

# The secret life of TFNs



Tax file numbers (TFNs) are so much an everyday element when dealing with tax and the ATO that many taxpayers won't give it a second thought when tax return software responds with an "invalid" message when a TFN is entered.

The common thought will be that it's human error, so naturally one's first reaction will be to check the numbers you entered, followed by carefully re-entering them.

Most of the time the problem will be fixed and it's business as usual, but here's a passing thought — how does the tax return software know what is, and what is not, a valid TFN? Especially when you consider that its validity or otherwise is not

dependant on matching those numbers with someone's name and/or birthday and/or address and so on. These identifiers are used to cross-check a person's identity of course, but the initial validity of a TFN is known via another factor — the "TFN algorithm".

This verification algorithm, also known as a check digit algorithm, is embedded in each unique TFN. As with a lot of these things, this is best explained using an example. However, you need to keep a number in mind, which in this case is the number 11.

To make the algorithm work, a fixed weighting is applied to each number of the TFN. In order from the left, these weightings are 1, 4, 3, 7, 5, 8, 6, 9, 10.

**Example: 123 456 782**

*See table below: as 253 is a multiple of 11, the TFN is valid.*

<b>TFN</b>	1	2	3	4	5	6	7	8	2
<b>Weight</b>	1	4	3	7	5	8	6	9	10
<b>Sum</b>	1	8	9	28	25	48	42	72	20
<b>Validation</b>	1 + 8 + 9 + 28 + 25 + 48 + 42 + 72 + 20 = 253								



**To check for yourself, try the above with your own TFN.**