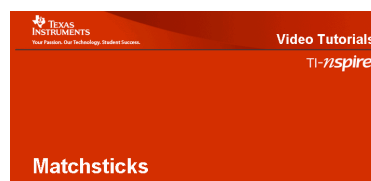# Matchsticks
Teacher Notes

Introduction

How many matchsticks?

| 1 | 2 | 3 |

This document has been developed from an initial idea by Cindy Hunt and Linda Lewendon of Davison High School, Worthing.

In addition to the following notes, there is also a video tutorial showing the process of entering data, trying out functions and editing them.
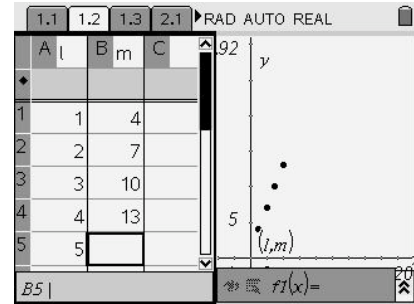
How to enter data in the spreadsheet

To move to page 1.2:   press (ctrl) ▶
To move to column B: press ▶
Enter the data: press (4)(enter) etc.

Notice:
- the columns headings are l and m.
- the points are plotted automatically.

How to try out a rule and move the label

To move to the right hand part of the screen: press (ctrl)(tab)
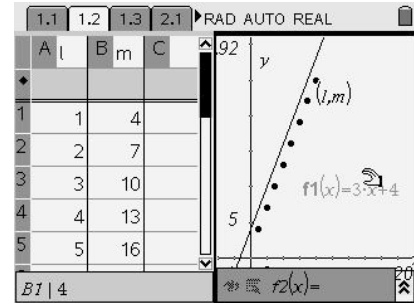Enter a function of x alongside f1(x)=.   Whoops!

To move to the graphing part of the screen: press (tab)(tab)
Move the cursor to the label and see the open-hand icon
To grab the label: press (ctrl)(✍)
Drag the label to a new position.
Drop it there: press (✍)

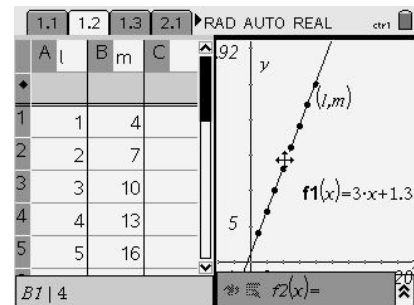## *How to move the incorrect line*

Move to the centre of the line and see this icon: ✛
To grab the line: press (ctrl)(✍)
Drag the line to a new position.
See how the function label changes.
To drop the line: press (✍)
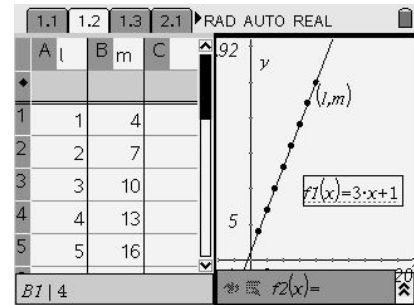
How to correct the function

Either:
- move to the function label and press (enter)(enter).

Or:
- go back to f1(x) in the entry line by pressing(tab)▲ .
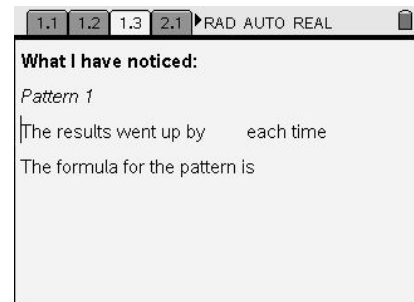
Then you can edit the function

How to write down what you notice

To move to the next page: press (ctrl) ▶
Move the cursor to the space and type a number.
Move the cursor down and type the formula.

Then you can go on to another matchsticks pattern and enter
your data on page 2.1.

Ideas for using Matchsticks

Full-class discussion

You may wish to go through the first example with the whole class using the Viewscreen or the TI-Nspire computer software projected onto a screen or interactive whiteboard, concentrating in the first instance on the mathematics rather than on how to control the technology. The video tutorial may then provide a useful recap of what you have done and the processes involved in doing it. You could also project or photocopy for students the instructions on the previous page of these notes.

Individual work

The document invites students to enter data and functions and then to write their conclusions on the notes pages. This means they will be creating their own version of the document on the handheld, so a recommended first step is for them to save the file under a new name. They will need the Save As option from the 🔧 File menu: press:

⟨CAPS ⇧⟩⟨🏠⟩⟨1⟩⟨4⟩.
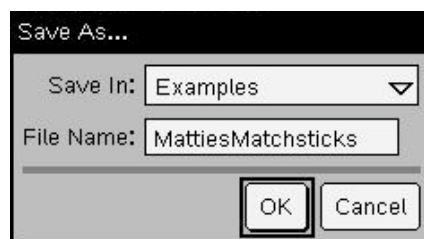
The Save As dialog box

There is a mechanism for teachers to insert comments on students' notes pages; press ⟨menu⟩⟨2⟩⟨3⟩⟨1⟩.
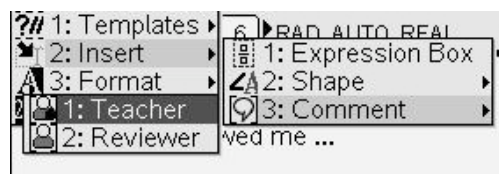
Inserting a comment by the teacher

Some other matchsticks patterns