in the **Options** Handbook do not include the Core subjects (of Maths, English, Science) because in most schools using **Options** these Core subjects (being compulsory) are treated separately and scheduled within their own Blocks.

However in Scotland most schools include the Core subjects within the columns. This increases the processing time in **Options** but for saving time with the export from **TimeTabler** to SEEMiS it is best.

With care you can use Rules to guide the way that the subjects are arranged in the columns.

A.

Some schools use a Rule for AutoCreate to keep subjects to specific columns:

| Rules for AutoCreate | |
|--|----------------|
| Pattern Rules | |
| Rule | Details |
| 1 Subjects confined to specific blocks | (see the list) |

| Confine Subjects to specific Blocks | | | | | | |
|-------------------------------------|---------|---------|---------|---------|---------|---------|
| Subject | Block A | Block B | Block C | Block D | Block E | Block F |
| MATH 3 | | | X | X | X | X |
| MATH 4 | | | X | X | X | X |
| MATH 5 | | | X | X | X | X |
| MATH H | | | X | X | X | X |
| MATH52 | | | X | X | X | X |
| MATHH1 | | | X | X | X | X |
| MATHH2 | | | X | X | X | X |
| ENGL 3 | X | X | | | X | X |
| ENGL 4 | X | X | | | X | X |
| ENGL 5 | X | X | | | X | X |
| ENGL H | X | X | | | X | X |
| ENGLAH | X | X | | | X | X |
| FREN H | | | | | | |
| FREN45 | | | | | | |

In the example shown here:

- Maths groups can only be in columns A & B,
- English groups can only be in columns C & D,
- French groups can go into any column.

B.

Two Rules that are extremely useful are:

| Rule | Details |
|---|----------------------|
| 1 Limit groups-per-block for this subject | PSY H: limit = 1 |
| 2 Limit groups-per-block for this faculty | Faculty 2: limit = 4 |

| Rule Details: | |
|---------------|---|
| Rule: | Limit groups-per-block for this subject |
| Subject: | PSYCHOLOGY H (PSY H) |
| Limit: | 1 group per block |

You can limit the Number of groups in a Column either by Subject or by Faculty. See also page 6. On the first row shown here there is more than one Higher Psychology group, but only one teacher, so the Rule is set to limit this subject to only one group in any column. On the second row, Faculty 2 is English and it is limiting the number of English groups (teachers) in any column to no more than 4.

C.

A subject may be offered at more than one Level but must be taught as a single group. For example:

| Rule | Details |
|--------------------------------------|----------------|
| 1 Subjects MUST be in the same block | ARTD34, ARTD 5 |

| Rule Details: | |
|---------------|------------------------------------|
| Rule: | Subjects MUST be in the same block |
| Subject 1: | ART & DESN N3/4 (ARTD34) |
| Subject 2: | ART & DESIGN N5 (ARTD 5) |

Here, Art is offered to the pupils as 2 Subjects, at different Levels, and entered into **Options** as 2 subjects, but the 2 groups must be in the same column because they will be scheduled as single group in **TimeTabler**, with a single Teacher.

D.

If you know that the same Teacher must teach 2 subjects, uniquely, then:

| Rule | Details |
|--|----------------|
| 1 Subjects must NOT be in the same block | PHOT H, ARTDAH |

| Rule Details: | |
|---------------|--|
| Rule: | Subjects must NOT be in the same block |
| Subject 1: | PHOTOGRAPHY H (PHOT H) |
| Subject 2: | ART & DESN AD H (ARTDAH) |

The same person is due to teach these two subject groups, so they must be in different columns.

Important note :

Do **not** use Rules unnecessarily, they'll slow it down, and may prevent you from getting a solution. To see what you would get without a Rule you can:

[Suspend this rule ?](#)

or


[Suspend all](#)

3. Levels

For most subjects you have to specify not just the subject name (eg. Physics) but also the Level at which it is being taught [eg. National Level 3, 4, 5, 45 (mixed), H].

So if Physics is taught at 5 levels (say) then Physics has to be entered as 5 separate subjects.



To do this, follow these steps:

1. On the **Subjects Screen** tick 'Use Levels' to switch on Subject Levels. 

2. On that **Subjects Screen**, for each subject, use characters 1-4 of the 'subject Abbreviation' to store the subject, and then characters 5 & 6 (only) to store the Level.

So in the Physics example above, you might have subject Abbreviations like this:

| | | | | |
|--------|-----------------|----|----|---|
| Phys 3 | Physics Level 3 | 10 | 20 | 2 |
| Phys 4 | Physics Level 4 | 10 | 20 | 2 |
| Phys 5 | Physics Level 5 | 10 | 20 | 1 |
| Phys45 | Phys Levels 4+5 | 10 | 20 | 1 |
| Phys H | Physics Higher | 10 | 15 | 1 |

3. On the **Student Choices Screen**, because this method requires you to have a lot of subjects (5 for Physics alone in the example above), the screen at Students & Choices  Choices now has the option to tick 'Compact view', to make the screen display neater: 

If you do this, then all the Physics subjects above are shown as just one choice, ie. +Phys :

| | | | | |
|-------|----|----|----|----|
| Art | CD | De | Dr | Fo |
| +Phys | Sp | Te | | |

Just click in the grid to select a subject

If you click on +Phys you are asked which of the 5 Physics 'Subjects/Levels' you want to select.

| | |
|--------|-----------------|
| Phys 3 | Physics Level 3 |
| Phys 4 | Physics Level 4 |
| Phys 5 | Physics Level 5 |
| Phys45 | Phys Levels 4+5 |
| Phys H | Physics Higher |


This method makes the list of subjects manageable, even if you have a lot of subjects. You can tick/untick 'Compact view' to switch the feature on/off as you wish.

For more about arranging a subject at different Levels using a Rule, see the previous page.

4. Further Questions

1. A school in Edinburgh asked: “We have some subjects that S4 students study with S56 students but other subjects are exclusive to S56 students. How many Populations are needed in Options (one for S4 and one for S5/6 or just a single S456)?”

Because you will need to timetable the joint S4+56 groups with a single Teacher, they must be arranged to occur at the same time, so having just a single Population in **Options** is best for arranging this. You can use Rule ‘C’ on page 3 to ensure this.

- A. If you are using **Paper** to collect the pupils’ Choices, you will need to have two different Options Leaflets, for S4 and for S56, so that the pupils choose the proper subjects. And you will need to double-check this when the Choices are loaded into **Options**. You may be able to use a Choices Rule to check this, see Students & Choices Screen  Set Rules.
- B. If you’re using **TOOLS** then you could include all of the subjects for S456 on the TOOLS screen. But this will give a long list of subjects. If the Choices are being entered by your Guidance Counsellor then it shouldn’t be a problem; but if the pupils/parents are entering the data from home then they may well be confused by the long list of subjects, especially by those subjects which don’t apply to them! You may be able to reduce this confusion by choosing suitable names for the Subjects ...for example, Hist-4 and Hist56, but even then there may be difficulties if there are certain National Level and other courses that you want only open to S4.

A more complete solution is as follows: *Terry Howe writes:*

There is a relatively straightforward, if a bit lengthy, solution to this problem which provides a useful extension to the information that can generated by Options.

Note: *It is important that the same Subject Abbreviations (and Subject IDs) are maintained throughout.*

1. Create a ‘master’ population that contains ALL the S4 to S6 students and ALL the available subjects and name this something like ‘New Senior Phase’. Then:
2. **EITHER** : Clone this master population twice, and call these 2 new populations (eg.) ‘New-S4’ and ‘New-S5/6’. Then edit these new populations using the facilities within **Options** to delete the correct students and subjects.
This means that for the ‘New-S4’ population you delete all the S5/6 students and any subjects not available to S4 and then save. Similarly for the ‘New-S5/6’ population you delete all the S4 pupils and any subjects not available to S5/6 students and then save.
- OR** : Export the students and then the subjects from the ‘master’ population as csv files.
Using Excel edit these ‘master’ lists to form 4 new csv files:
(i) S4 students and (ii) S4 Subjects; (iii) S5/6 students and (iv) S5/6 Subjects.
Now within **Options** create two new populations for S4 and S5/6 (name them as above) and import the Students and Subjects for each using the appropriate files from Excel.
3. Set up two installations of **TOOLS**, one for S4 and one for S5/6.
4. When the choices have been entered by the Pupils/Parents, export from each copy of **TOOLS** and save the data in two different folders, as follows:
(a) From the S4 location into one labelled S4; (b) From the S5/6 location into one labelled S56.
5. Now import the 2 sets of data into **Options**,
(a) the S4 data into the S4 population and (b) the S5/6 data into the S5/6 population.
6. Lastly, import the S4 data into the S4/5/6 population and then import the S5/6 data into the same S4/5/6 population but this time using the ‘Add’ facility rather than ‘Replace’. This will amalgamate the choices.

You can now, in **Options**:

- A. Generate patterns using the S4 population to find the best arrangement of National Level courses etc for S4 without any influence from S5/6 choices. Make a note of key features of the pattern.
- B. Generate patterns with the S5/6 population to find the best arrangement for Higher/Advanced Higher and National Level courses etc for S5/6 without any influence from S4 choices.
- C. Generate patterns with the S4/5/6 population for the whole Senior Phase, utilising the information gained from the S4 and S5/6 patterns to ‘Seed’ or ‘Improve’ as appropriate (see page 35).

continued...

2. A school asks: "How can we use Rules to produce a Column which can later be timetabled within available resources. For example, how can we ensure it doesn't use 3 Art groups when we only have two Art teachers."

In **Options**, go to: Design a Pattern → Set Rules, and make Rules like those in the example below.

This school has only 1 Music teacher, so this Rule ensures there are never 2 Music groups in the same Column.


There are only 2 Art teachers, so this Rule limits **Options** so it never builds a Pattern with more than 2 Art groups in a Column.

| Pattern Rules | |
|---|----------------------|
| Rule | Details |
| 1 Limit groups-per-block for this subject | Mu: limit = 1 |
| 2 Limit groups-per-block for this subject | Art: limit = 2 |
| 3 Limit groups-per-block for this faculty | Faculty 3: limit = 4 |
| 4 Limit groups-per-block for this faculty | Faculty 4: limit = 6 |

Faculty 3 is for Modern Languages (French, Spanish, German) and there are only 4 staff. If they can't each teach all 3 languages you may have to use 2 or more Rules.

Faculty 4 is Maths (with subjects MatN4, MatN5, MatH, MatAH) and this school has 6 Maths staff.

See also Rule B on page 3.

Try not to include unnecessary Rules; they will slow down your computer. You can Suspend individual Rules via: [Suspend this rule ?](#) 

As further essentially-Scottish questions arise we will put the solutions here.