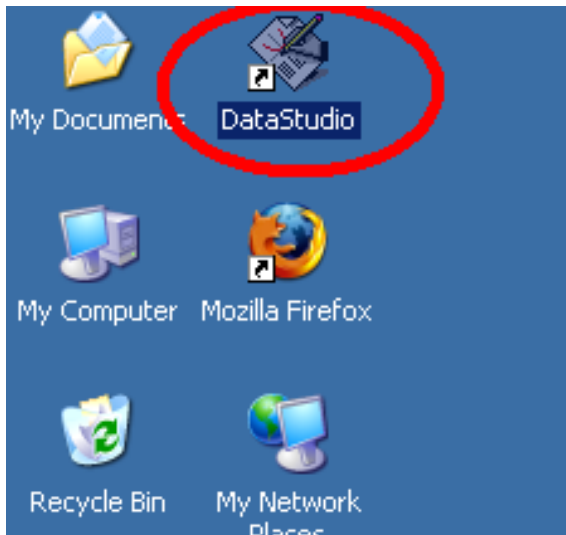


How to use DataStudio for Part 1

Physics 23 Lab O1

Missouri University of Science and Technology

DataStudio icon on desktop



Create Experiment

DataStudio

File Edit Experiment Window Help


Summary Setup Start STOP 00:00.0 Calculate

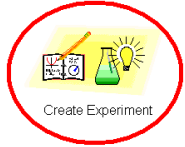
Data


Displays

Welcome to DataStudio

How would you like to use DataStudio?

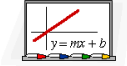
 Open Activity

 Create Experiment



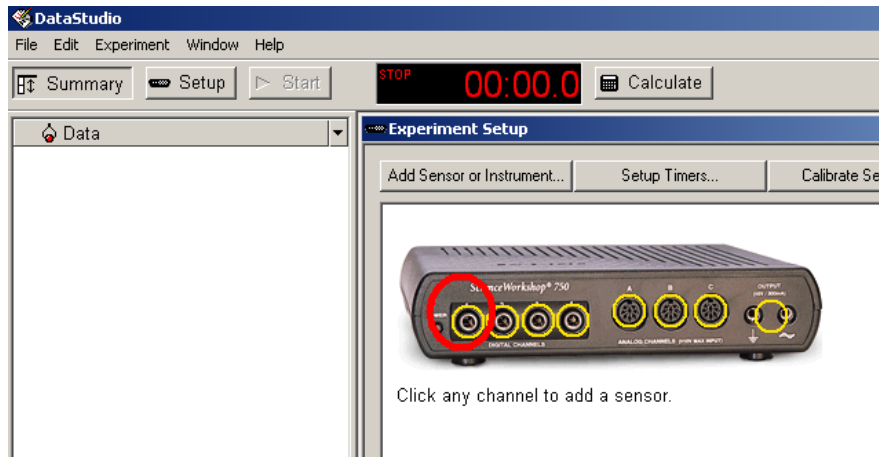
X	Y
1	2.3
2	2.7
3	5.9

Enter Data

 Graph Equation

Show each time this program starts.

Left-click input 1



The screenshot displays the DataStudio software interface. At the top, the title bar reads "DataStudio" with a menu bar containing "File", "Edit", "Experiment", "Window", and "Help". Below the menu bar is a toolbar with buttons for "Summary", "Setup", "Start", a digital display showing "STOP 00:00.0", and "Calculate". The main window is divided into two panes. The left pane is titled "Data" and is currently empty. The right pane is titled "Experiment Setup" and contains three buttons: "Add Sensor or Instrument...", "Setup Timers...", and "Calibrate Se...". Below these buttons is an image of a ScienceWorkshop 750 interface board. The board features several ports: a "DIGITAL CHANNELS" section with four ports (the first is circled in red), an "ANALOG CHANNELS (10V MAX INPUT)" section with three ports labeled A, B, and C, and an "OUTPUT (VOLT / AMPERE)" section with two ports. Below the image, the text "Click any channel to add a sensor." is displayed.

Add Photogate > OK

The screenshot shows the DataStudio software interface. At the top, there is a menu bar (File, Edit, Experiment, Window, Help) and a toolbar with buttons for Summary, Setup, Start, a digital display showing 'STOP 00:00.0', and Calculate. The main window is titled 'Experiment Setup' and contains a 'Data' panel on the left and an 'Experiment Setup' area on the right. The 'Experiment Setup' area has buttons for 'Add Sensor or Instrument...', 'Setup Timers...', 'Calibrate Sensors...', and 'Sampling Options...'. A ScienceWorkshop 750 interface box is displayed in the center. Below it, the text 'Click any channel to add' is visible. A 'Choose sensor or instrument...' dialog box is open, showing a list of 'ScienceWorkshop Digital Sensors'. The 'Photogate' option is highlighted with a red circle. At the bottom of the dialog box, the 'OK' button is also circled in red. The 'Displays' panel on the left lists various display types: Digits, FFT, Graph, Histogram, Meter, Scope, Sound Analyzer, Sound Creator, and Table.

ScienceWorkshop 750

Click any channel to add

Choose sensor or instrument...

ScienceWorkshop Digital Sensors

- Drop Counter
- Flow Rate Sensor
- Four-To-One Adapter
- Free Fall Adapter
- Geiger Counter
- Laser Switch
- Motion Sensor
- Photogate**
- Photogate & Picket Fence
- Photogate and Pendulum
- Rotary Motion Sensor
- Rotational Dynamics Apparatus
- Smart Pulley
- Time Of Flight Accessory

OK Cancel

Left-click input 2

The screenshot shows the DataStudio software interface. The top menu bar includes File, Edit, Experiment, Window, and Help. Below the menu bar are buttons for Summary, Setup, and Start. A digital display shows "STOP" and "00:00.0". A Calculate button is also present. The left sidebar shows a "Data" panel with a folder icon and the text "Time In Gate, Ch 1 (s)". The main window is titled "Experiment Setup" and contains three buttons: "Add Sensor or Instrument...", "Setup Timers...", and "Calibrate Sensor...". Below these buttons is an image of a Science Workshop 750 interface. A red circle highlights the second input port (labeled "2") among four ports labeled "1", "2", "3", and "4". Below the interface image is a small icon of a computer monitor. At the bottom of the window, there is a "Photogate" section with two tabs: "Measurements" and "Constants". The "Measurements" tab is active, showing a table with columns for "Visibility, Name" and "Unit of Measure".

Visibility, Name	Unit of Measure
<input type="checkbox"/> State, Ch1	V
<input checked="" type="checkbox"/> Time In Gate, Ch 1	s
<input type="checkbox"/> Velocity In Gate, Ch 1	m/s

Add Photogate > OK

The screenshot shows the DataStudio software interface. The main window is titled "DataStudio" and has a menu bar with "File", "Edit", "Experiment", "Window", and "Help". Below the menu bar are buttons for "Summary", "Setup", and "Start". A digital display shows "STOP 00:00.0" and a "Calculate" button. The "Experiment Setup" panel is open, showing a "ScienceWorkshop 250" device. A "Choose sensor or instrument..." dialog box is open, displaying a list of sensors under the "ScienceWorkshop Digital Sensors" category. The "Photogate" option is selected and circled in red. The "OK" button at the bottom of the dialog box is also circled in red. The "Data" panel on the left shows "Time In Gate, Ch 1 (s)". The "Displays" panel at the bottom left lists various display options like "Digits", "FFT", "Graph", "Histogram", "Meter", "Scope", "Sound Analyzer", "Sound Creator", and "Table".

ScienceWorkshop Digital Sensors

- Drop Counter
- Flow Rate Sensor
- Four-To-One Adapter
- Free Fall Adapter
- Geiger Counter
- Laser Switch
- Motion Sensor
- Photogate**
- Photogate & Picket Fence
- Photogate and Pendulum
- Rotary Motion Sensor
- Rotational Dynamics Apparatus
- Smart Pulley
- Time Of Flight Accessory

OK Cancel

Setup Timers

The screenshot shows the DataStudio software interface. At the top, there is a menu bar with 'File', 'Edit', 'Experiment', 'Window', and 'Help'. Below the menu bar is a toolbar with buttons for 'Summary', 'Setup', and 'Start'. A digital display shows 'STOP' in red and '00:00.0' in red. To the right of the display is a 'Calculate' button. On the left side, there is a 'Data' panel with a list of data items: 'Time In Gate, Ch 1 (s)', 'Time In Gate, Ch 2 (s)', and 'Velocity Between Any Gates, Ch 2'. The main area is titled 'Experiment Setup' and contains buttons for 'Add Sensor or Instrument...', 'Setup Timers...' (highlighted with a red circle), and 'Calibrate Sensors...'. Below these buttons is an image of a ScienceWorkshop 750 interface box. Underneath the box is a small icon of a photogate. At the bottom, there is a 'Photogate' configuration panel with tabs for 'Measurements', 'Measurements', and 'Constants'. The 'Measurements' tab is active, showing a table with columns for 'Visibility, Name' and 'Unit of Measure'. The table contains three rows: 'State, Ch2' with a checkbox and a unit of 'V', 'Time In Gate, Ch 2' with a checked checkbox and a unit of 's', and 'Time In Any Gate, Ch 2' with an unchecked checkbox and a unit of 's'.

Visibility, Name	Unit of Measure
<input type="checkbox"/> State, Ch2	V
<input checked="" type="checkbox"/> Time In Gate, Ch 2	s
<input type="checkbox"/> Time In Any Gate, Ch 2	s

Timer 1: Ch 1 blocked

The screenshot shows the DataStudio software interface. At the top, the title bar reads "DataStudio" with a menu bar containing "File", "Edit", "Experiment", "Window", and "Help". Below the menu bar are buttons for "Summary", "Setup", and "Start". A digital display shows "STOP 00:00.0" and a "Calculate" button. The left sidebar shows a "Data" list with items: "Time In Gate, Ch 1 (s)", "Time Between Any Gates, Ch 2 (s)", and "Velocity Between Any Gates, Ch 2". The main area is titled "Experiment Setup" and contains buttons for "Add Sensor or Instrument...", "Setup Timers...", "Calibrate Sensors...", and "Sampling Options...". A ScienceWorkshop 750 interface is visible, showing a "DIGITAL CHANNELS" section with a "Blocked" status for Channel 1. A "Timer Setup" dialog box is open, showing "Label: Timer 1" and "Timing Sequence:" with a list of "Timing Sequence Choices" including "Ch 1" with a "Blocked" status. Buttons for "New", "Remove", "Properties...", "Help", and "Done" are also visible.

Timer 1: Ch 2 blocked

The screenshot shows the DataStudio interface with the following components:

- Top Bar:** File, Edit, Experiment, Window, Help. Buttons for Summary, Setup, Start, and Calculate. A digital display shows "STOP 00:00.0".
- Data Panel:** Lists various measurements such as "Velocity In Gate, Ch 1 (m/s)", "Time In Any Gate, Ch 2 (s)", etc.
- Experiment Setup Panel:** Shows a ScienceWorkshop 750 device with digital channels A, B, and C. A diagram below shows two sensors connected to channels 1 and 2.
- Timer Setup Dialog:**
 - Label: Timer 1
 - Timing Sequence: Ch 1 Blocked
 - Timing Sequence Choices: Ch 1 (dropdown), Ch 2 (dropdown with "Blocked" selected and circled in red), Unblocked
- Measurements Panel:** Shows "Time In Any Gate, Ch 2" is checked.

Timer 1: Done

The screenshot shows the DataStudio software interface. At the top, a green banner displays "Timer 1: Done". The main window has a menu bar (File, Edit, Experiment, Window, Help) and a toolbar with buttons for Summary, Setup, Start, a digital display showing "STOP 00:00.0", and Calculate. The left sidebar shows a "Data" list with items like "Velocity In Gate, Ch 1 (m/s)" and "Time In Any Gate, Ch 2 (s)". The main area is titled "Experiment Setup" and contains a "ScienceWorkshop® 750" device with digital channels A, B, and C. A "Timer Setup" dialog box is open, showing "Label: Timer 1" and "Timing Sequence: Ch 1 Blocked, Ch 2 Blocked". Below this, "Timing Sequence Choices" shows "Ch 1" and "Ch 2" with dropdown arrows. On the right side of the dialog, there are buttons for "+ New", "X Remove", "Properties...", "Help", and "Done" (which is circled in red).

Timer 1: Add table for timer

The screenshot shows the DataStudio software interface. The main window displays the 'Experiment Setup' section with a 'ScopeWorkshop 710' device. A dialog box titled 'Please Choose a Data Source' is open, showing a list of data sources. The 'Table' option is selected in the 'Displays' panel on the left, and 'Timer 1 (s)' is selected in the 'Please Choose a Data Source' dialog box. The 'OK' button is also highlighted.

DataStudio
File Edit Experiment Window Help

Summary Setup Start STOP 00:00.0 Calculate

Data

- Time In Gate, Ch 1 (s)
- Time In Gate, Ch 2 (s)
- Velocity Between Any Gates, Ch 2
- Timer 1 (s)

Experiment Setup

Add Sensor or Instrument... Setup Timers... Calibrate Sensors... Sampling Options...

ScopeWorkshop 710

Please Choose a Data Source

Choose a Data Source

Measurements Measurements Constant

Visibility, Name

- State, Ch2
- Time In Gate, Ch 2
- Time In Any Gate, Ch 2
- Time Between Any Gates, Ch 2
- Velocity In Gate, Ch 2
- Velocity In Any Gate, Ch 2

Time In Gate, Ch 1 (s)
Time In Gate, Ch 2 (s)
Velocity Between Any Gates, Ch 2 (m/s)
Timer 1 (s)

OK Cancel

Displays

- Digits
- FFT
- Graph
- Histogram
- Meter
- Scope
- Sound Analyzer
- Sound Creator
- Table
- Workbook

