

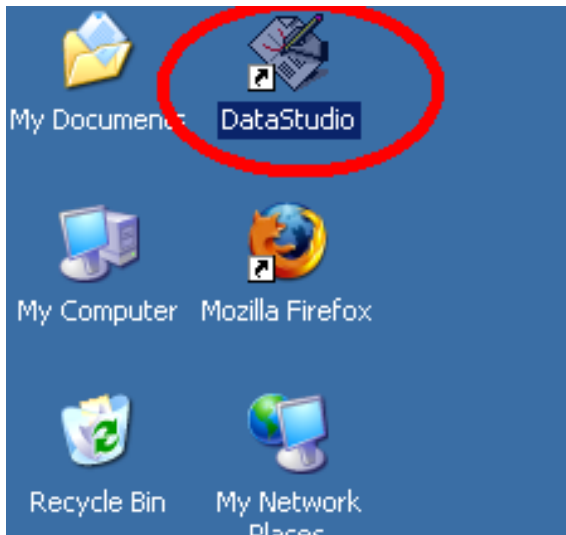
# How to use DataStudio

Physics 23 Lab E2

Missouri University of Science and Technology



# DataStudio icon on desktop



# Create Experiment

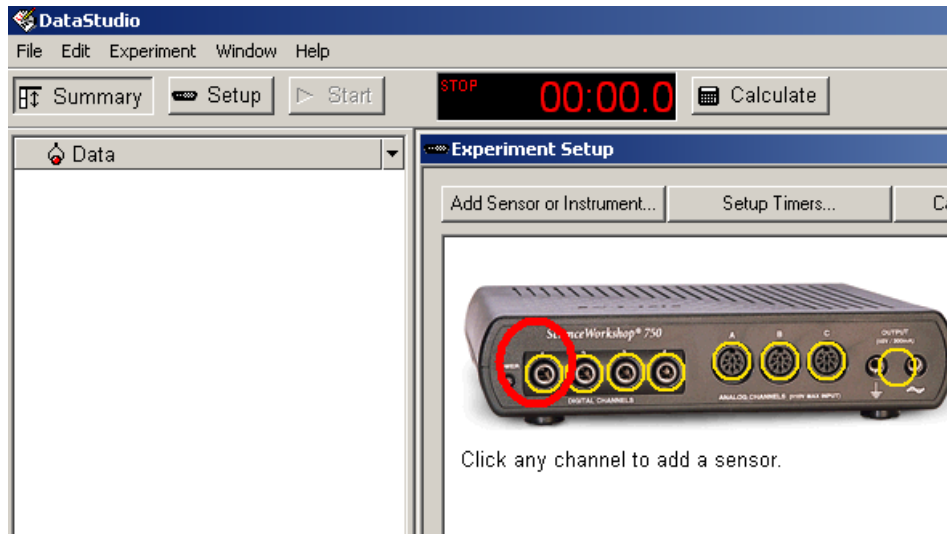
The screenshot shows the DataStudio software interface. At the top, there is a menu bar with 'File', 'Edit', 'Experiment', 'Window', and 'Help'. Below the menu bar, there are buttons for 'Summary', 'Setup', 'Start', a digital display showing 'STOP 00:00.0', and a 'Calculate' button. On the left side, there are two panels: 'Data' and 'Displays'. The main area is dominated by a 'Welcome to DataStudio' dialog box with the following content:

How would you like to use DataStudio?

- Open Activity**: Represented by an icon of four colored blocks (blue, yellow, green, red) and a book with a checkmark.
- Create Experiment**: Represented by an icon of a book, a pencil, a flask, and a lightbulb. This option is circled in red.
- Enter Data**: Represented by an icon of a clipboard with a table and a keyboard.
- Graph Equation**: Represented by an icon of a graph with a red line and the equation  $y = mx + b$ .

At the bottom of the dialog box, there is a checkbox labeled 'Show each time this program starts.' which is checked.

# Left-click input 1



The screenshot displays the DataStudio software interface. At the top, the menu bar includes File, Edit, Experiment, Window, and Help. Below the menu bar are buttons for Summary, Setup, Start, a digital display showing STOP and 00:00.0, and a Calculate button. The main window is divided into a Data panel on the left and an Experiment Setup panel on the right. The Experiment Setup panel contains buttons for Add Sensor or Instrument..., Setup Timers..., and a partially visible button. Below these buttons is an image of a ScienceWorkshop 750 device. The device has several ports: a USB port, four Digital Channels (D1-D4), three Analog Channels (A, B, C), and an Output port. The first Digital Channel (D1) is circled in red, and the other three Digital Channels (D2, D3, D4) are circled in yellow. The Analog Channels (A, B, C) are also circled in yellow. The Output port is circled in yellow. Below the device image, the text reads: "Click any channel to add a sensor."

# Add Smart Pulley > OK

The screenshot shows the DataStudio 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 buttons for 'Add Sensor or Instrument...', 'Setup Timers...', 'Calibrate Sensors...', and 'Sampling Options...'. A ScienceWorkshop digital sensor is shown with the text 'Click any channel'. A dialog box titled 'Choose sensor or instrument...' is open, displaying a list of sensors under the heading 'ScienceWorkshop Digital Sensors'. The list includes: 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 (circled in red), and Time Of Flight Accessory. The 'OK' button at the bottom of the dialog box is also circled in red.

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# Record position only. Add table

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, Start, a digital display showing STOP 00:00.0, and Calculate. The main window is divided into several sections:

- Data:** A list containing "Position, Ch 1 (m)".
- Experiment Setup:** A section for configuring the experiment. It includes a "Smart Pulley" device image and a list of measurements:

Visibility	Name	Unit
<input type="checkbox"/>	State, Ch1	V
<input type="checkbox"/>	Spoke Timer, Ch 1	s
<input checked="" type="checkbox"/>	Position, Ch 1	m
<input type="checkbox"/>	Velocity, Ch 1	m/s
<input type="checkbox"/>	Acceleration, Ch 1	m/s/s
<input type="checkbox"/>	Angular Position, Ch 1	deg
- Displays:** A list of display types including Digits, FFT, Graph, Histogram, Meter, Scope, Sound Analyzer, Sound Creator, Table, and Workbook. The "Table" option is circled in red.

# Start button to record times

The screenshot shows the DataStudio software interface. At the top, there is a menu bar with "File", "Edit", "Experiment", "Window", "Display", and "Help". Below the menu bar is a toolbar with three buttons: "Summary", "Setup", and "Start". The "Start" button is circled in red. To the right of the toolbar is a digital display showing "STOP" in red and "00:00.0" in large red digits. Further right is a "Calc" button. Below the toolbar, the interface is divided into several panels. On the left is the "Data" panel, which contains a list of data sources, including "Position, Ch 1 (m)". On the right is the "Experiment Setup" panel, which includes a section for "Add Sensor or Instrument" and an image of a ScienceWorkshop digital channel device. In the bottom right corner, a "Table 1" window is open, showing a table with a header "Time (s)" and a blank row below it.