

# Getting Started Guide



Psychology  
Software  
Tools, Inc.

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## Installation

*Note: If you are installing E-Prime and already have a previous version of E-Prime on your system, it is best to “uninstall” the older version rather than write over it. To uninstall a previous version:*

- 1.) From the Windows **Start** menu, select **Settings**, and **Control Panel**.
- 2.) In the Control Panel dialog, double-click on **Add/Remove Programs**.
- 3.) From the list of installed programs, select **E-Prime** and click **Add/Remove**.
- 4.) Select **Remove** from the following options, and click **Next**.
- 5.) Click **OK** to remove all components. Then click **Finish**.
- 6.) Reboot your computer before proceeding with the installation.

*In Windows Explorer, make a backup copy of any experiments or data you would like to save from previous releases. Then delete the E-Prime folder from the C:\ProgramFiles\PST directory.*

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### To install E-Prime:

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1. Connect the hardware key.  
*You must connect the hardware key to your parallel or USB port before attempting to install E-Prime. The hardware key is required to be in place for all single and multi-pack licenses when installing AND when working in the E-Studio application. Site licenses are required to have the hardware key in place during installation only.*
2. Insert the CD into your CD-ROM drive.
3. The **Setup** program prompts you through the installation process. Click **Next** to begin installing.
4. Please read the License Agreement in full, and click **Yes** to accept terms of use.
5. Enter or verify your User Name and University/Company Name in the Customer Information dialog. Then enter your valid E-Prime serial number and click **Next**.  
*Note: You may locate your serial number in the About box in the Help menu in E-Studio, on the sleeve which holds the CD, or on the cover of the Getting Started Guide.*
6. By default, E-Prime will install to the folder C:\Program Files\PST\E-Prime. Click **Next** to accept.  
*You are given the following options for installation: Typical, Custom or Subject Station. If you choose Typical or Subject Station, E-Prime automatically performs the installation. If you choose Custom, you will need to select desired options. Refer to Chapter 1 - Introduction in the E-Prime User's Guide for a description of installation options.*
7. Click **Finish** to end the installation. Be sure to re-boot your computer when you have finished the installation to make sure that all components are properly installed.

\*You should not experience any problems installing E-Prime if your hardware key is properly connected, and you correctly enter your serial number. However, if the installation should fail, contact PST immediately at [www.pstnet.com](http://www.pstnet.com)

## E-Prime Resources

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### Where to find information.

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Currently, over 500 pages of documentation are available in various forms. We recommend that you work through the Getting Started Guide in its entirety. This provides the foundation for learning to use the suite of applications which comprise E-Prime. Only after completing the Getting Started guides should you investigate the additional resources currently available.

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### E-Prime Introduction Slideshow

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The E-PrimeIntro Slideshow may be found at [www.pstnet.com/e-prime/intro](http://www.pstnet.com/e-prime/intro)

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### Getting Started Guide

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Work through the **Getting Started Guide (GSG)**, which includes step-by-step tutorials to walk you through the basics of E-Prime.

- Tutorial 1 - E-Studio** (estimated time to complete: 40-60 minutes).
- Tutorial 2 - Paradigm Wizard** (estimated time to complete: 25 minutes).
- Tutorial 3 - E-Merge** (estimated time to complete: 15 minutes).
- Tutorial 4 - E-DataAid** (estimated time to complete: 15 minutes).



## E-Prime Getting Started Guide Installation and Information

### User's Guide and Reference Guide

The **User's Guide** and Reference Guide are shipped with your E-Prime license. It is extremely useful to have the manuals as a reference point as you work through the system. Each volume contains valuable information that will help you master the applications within E-Prime.

### Sample Experiments

Open, Inspect and Run each program from the Samples folder (default installation *C:\My Experiments\Samples*)

- Text Basic Reaction Time Experiment**
- Picture Reaction Time Experiment**
- Slide Reaction Time Experiment**
- Sound Reaction Time Experiment**
- Nested Lists Experiment** allows selection of different word lists from different conditions
- Nested Lists Extended Input Experiment** using extended responses, borders, colors and inputs from multiple devices

It is recommended that you inspect, run and modify at least one of the sample experiments. Consider making a simple modification to the program.

Resource	Description	Format	Location
Getting Started (this booklet)	Quick reference point for general information, step-by-step tutorials for each application within E-Prime	Printed	Included with E-Prime shipment, AND part of E-Prime installation (accessed via the E-Prime menu).
User's Guide	Provides technical details about each application.	Printed	Included with E-Prime shipment.
Reference Guide	Fully documents features of each application.	Printed	Included with E-Prime shipment.
E-Basic Help	Fully documents all features of each application.	Online	Located in the E-Prime menu off the Start Menu OR in the Help menu within the E-Studio application.
Application Help	Help for individual applications.	Online	Accessed through the Help menu within the application.

## Working With E-Prime

### Create your First Experiment

Although you may use one of the sample experiments as a foundation from which to build your first experiment, we recommend starting from scratch, using either the Paradigm Wizard or the drag-and-drop method in E-Studio. Since this is your first novel E-Prime experiment, it is important to keep it simple (e.g., only 2 conditions, four stimuli). Once you have the simple version of the experiment running properly, you can add to it and make it more complex (estimated time to complete: 20-90 minutes for simple experiments). For additional assistance, it is recommended that you read *Using E-Studio*, chapter 2 in the E-Prime User's Guide:

### Reporting Problems

While E-Prime is a very stable system, your feedback will greatly aid us in refining the E-Prime system. When reporting problems, it is essential that you minimally report the following information:

#### User information

Name, institution, and serial number (see below), phone number and e-mail, in case we need to contact you for more information.

#### Machine information

Windows version, manufacturer and model of your PC, type of CPU, amount of memory. This information can be found in the System properties from the Windows Control Panel. From the Start menu, select Settings, and Control Panel. Double-click on System.

#### Information about the problem

The name of the application in which the problem occurred (E-Studio, E-Run, etc.), version number of the application (found by displaying the About box via the About command under the application's Help menu), any information that is displayed in the error message you receive. If applicable, send a copy of your .es file as an attachment.

### Useful Information

#### How to abort an experiment early:

Press Ctrl+Alt+Shift to terminate the E-Run program. Click OK in the dialog box verifying whether the experiment should be terminated. Click OK in the dialog box displaying the "Experiment Terminated by User" message.

#### Your Serial Number:

Your serial number is provided on labels included with your system. Place the labels in appropriate places so that they are accessible. Additionally, your serial number can be found in the About E-Studio dialog box located via the Help menu. **DO NOT LOSE THIS INFORMATION.** You **MUST** provide your serial number for technical support.

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*This tutorial will walk you through the creation of your first complete E-Prime experiment.*

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*This section provides assistance on trouble shooting the most common errors new users make. Specifically, this section provides hints on resolving common mistakes like mistyping an object name.*

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*Four advanced tutorials are available. Do not proceed to the advanced tutorials until you have successfully completed Tutorial 1.*

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*This tutorial uses the experiment created within Tutorial 1: E-Studio and modifies it to use bitmaps as stimuli.*

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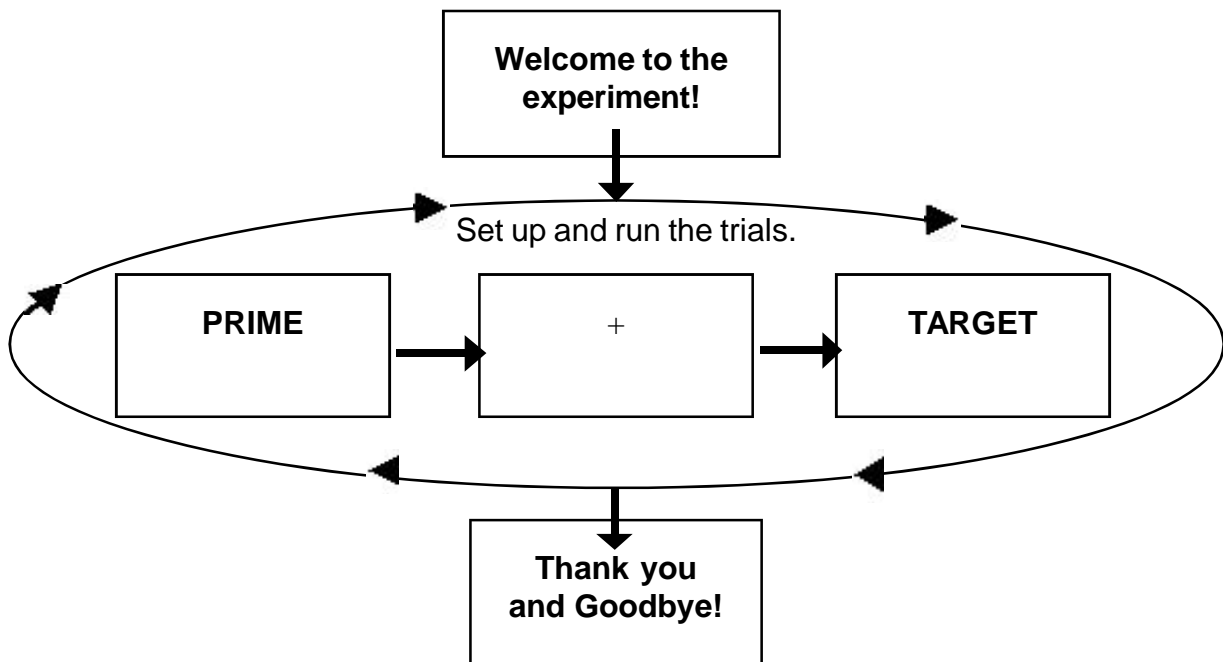


# ***E-Studio: Getting Started***

This guide serves as a tutorial to build your first E-Prime experiment. The purpose of this exercise is to familiarize you with only some of the features of E-Studio. The actual release of E-Prime will include a complete user reference guide and online help in addition to the Getting Started Guide. Furthermore, there will be additional tutorials available which extend this experiment and explore additional features of E-Studio.

The experiment used in the E-Prime Getting Started Guide is a variation of the Blair & Banaji (1996) study examining automatic and controlled processes in stereotype priming. With their results, Blair and Banaji supported the proposal that stereotypes may be automatically activated, but that these effects may be controlled, or even eliminated, by perceivers.




In the experiment described in the following tutorial, subjects will be presented with a prime word for a short duration. The prime word will be either stereotypically masculine or feminine (e.g., sports or flowers) and will have either a positive or negative connotation (e.g., sports or bald). The prime will be replaced by a fixation (+), and then a target word will be presented. The target word will be either a male or female name (e.g., Bob or Linda). The task is to respond to the target word by pressing '1' if the target word is a male name or by pressing '2' if the target word is a female name. Reaction time and accuracy will be measured.





The following is an outline of steps you should take to build your first experiment. It is highly recommended that you proceed through the entire Getting Started Guide in order to learn E-Studio. The purpose of the information on this page is to familiarize you with some terms and schemes used throughout this tutorial.

You are also strongly encouraged to use the figures throughout this document as visual guides. In the figures, you will see various lines and arrows to point out specific areas of interest. Use the table below to interpret the arrows, lines, and terminology.

	<b>Click</b> or <b>double click</b> on this object.
	<b>Drag</b> the object.
<b>Double click</b>	<b>Press</b> the left mouse button twice in quick succession.
<b>Right click</b>	<b>Press</b> and <b>release</b> the right mouse button.
<b>Drag</b>	<b>Press</b> the left mouse button and <b>hold</b> it as you move the mouse to drag the object to a new location on the screen; then <b>release</b> the left mouse button.
<b>Drop</b>	After a <b>drag</b> action as described above, <b>release</b> the left mouse button to place the object in its new location.
<b>Resize window</b>	To <b>resize</b> a window, <b>position</b> the mouse over the edge until the cursor changed to a double-pointed arrow; then <b>drag</b> the window to the desired size. As an alternative, you can use the Window menu (in E-Studio) for quick standardized arrangements.
<b>Select/Highlight</b>	<b>Click</b> on the object once or until it is highlighted (i.e., reverse image).
<b>Tab</b>	<b>Press</b> the 'Tab' key on the keyboard.
	The button on the left containing the line will <b>minimize</b> a window. The middle button containing the box will <b>maximize</b> a window. The right button containing the X will <b>close</b> the window.



## Task 1: Start the E-Studio application and name the experiment

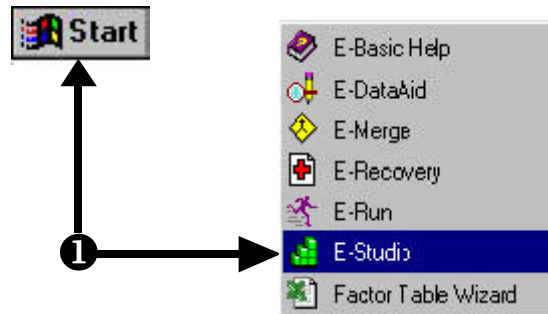
The goal of this task is to open the E-Studio application and begin creating a new experiment.

- 1) **Click** on the Start Menu, **select Programs**, and then **select E-Prime**. From the E-Prime menu, **click** on the **E-Studio** application.

*This will launch the E-Studio application.*

- 2) **Select** the **Blank Experiment** option and **click OK**.

*A dialog box is presented each time E-Studio is launched. You can create a new experiment with E-Studio (Blank Experiment) or with the Paradigm Wizard. Another option is to open an existing experiment.*





## Task 2: Preview the E-Studio interface

This task will introduce you to the major components and features of the E-Studio interface. Note that you may resize the various windows to reveal more of the Workspace.

- 1) Locate the Toolbox**, which contains objects that are dragged to procedural timelines. The objects are the basic building blocks of your E-Studio experiments.

*You can remove the captions on the objects by right clicking in the Toolbox and removing the check next to the Captions option.*

- 2) Locate the Structure** view, which contains a hierarchical representation of your experiment.

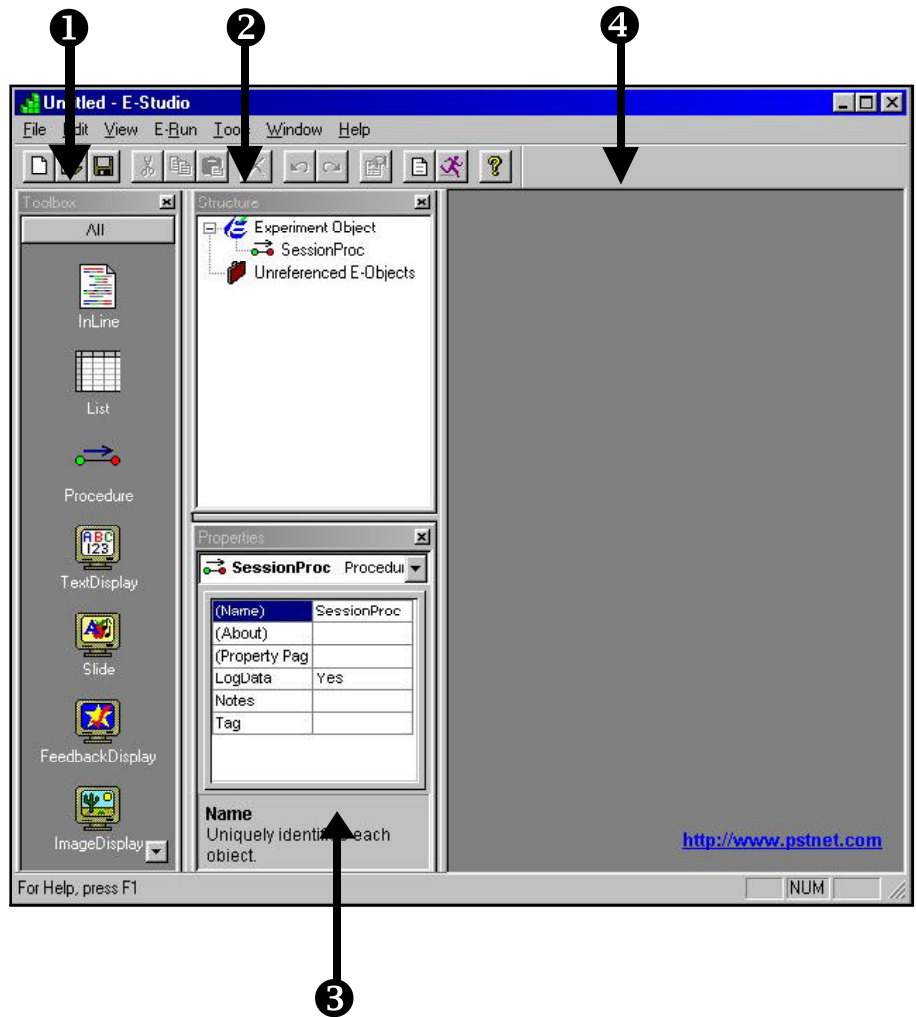
*This window features a tree view similar to that in Windows Explorer.*

- 3) Locate the Properties** window, which contains the list of associated properties for each object.

*Each object has a set of associated properties displayed in the Properties window when the object is highlighted.*

- 4) Locate the Workspace**, which contains the window representations of the various objects.

*You can open a window representation of an object by double clicking on it in the Structure view.*







## Task 3: Create your first object

The next few steps will create a new text display object. All of the properties related to this object will be explained in detail. Later, you will be expected to recall the steps necessary to set object properties.

- 1) **Double click** the SessionProc object in the Structure window.

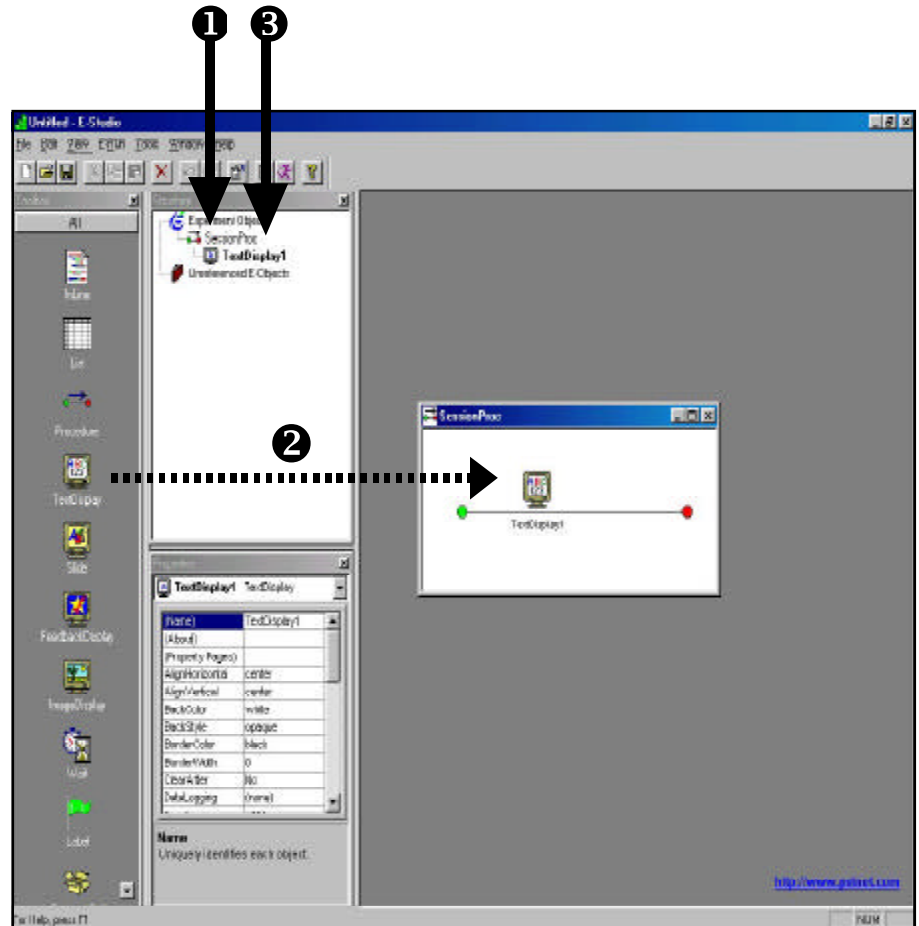
*This will open a window version of the object in the Workspace. The Procedure objects feature a timeline. This SessionProc object was created for you by E-Studio. As you work through this tutorial, you can resize the various windows to fit in the Workspace.*

- 2) **Drag** the TextDisplay object from the Toolbox to the beginning of the SessionProc timeline.

*This is also reflected in the Structure window. Notice changes in the experiment representation in the Structure window as this tutorial continues.*

- 3) **Highlight** the newly placed TextDisplay object (by **clicking** on it) to view its properties in the Properties window.

*Highlight the object in either the Structure view or on the SessionProc. Every object has a set of associated properties which are displayed in the Properties window when the object has the focus selected.*





## Task 4: Name the TextDisplay object

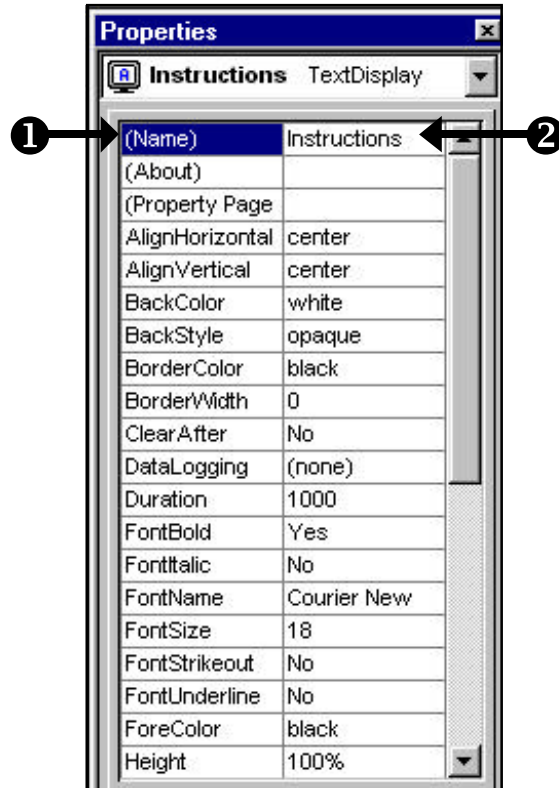
In this step, you will learn how to name the objects in your experiment by using the Properties window.

- 1) In the Properties window, **locate** the **(Name)** property.

*This feature is similar to that in Visual Basic. The highlighted object's associated properties are listed in alphabetical order. However, the most frequently used properties are located at the top of the list.*

- 2) **Click** in the box to the right of (Name) and **change** the value from TextDisplay1 to **Instructions** (and **press** the **Enter** key).

*Notice that the object's name has changed in both the Structure window and in the SessionProc timeline. These displays are updated when you press Enter. Remember: you may resize the windows in the Workspace.*





## Task 5: Save the experiment and open the Instructions object

The goals of this task are to save the experiment and then continue by opening the window representation of the TextDisplay object named “Instructions.”

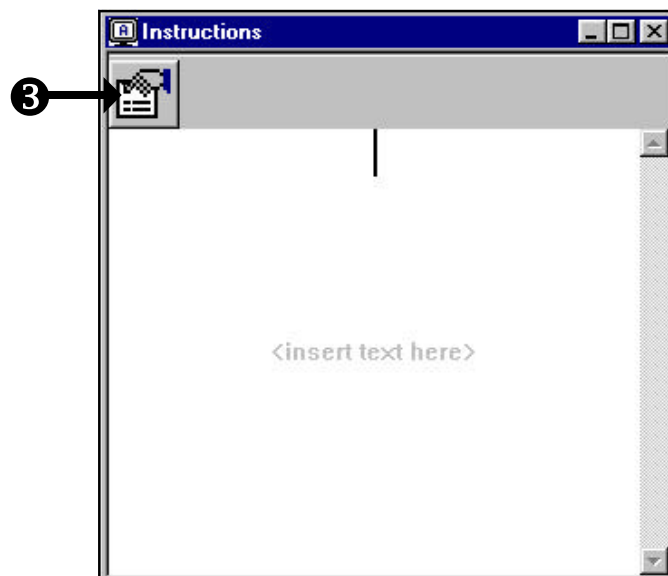
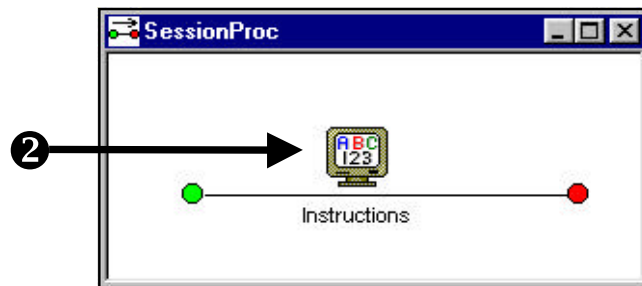
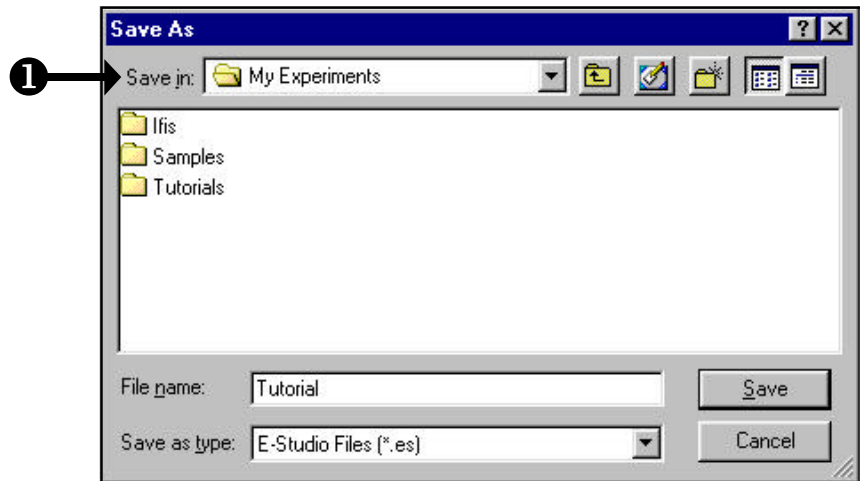
1) From the File menu, **select** the **Save As...** command (or **press F12**). In the My Experiments folder, **name** the file **Tutorial**. **Click** the **Save** button to dismiss the dialog.

2) **Double click** the object named **Instructions** either in the Structure window or the SessionProc timeline.

*This will open a window version of the TextDisplay object named Instructions.*

3) **Click** on the **Properties** button in the upper left corner of the TextDisplay window.

*This will open a set of tabbed pages called Property Pages, which will allow you to specify the object's properties.*





## Task 6: Specify the Instructions object properties

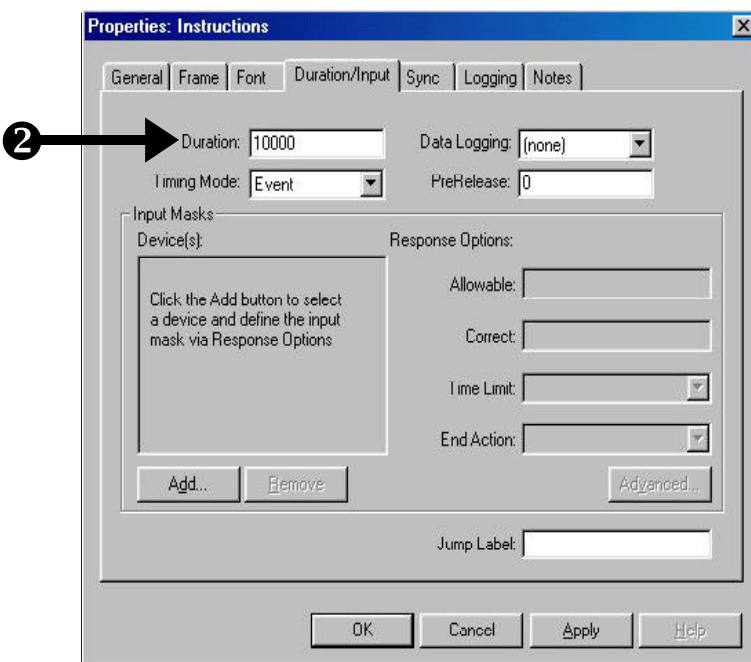
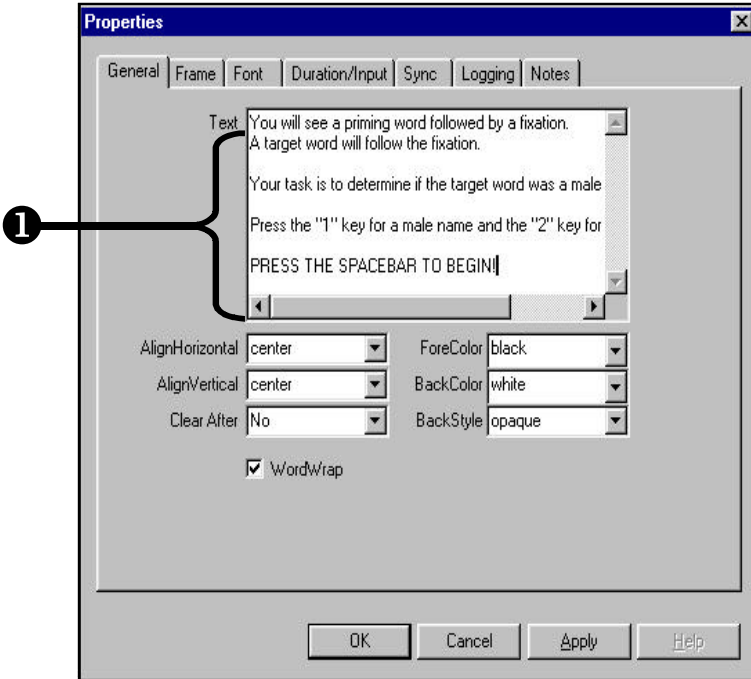
The goal of this task is to specify the properties for the TextDisplay object named “Instructions.” This object’s purpose is to display a set of instructions in black text on a white background. The display should remain on the screen until a response is collected.

- 1) On the General tab of the Properties dialog, **locate** the Text field and **type**: **“Welcome to the experiment. <Enter> You will see a priming word followed by a fixation. <Enter> A target word will follow the fixation. <Enter><Enter> Your task is to determine if the target word was a male or female name. <Enter><Enter> Press the “1” key for a male name and the “2” key for a female name. <Enter><Enter> PRESS THE SPACEBAR TO BEGIN!”**

*This will be the text displayed to the subject.*

- 2) **Click** on the Duration/ Input tab. **Specify** the Duration of the display to be **10000**.

*The duration is in milliseconds by default.*





## Task 7: Enable input from the keyboard

The goal of this task is to enable input via the keyboard and complete the properties for the Instructions object.

- 1) Still on the Duration/ Input page, **click** the **Add** button under the Device(s) window.  
*The Add Input Device dialog will be displayed.*

- 2) **Click** the **Keyboard** device to select it, and **click OK**.  
*The keyboard will now be enabled as an input device, and the Response Options fields will become available.*

- 3) **Specify** the Allowable response to be the spacebar.  
*To specify a spacebar press in the Allowable response field, enclose the word "SPACE" in curly brackets ({}). Curly brackets tell E-Prime that the word "SPACE" refers to a special character.*

- 4) **Set** the display to terminate when a response is collected (**select Terminate** in the EndAction field). When you are finished, **click OK** to exit the Property Pages.

- 5) **Close** the Instructions object.

The screenshot shows three windows from the E-Studio software. The top window is titled "Input Masks" and contains a text box with the instruction "Click the Add button to select a device and define the input mask via Response Options". Below the text box are two buttons: "Add..." and "Remove". A circled number 1 with an arrow points to the "Add..." button.

The middle window is titled "Add Input Device" and contains two icons: "Keyboard" and "Mouse". Below the icons are two buttons: "OK" and "Cancel". A circled number 2 with an arrow points to the "Keyboard" icon.

The bottom window is titled "Properties: Instructions" and has several tabs: "General", "Frame", "Font", "Duration/Input", "Sync", "Logging", and "Notes". The "Duration/Input" tab is selected. It shows fields for "Duration" (10000), "Timing Mode" (Event), "Data Logging" (none), and "PreRelease" (0). Below these is the "Input Masks" section, which includes a "Device(s)" list with "Keyboard" checked. To the right of the "Input Masks" section is the "Response Options" section, which includes fields for "Allowable" (SPACE), "Correct", "Time Limit" (same as duration), "End Action" (Terminate), and "Jump Label". A circled number 3 with an arrow points to the "Allowable" field, and a circled number 4 with an arrow points to the "End Action" dropdown menu.



## Task 8: Create the Goodbye object

The goal of this task is to create and specify the properties for the TextDisplay object that will dismiss the subject at the end of the experiment. The subject should see a dismissal text, and it should appear for 5 seconds before the experiment terminates.

- 1) **Drag** a TextDisplay object from the Toolbox to the SessionProc and **rename** it “Goodbye.”

*The new TextDisplay object should be placed at the end of the SessionProc timeline. Rename the object as before by highlighting it and changing the (Name) property in the Properties window. A fast way to rename is to click on the object in the Structure window, press **F2**, and type in the new name.*

- 2) **Double click** the Goodbye object to open its window in the Workspace. Then **open** its Property Pages.

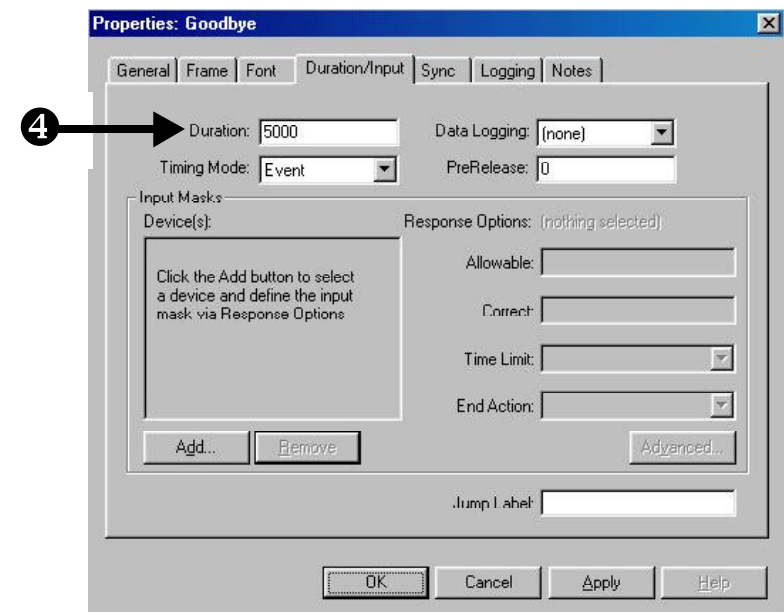
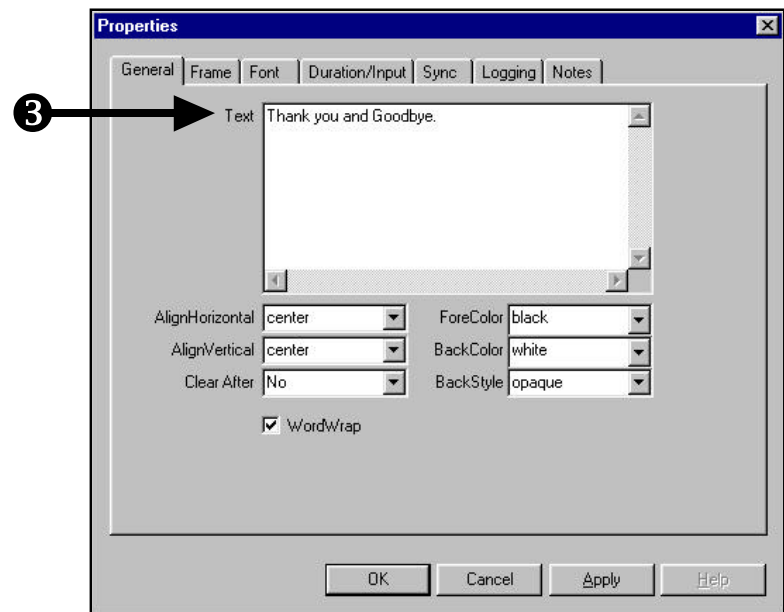
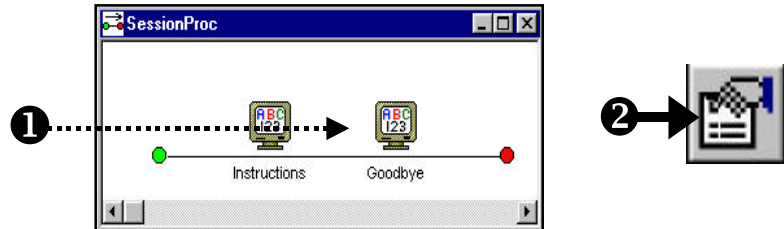
- 3) On the General tab, **locate** the Text field and **type**, “Thank you and Goodbye.”

*This will be the text displayed to the subject.*

- 4) Specify the Duration of the display to be **5000**. Do not add an input Device.

*No responses will be registered by the Goodbye object. The display will terminate when the specified duration has expired.*

- 5) **Close** the Goodbye object in the Workspace.





## Task 9: Create the BlockList object

The goal of this task is to create the BlockList object. It is helpful to think of your experiment in a hierarchical manner. For instance, the SessionProc object is the foundation for the entire experiment. This procedure contains all high-level events, such as a welcoming screen of instructions, a goodbye screen at the end of the experiment. Between these two are the blocks of trials. This tutorial experiment will contain one block of trials.

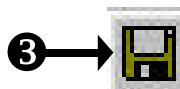
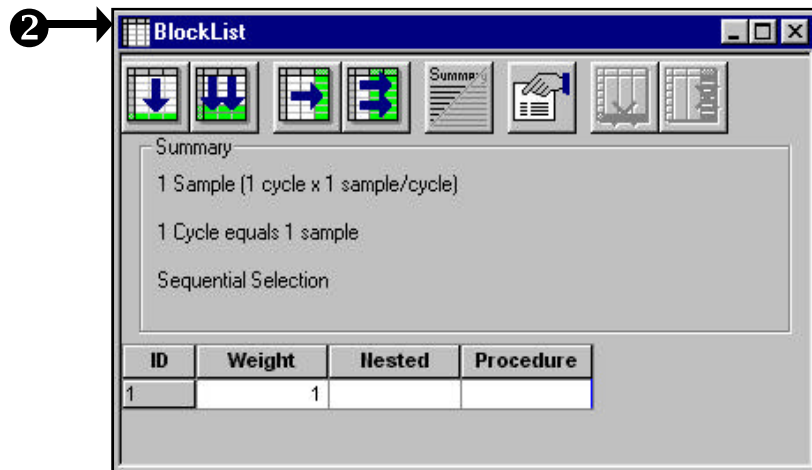
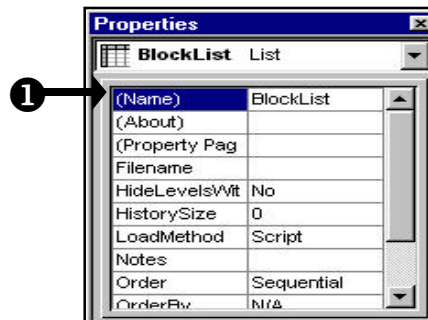
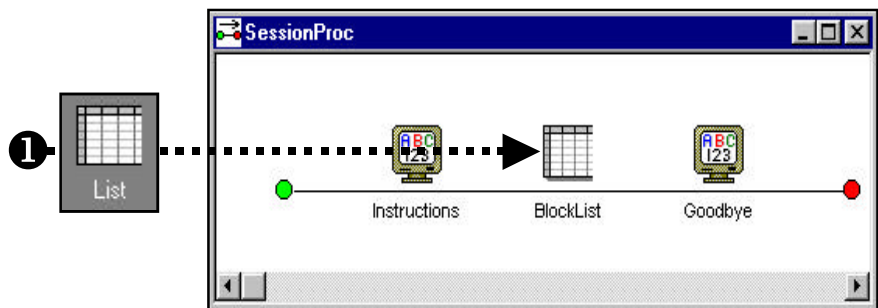
- 1) **Drag** the List object in the Toolbox to the middle of the SessionProc timeline and **change** its name to **BlockList**.

*Change the name by highlighting the List object and locating the (Name) property in the Properties window. This particular List object is in place for future adaptations of this experiment (e.g., adding multiple blocks).*

- 2) **Double click** the BlockList object.

*This will open the BlockList object's window in the Workspace. Remember to resize the windows in the Workspace to maximize your view.*

- 3.) Now is a good time to **save** your experiment! To do this, **press Ctrl-S**, **select Save** in the File menu, or **click the Save icon** on the Toolbar.)





## Task 10: Define the BlockList object

Now that the BlockList object has been created, it must be defined. The goal of this task is to specify the various attributes needed for the tutorial experiment.

- 1) **Click the Add Attribute** tool button in the BlockList object.

*This will open a dialog box, which allows specific properties of the List object to be set.*

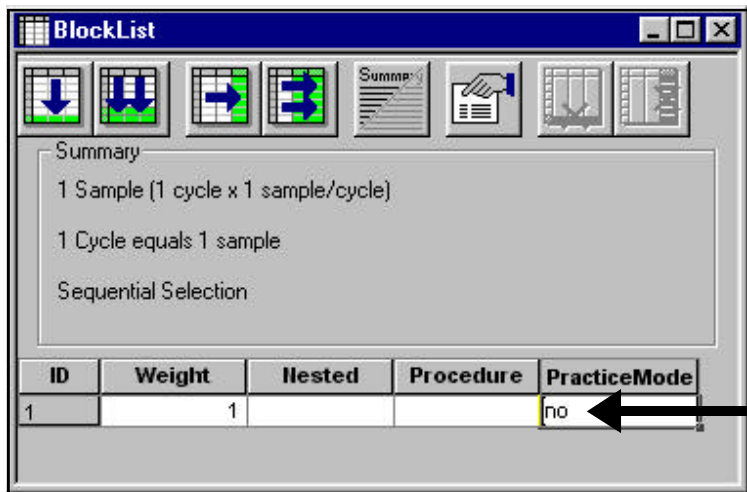
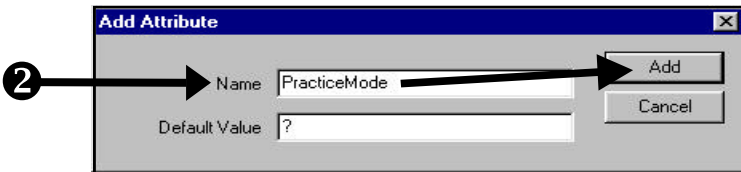
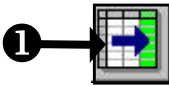
- 2) **Type “PracticeMode”** in the Name field and **click Add**.

*This will create a new attribute called PracticeMode. In a future tutorial, we will expand this experiment to include blocks of both practice and real trials.*

*Note: Spaces are not permitted in attribute names*

- 3) **Type “no”** in the first cell of the column labeled PracticeMode.

*This will specify that the value of the attribute PracticeMode is equal to “no.”*







## Task 11: Create and define the BlockProc object

The goal of this task is to create a new Procedure object called BlockProc.

- 1) Type “BlockProc” in the first cell of the Procedure column and press Enter.

*This specifies that the information contained within this row is to be applied to the procedure called BlockProc.*

- 2) A dialog is displayed indicating that the BlockProc procedure does not exist. **Click Yes** to create the Procedure object BlockProc.

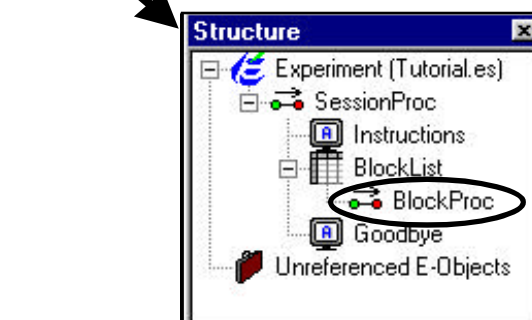
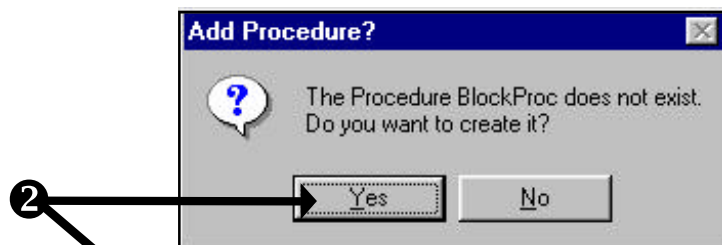
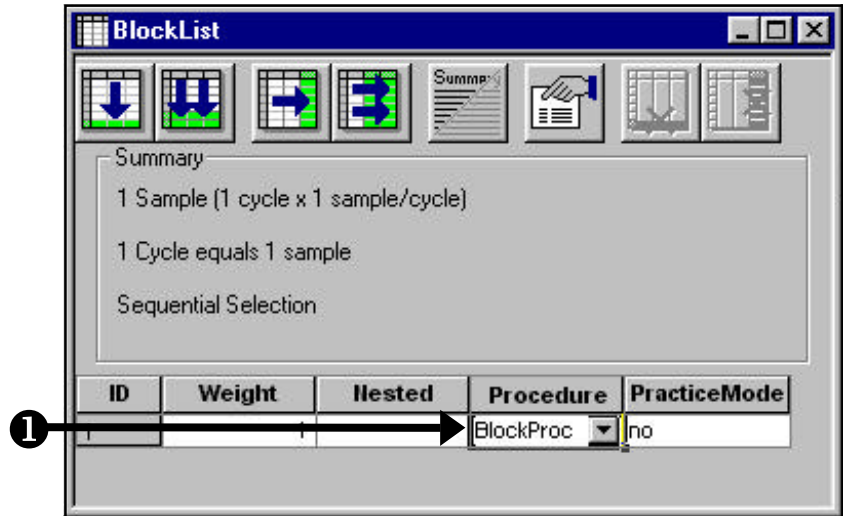
*Notice the BlockProc procedure has been created in the Structure window.*

- 3) **Close** the SessionProc and BlockList windows in the Workspace.

- 4) **Save** your experiment!  
*Press Ctrl-S or click Save in the File menu.*

- 5) **Click** the **Generate** button to compile the experiment script as specified thus far.

*It is a good practice to generate your script after the completion of individual parts of an experiment in order to catch potential errors.*





## Task 12: Create and define the TrialList object

The goal of this task is to learn how to specify the attributes of your trials. Essentially, the List object is where you specify all of the variables, factors, and their attributes. It will be necessary to resize this window in your Workspace. *Hint: MEL Professional users can think of this as an Insert Form.*

1) **Double click** the BlockProc object in the Structure window.

2) **Drag** a new List object to the BlockProc timeline and **re-name** it TrialList.

3) **Double click** the object named TrialList on the BlockProc timeline.

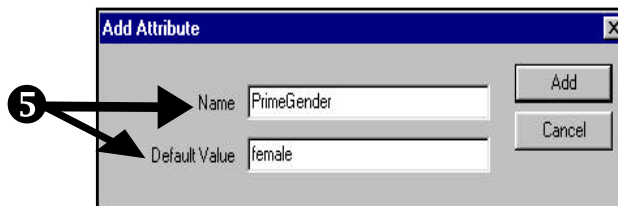
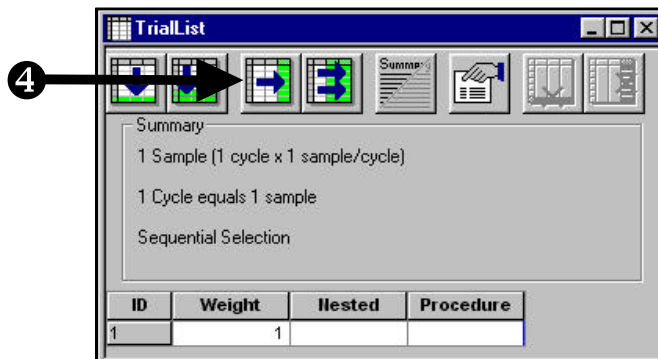
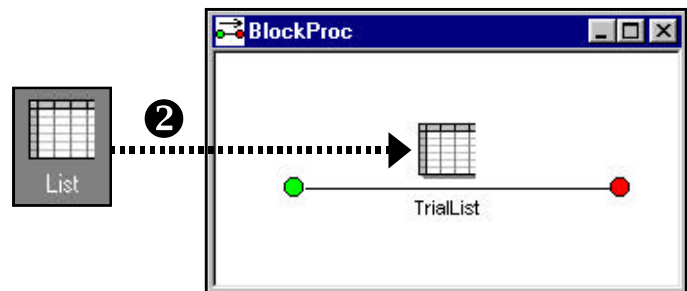
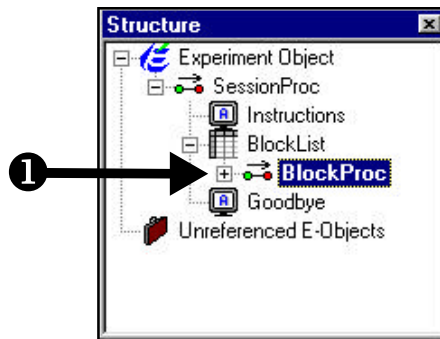
*This will open the TrialList spreadsheet-like window in the Workspace. Resize the window as needed.*

4) **Click** the Add Attribute tool button on the top of the TrialList window.

*This will open the Add Attribute dialog box. Think of attributes as columns of a spreadsheet.*

5) **Specify** the Name of the attribute to be **PrimeGender** and the Default Value to be **female**. **Click Add** when you are finished.

*The name of your first attribute is PrimeGender. The priming word displayed will be stereotypically male or female. Thus, this column will eventually be filled with values of either 'male' or 'female' (the levels of this attribute). The Default Value is useful in saving typing time. By specifying 'female' as the Default Value, all of the cells in the PrimeGender column will have the value of 'female.'*





## Task 13: The TrialList object continued...

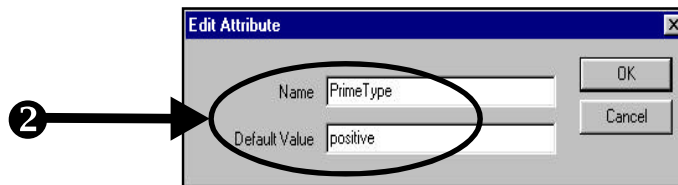
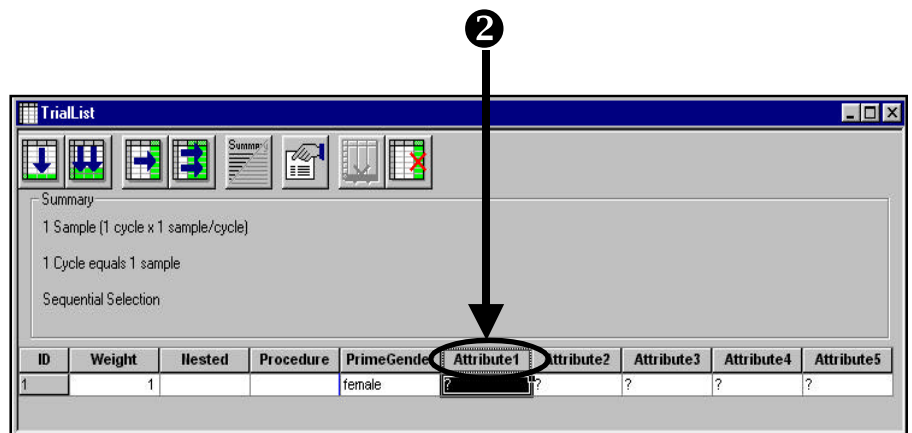
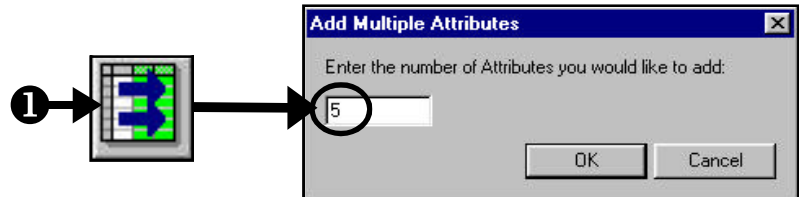
The goal of this task is to specify all of the attributes for your trials.

1) **Add** the following attributes by using the **Add Multiple Attributes** tool button. In the Add Multiple Attributes dialog, type 5 and **Click OK**.

2.) **Double-click** on the column headings for Attributes 1-5 to change names and specify default values.

Name	Default Value
PrimeType	positive
NameGender	female
CorrectAnswer	1
Prime	?
Target	Linda

When you are finished, your TrialList object should look similar to the one shown to the right. Note that you can hide the Summary information by clicking the Hide Summary tool button. ToolTips are available for each of the tool buttons and can be accessed by resting the cursor on top of the button for a few seconds.





# Task 14: The TrialList object continued...

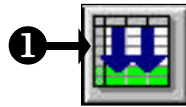
The goal of this task is to specify all of the levels for each attribute. Think of the levels as rows in the spreadsheet.

- 1) Click the **Add Multiple Levels** tool button and enter **7** to add 7 levels.

The Default Values specified earlier are automatically filled in for you (except for the first row).

- 2) Using the table below, **complete** the TrialList object grid to match the one shown to the right.

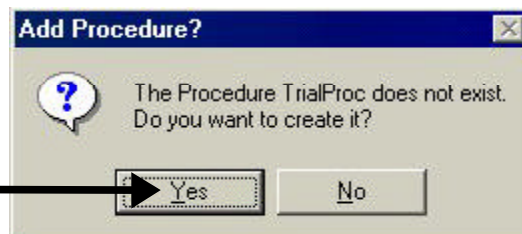
The Nested column is not used in this experiment, and will be left blank. When completing the Procedure column, a dialog will be displayed indicating that the TrialProc has not been created. Click Yes to create it.



ID	Weight	Nested	Procedure	PrimeGender	PrimeType	NameGender	CorrectAns	Prime	Target
1	1			female	?	?	?	?	?
2	1		TrialProc	female	positive	female	1	?	Linda
3	1		TrialProc	female	positive	female	1	?	Linda
4	1		TrialProc	female	positive	female	1	?	Linda
5	1		TrialProc	female	positive	female	1	?	Linda
6	1		TrialProc	female	positive	female	1	?	Linda
7	1		TrialProc	female	positive	female	1	?	Linda
8	1		TrialProc	female	positive	female	1	?	Linda

Name	Values
Procedure	TrialProc
PrimeGender	male, female
PrimeType	positive, negative
NameGender	male, female
CorrectAnswer	1, 2
Prime	sports, bald, flowers, laundry
Target	Bob, Linda

Weight	Nested	Procedure	PrimeGender	PrimeType	NameGender	CorrectAns	Prime	Target
1		TrialProc	male	positive	male	1	sports	Bob
1		TrialProc	male	positive	female	2	sports	Linda
1		TrialProc	male	negative	male	1	bald	Bob
1		TrialProc	male	negative	female	2	bald	Linda
1		TrialProc	female	positive	male	1	flowers	Bob
1		TrialProc	female	positive	female	2	flowers	Linda
1		TrialProc	female	negative	male	1	laundry	Bob
1		TrialProc	female	negative	female	2	laundry	Linda



- 3) Save and **generate** the experiment.



## Task 15: Specify the TrialList object properties and create the Trial procedure

Like all objects in E-Studio, the List object has properties. The List object features a variety of properties related to condition selection (how the rows of information are ordered and selected), and these properties are located in a set of Property Pages. This task will guide you through the specification of those properties.

- 1) **Click** the Properties button in the TrialList window.

*A set of tabbed Property Pages is opened. Here, you will specify the condition selection options.*

- 2) **Click** on the Selection tab and **set** the **Order** of selection to **Random** from the drop-down box.

*The Random ordering option is random without replacement.*

- 3) **Select** the **Reset/Exit** Tab and verify that the option to reset after “**All samples (8)**” is selected.

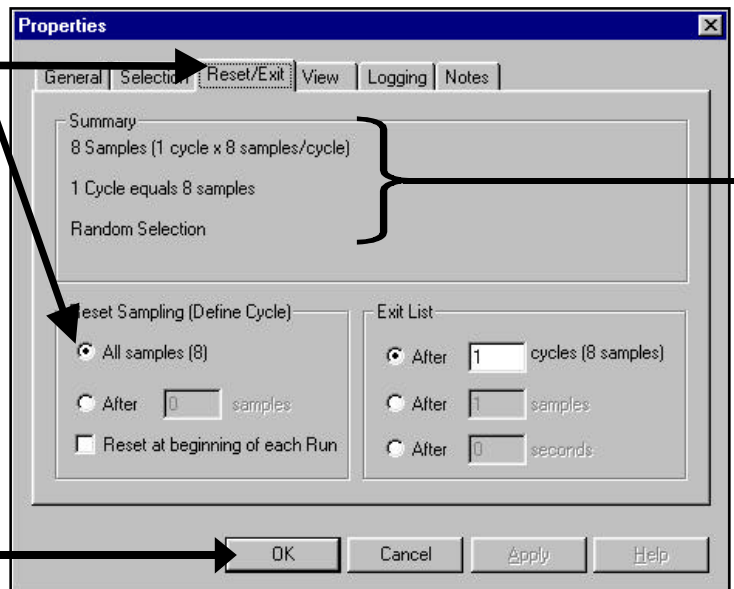
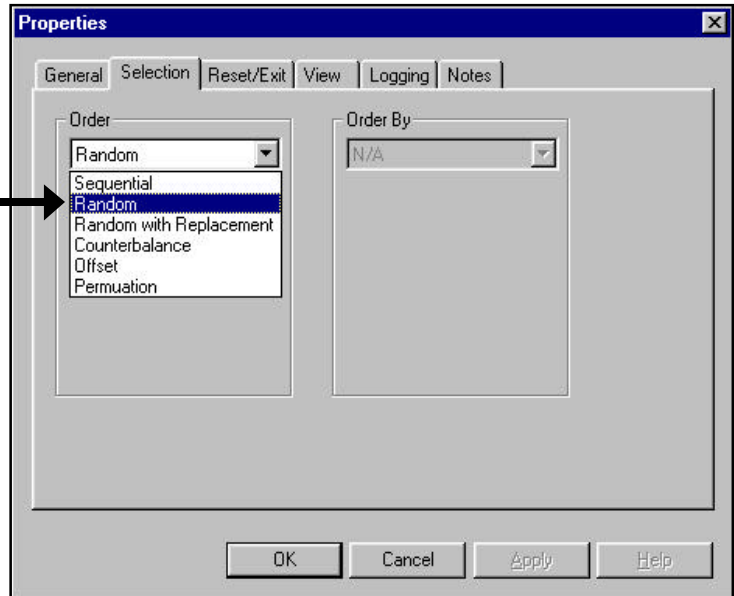
*Only after all samples have been selected/used, will they be eligible for use again, if necessary.*

- 4) **Review** the **Summary** and close the window by **clicking OK**.

*Notice that the summary is reflected on the List object, and may be shown or hidden using the Summary toggle button.*

- 5) **Close** all open windows in the Workspace and **save** the experiment!

- 6) **Click** the **Generate** button to generate the script according to the settings so far.

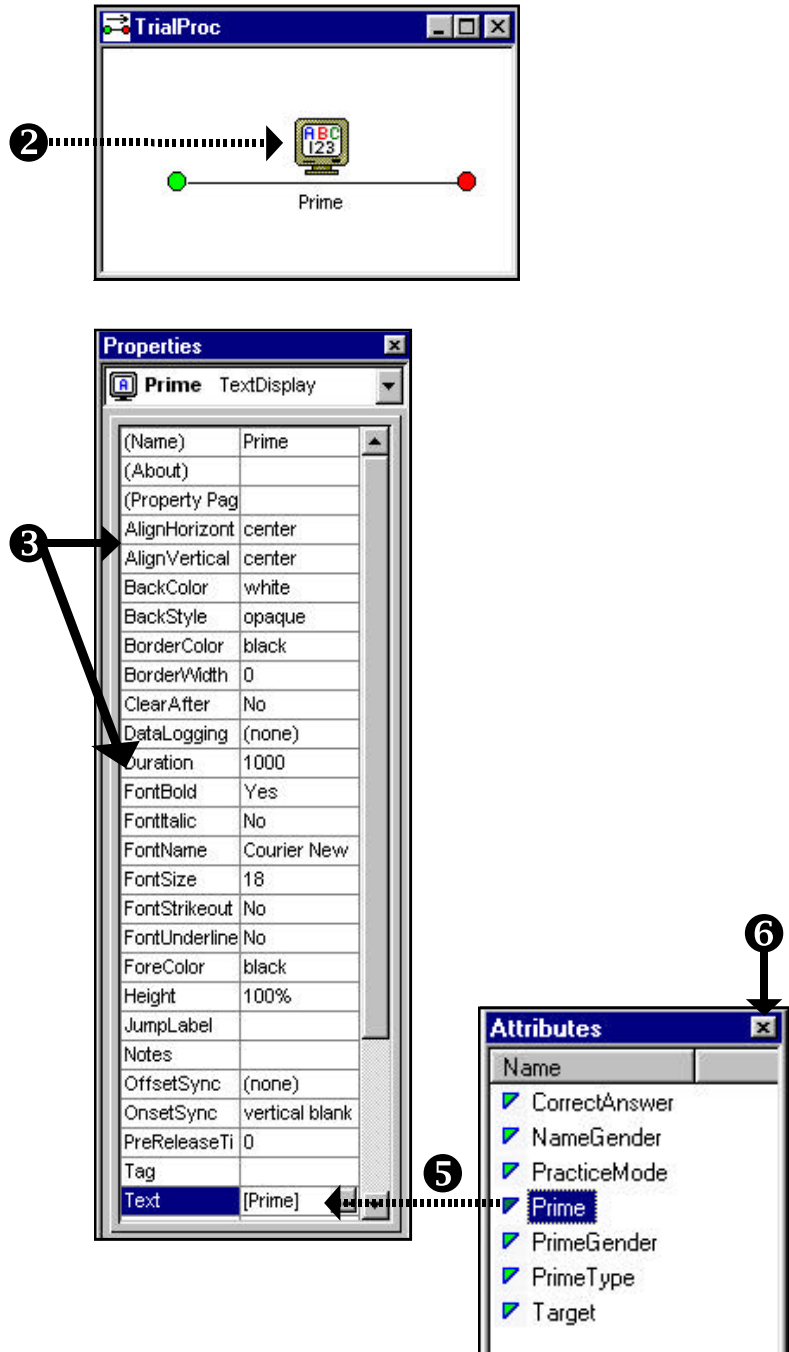




## Task 16: Define the TrialProc

The next few steps will define the procedure named TrialProc. Essentially, you will be defining what constitutes a single trial. In this experiment, a single trial consists of four events, including the presentation of: the Prime, a Fixation display, the Target (where a response is collected from the subject), and Feedback based on the subject's response. Thus, the TrialProc procedure should have 4 objects on its timeline. These objects will be created and defined in the next few steps.

- 1) **Double click** the TrialProc object in the Structure window.
- 2) **Drag** a TextDisplay object from the Toolbox and drop it on the timeline. **Rename** this object **Prime**.
- 3) Use the Properties window to **specify Duration** to be **1000** milliseconds and the **Alignment** to be in the **center** of the screen (default).
- 4) From the View menu, **select Attributes**.  
*The Attributes window will appear on the right side of the Workspace. It lists all of the attributes declared in the List objects created thus far.*
- 5) **Drag** the Prime attribute from the Attributes window to the **Text** property field in the Properties window.  
*Notice the attribute Prime is inserted (enclosed in square brackets) as the value of the Text property. The prime display is something that will vary with each trial. This notation means that each trial will insert the current value of the attribute named Prime in the text display.*
- 6) **Close** the Attributes window.





## Task 17: Define the TrialProc, continued...

This step will create and define the second object on the TrialProc timeline: the presentation of a fixation.

- 1) **Drag** a TextDisplay object from the Toolbox and drop it on the timeline. **Rename** this object **Fixation**.

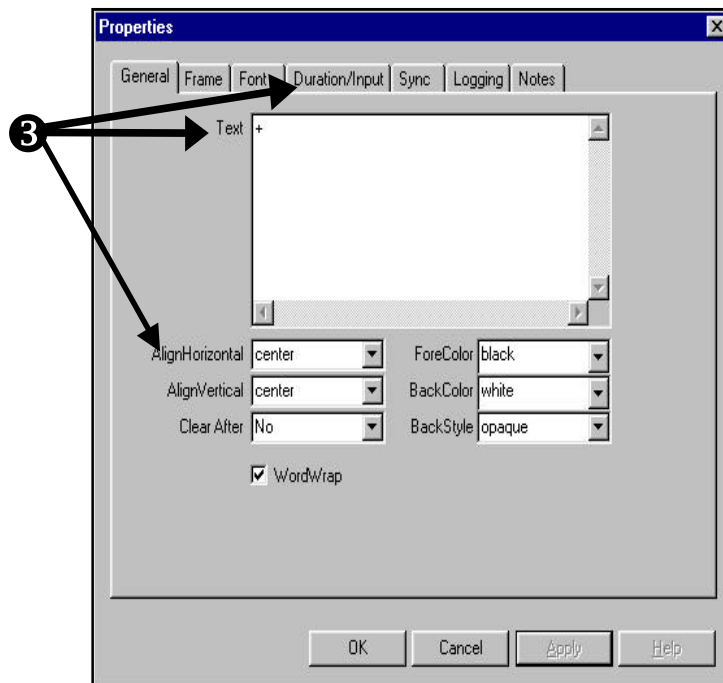
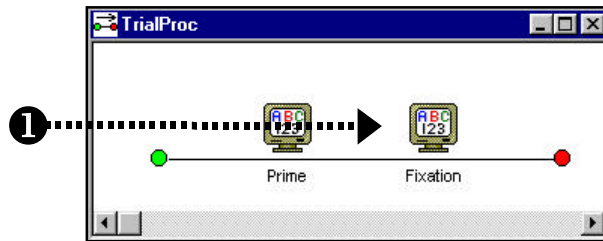
*You can also rename objects from a context menu within the Structure window or on the procedure in the workspace. Access the Context Menu by right clicking on the object you wish to rename and selecting the Rename command.*

- 2) Try using the Property Pages instead of the Properties window. (Either of these methods can be used effectively to specify properties.) **Double click** the **Fixation** object to open it in the Workspace, and **click** the Properties button.

- 3) **Specify** the **Text** to be a **+**, the **Duration** to be **1000** milliseconds, and the **AlignVertical** and **AlignHorizontal** properties to be set to **center** (default).

*Duration is set via the Duration/Input tab. The Fixation window should then look as it does below right.*

- 4) **Click OK**, **close** the Fixation window, and **save** the experiment.

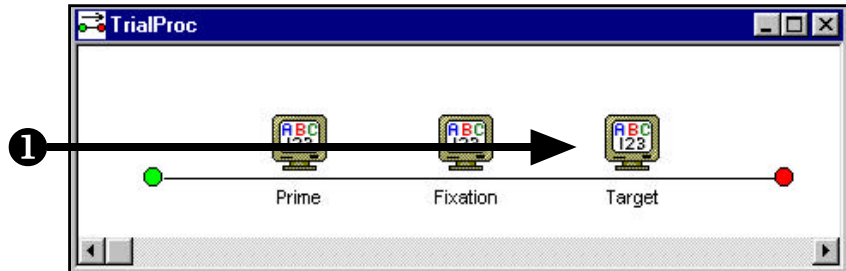




## Task 18: Define the TrialProc, continued...

This step will create and define the third object on the TrialProc timeline: the Target stimulus display.

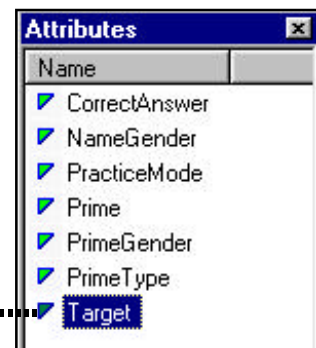
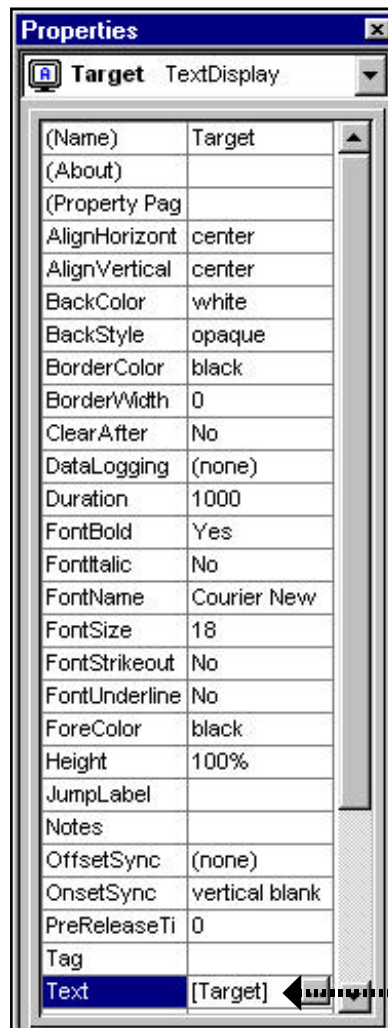
- 1) **Drag** a TextDisplay object from the Toolbox and **drop** it at the end of the TrialProc timeline. **Rename** this object **Target**.



- 2) In the Properties window, set the **Text** field to refer to the **Target** attribute.

*To do this, you will have to open the Attributes window from the View menu again. Then drag the attribute Target to the Text field in the Properties window. This allows the text displayed for this object to vary based on the current trial information. Notice that variable information is displayed in blue type after exiting the cell.*

- 3) **Close** the Attributes window.







## Task 19: Enable Input

The goal of this step is to set the properties for subject input.

- 1) In the Properties window for the Target object, **click** in the **Duration** field and then on the ellipsis that appears in the field.

*This is another way to display the Property Pages for the Target object.*

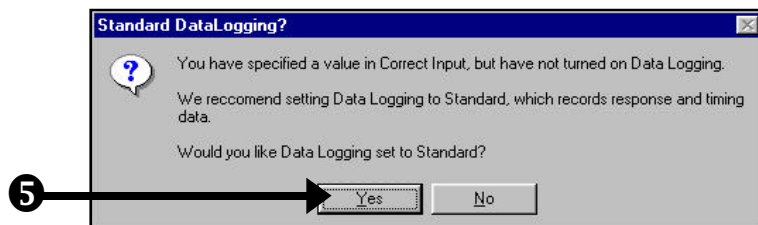
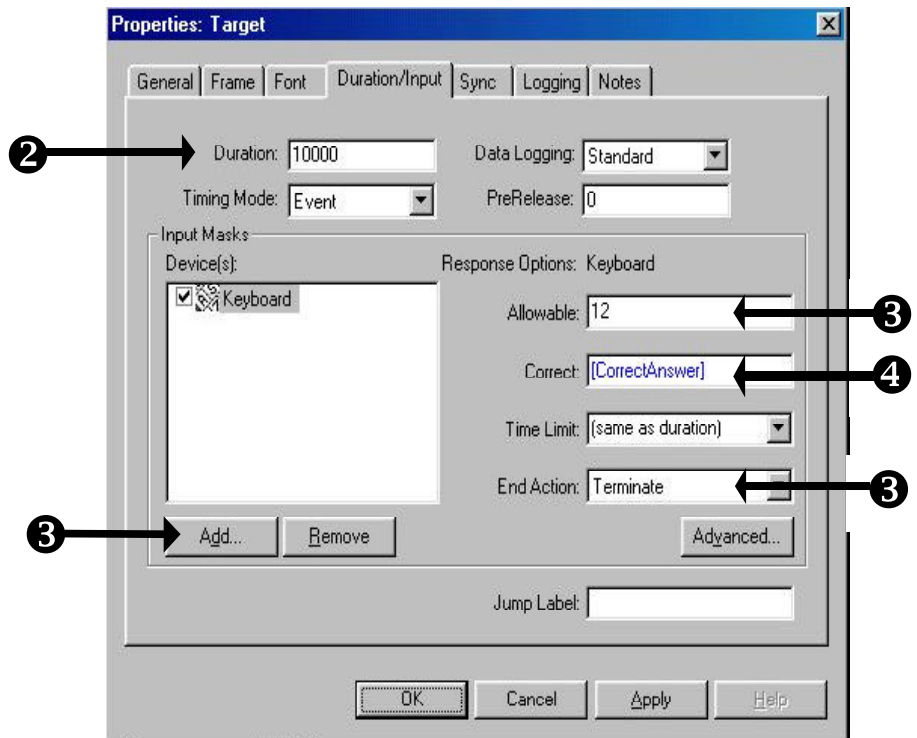
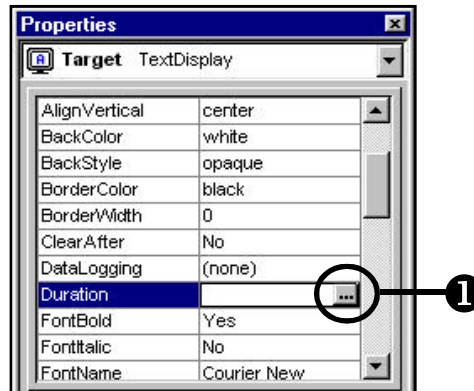
- 2) On the Duration/Input tab, **set** the **Duration** to **10000**.

- 3) **Add** the **Keyboard** as the input Device, **specify** the **Allowable** responses to be the “1” and “2” keys, and set the **EndAction** to **Terminate** upon response.

- 4) **Set** the **Correct** response field to refer to the **[CorrectAnswer]** attribute and **click OK**.

- 5) A dialog will be displayed indicating that data logging is not yet enabled. **Click Yes** to set the data logging to Standard.

- 6) **Click OK** to accept the settings and dismiss the Properties window.





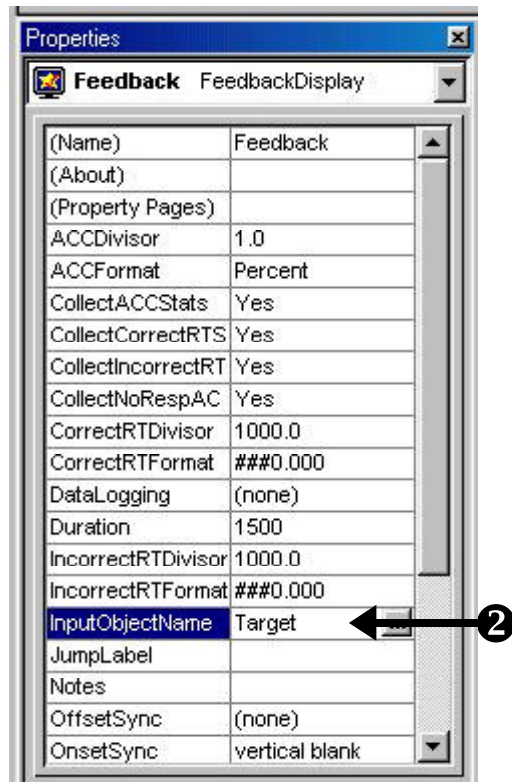
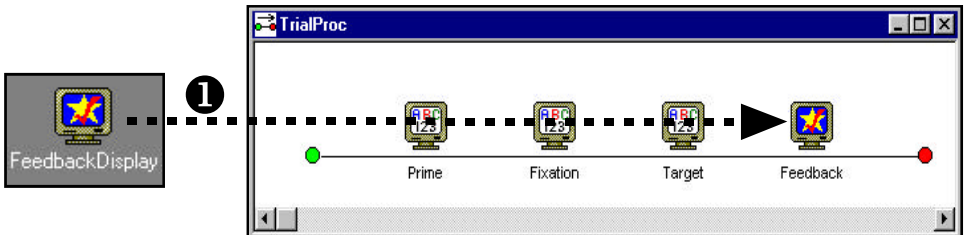
## Task 20: Define the TrialProc, continued...

This step will create and define the fourth and final object, the Feedback object, on the TrialProc timeline, and will link the Feedback object with the input object (Target).

1) **Drag** the FeedbackDisplay object from the Toolbox and **drop** it at the end of the timeline. **Rename** this object **Feedback**.

2) In the Properties window, **specify** the **InputObjectName** to be **Target**.

*This should not be confused with the attribute named Target. This field is asking for the name of the object where the subject response is being collected. In this experiment, the subject's response is collected in the TextDisplay object named Target.*

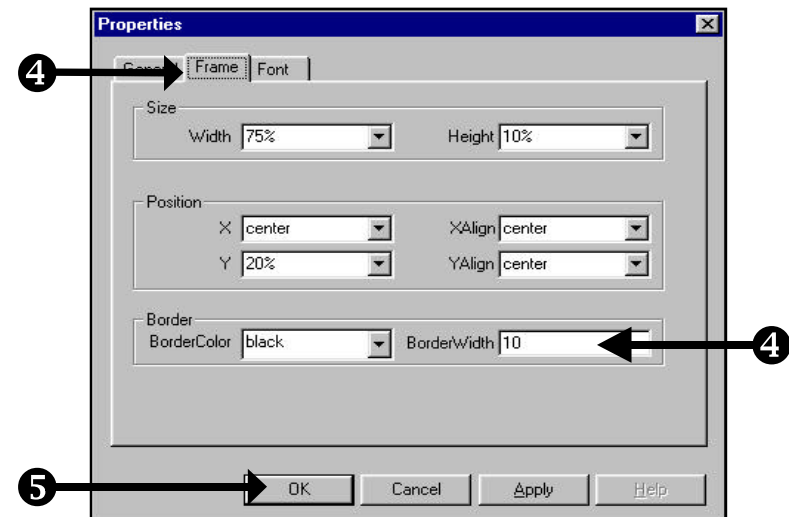
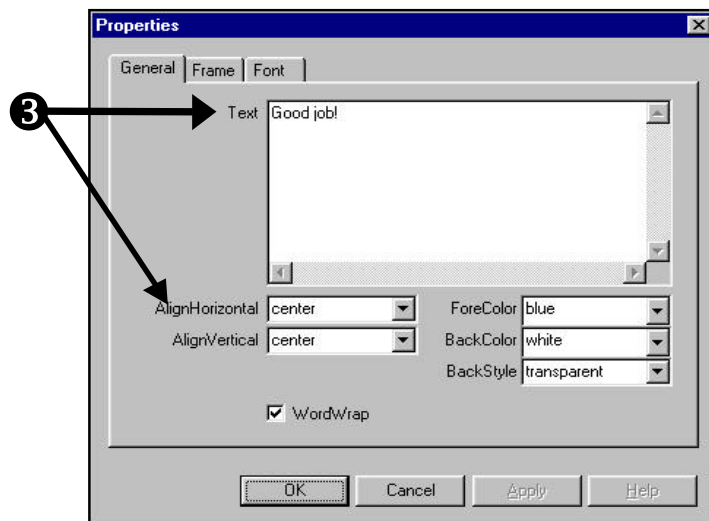
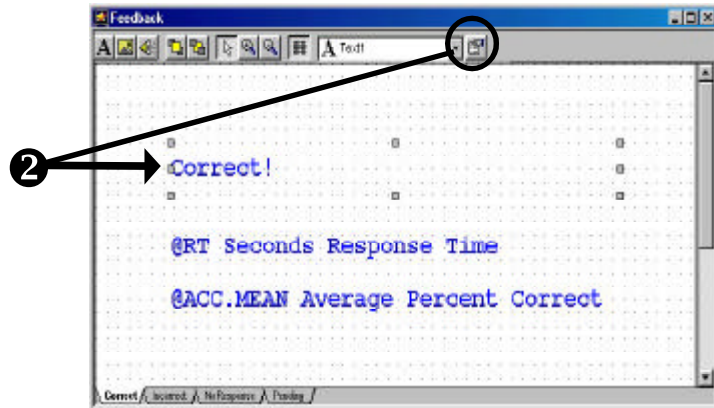




## Task 21: Specify the properties for the Feedback object

The goal of this task is to specify the properties for the various types of feedback presented.

- 1) **Double click** the Feedback object in the TrialProc to open it in the Workspace.
- 2) **Click** on the text box containing the “**Correct!**” message to select the sub-object, and **click** the **Properties** button to display the Property Pages for the sub-object.
- 3) On the General tab, **set** the **Text** field to read “**Good job!**” and the **AlignHorizontal** field to “**center.**”
- 4) **Click** the Frame tab and set the **BorderWidth** to “**10**” to create a thick border around this text.
- 5) When finished, **click OK** to dismiss the Property Pages, and **click** on the Feedback object outside of the text box area to deselect the sub-object.
- 6) **Close** the Feedback and TrialProc windows.





## Task 22: Generate the Script!

You have completed an experiment using E-Studio! Now that your experiment is completed, you only need to generate the script.

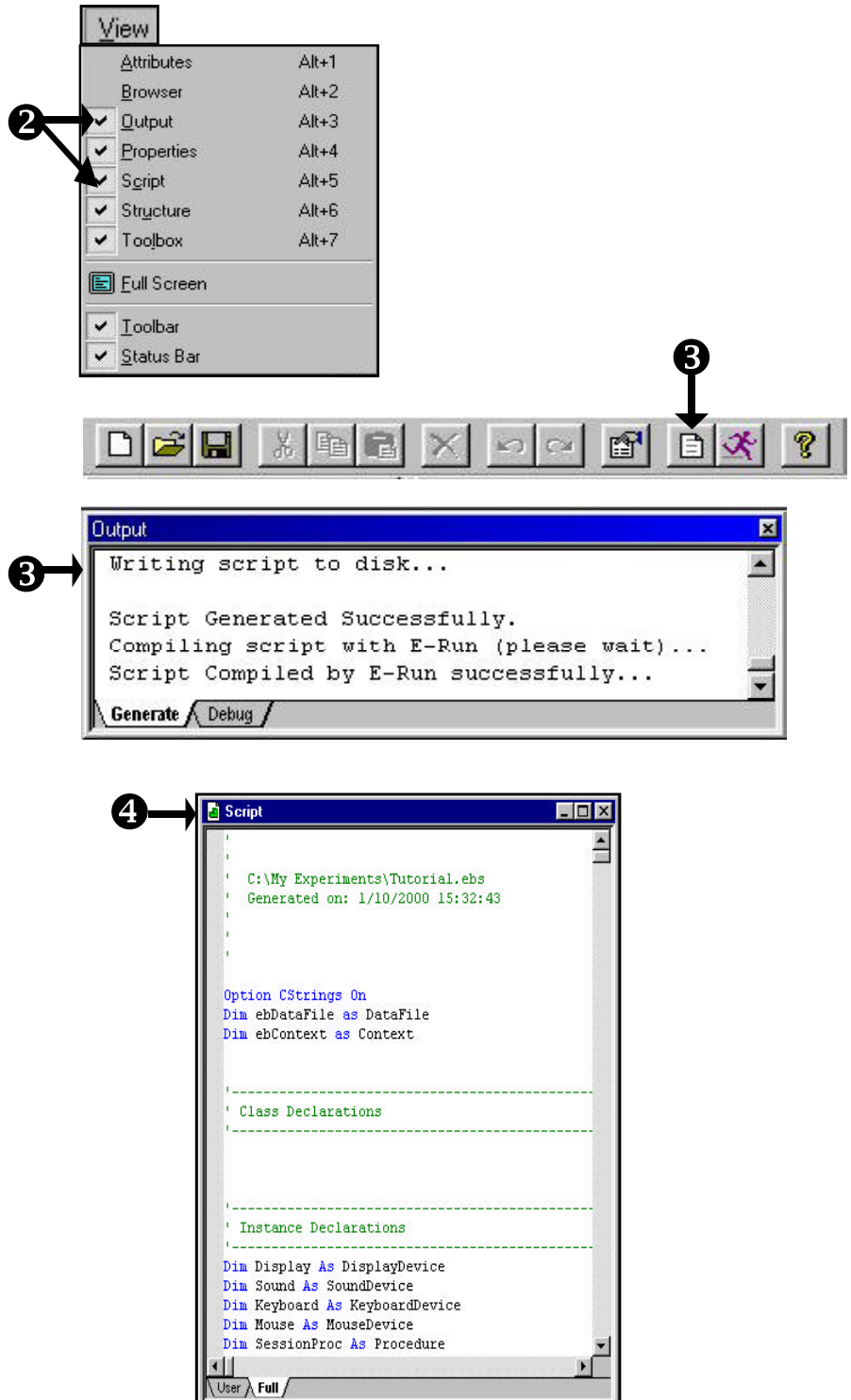
- 1) First, **save the experiment** as it exists now.  
*Press Ctrl-S or select Save in the File menu.*

- 2) From the View menu, **select the Script and Output windows.**  
*When a window is currently in view on the desktop, there is a checkmark next to it in the View menu.*

- 3) **Notice** the Output window in the lower left corner of the interface. When you generate the script, E-Studio provides feedback of the progress in the Output window. **Click the Generate** button to generate the script in the Script window.

*The Generate command writes a script file (as can be seen in the Script window), which will later be compiled by the E-Run application.*

- 4) You can see the script that E-Studio generates for you in the Script window. You could have spent days or weeks writing all that code, but you did it with E-Studio in about an hour or less!





## Task 23: Run your experiment!

Congratulations on completing your first experiment in E-Studio! If you specified everything correctly, you should have a functioning experiment.

### 1) Review your experiment structure.

Compare the structure of your experiment to the diagram included on page 1 of the tutorial to see the implementation of the original experimental design in E-Studio.

### 2) Click the Run tool button.

If the experiment script is generated successfully, the E-Run application will be launched to execute the E-Basic script (ebs) file. If errors are generated, refer to the tutorial on troubleshooting (in this manual) for additional information.

3) At the beginning of each run, several subject initialization and startup dialogs are presented in order to collect subject information. **Click OK** in each dialog to accept the default settings and begin the experiment!

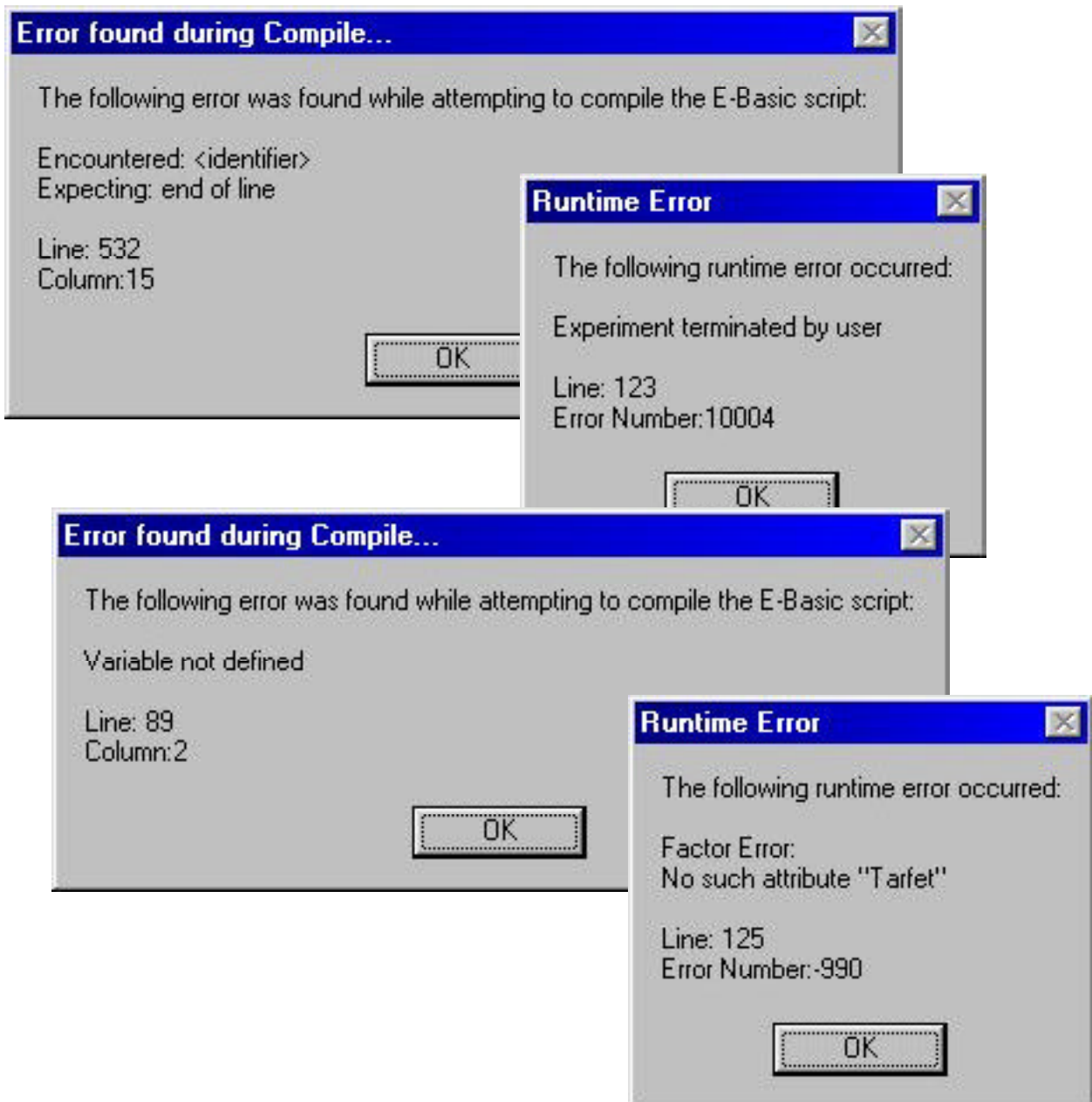
4) To **terminate** an experiment before its normal completion, use the **Ctrl-Shift-Alt** key combination (hold down all at once). This will terminate the E-Run application.

A dialog will be displayed, asking if you are sure you want to terminate the run. **Click Yes**, and another dialog will indicate that the run was terminated early. Simply dismiss the dialog by **clicking OK**.



# Troubleshooting

This guide serves as a tutorial for debugging and troubleshooting your E-Prime experiments. The end of this tutorial includes a table of common error messages, their descriptions, and possible solutions.





## Task 1: Generate a compile error

The goal of this task is to generate and handle a compile error. This task will introduce a compile error by asking the Feedback object to provide feedback for an object that is not collecting the required statistics.

**1) Open E-Studio and load the Tutorial.es program.**

*A copy of Tutorial.es is included in the My Experiments/Tutorials/Data/Originals folder. Copy this program into the current directory.*

**2) Double click the Feedback object in the Structure window to open it in the Workspace.**

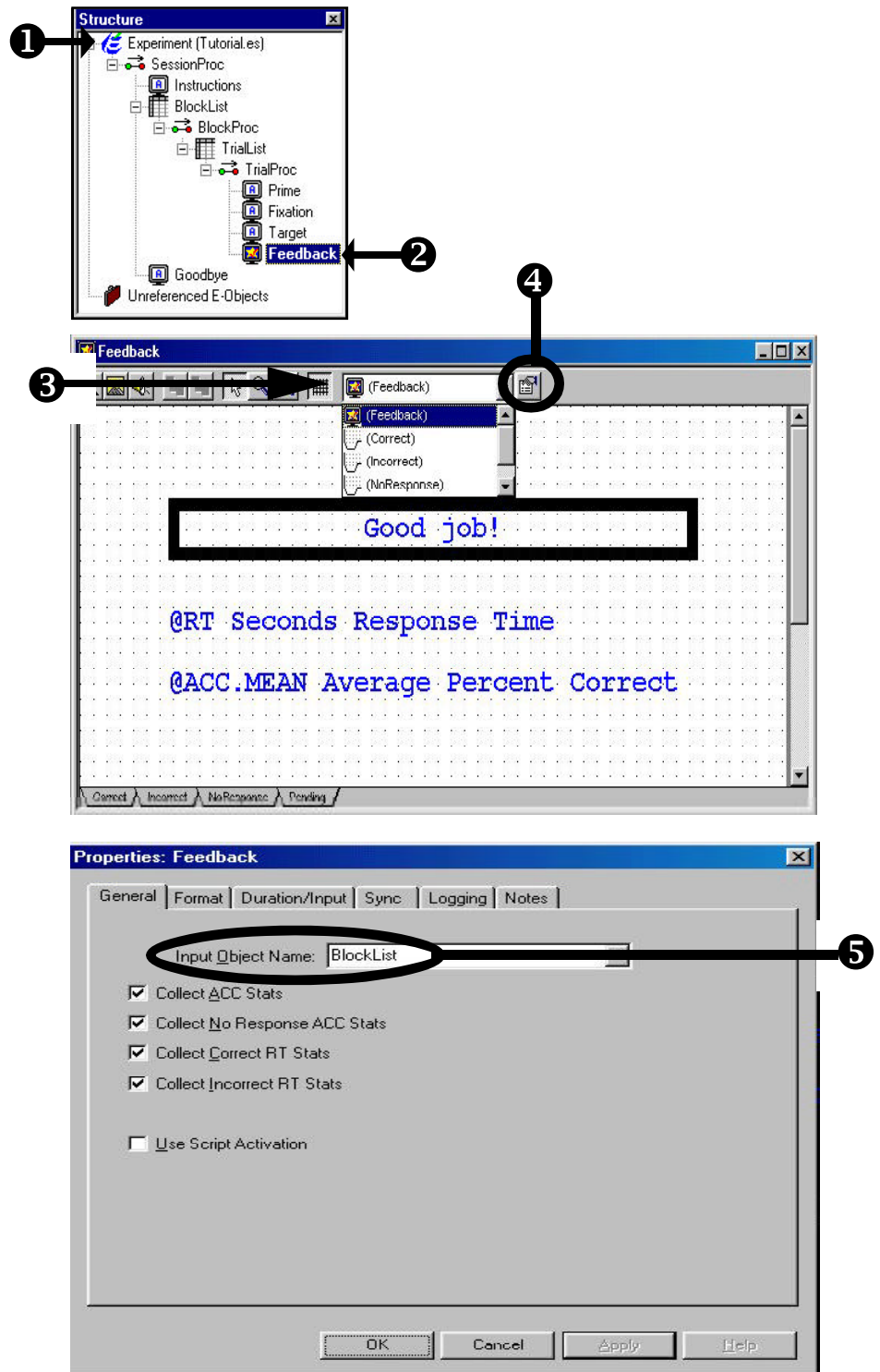
**3) Use the drop-down menu at the top of the toolbar to select the entire object Feedback object, rather than any of the sub-objects.**

*The input object is referenced by the Feedback object rather than by any of its sub-objects.*

**4) Click the Properties button to display the Property Pages for the Feedback object.**

**5) Change the Input Object Name field from Target to BlockList by typing directly in the field, and click OK.**

*A List object does not have ACC or RT stats, so this will cause an error to be generated.*





## Task 2: Generate a compile error continued...

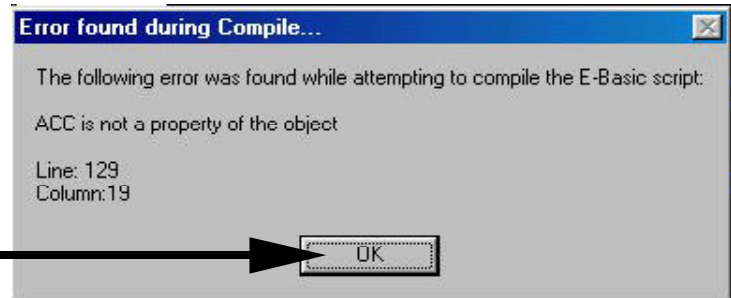
This task will run the program to generate the error, and explain how to interpret the information displayed.

- 1) **Click** the **Run** button to generate the compile error.

*When a compile error is generated, an error dialog is displayed, the run terminates, and the E-Run window remains open on the Task Bar.*

- 2) **Examine** the Compile Error dialog. Then **click OK** to dismiss the dialog.

*The error dialog indicates the line in the script at which the error occurred, and briefly describes the cause of the error. In this case, ACC is not a property of a List object, so Feedback cannot be provided.*





## Task 3: Generate a compile error continued...

The next few steps will describe alternate methods of viewing the compile error and locating the line of script that caused the error.

- Using the View menu, **open** both the **Output** and **Script** windows.

*These windows will be used to view the error message and locate the appropriate line of script.*

- In the Output window, **click** the **Debug** tab (default) to view the compile error.

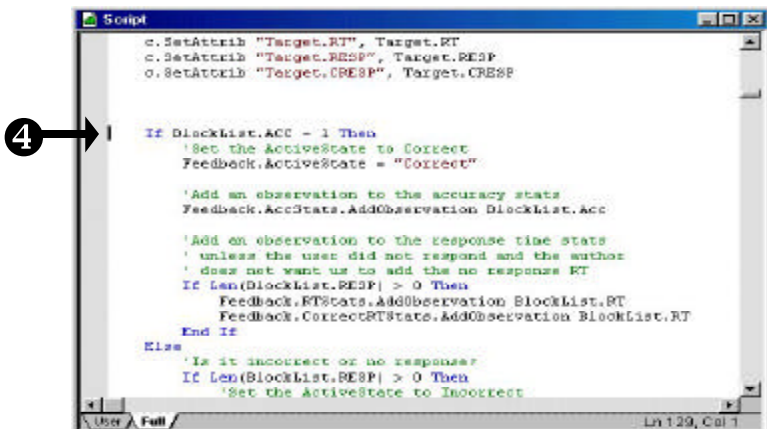
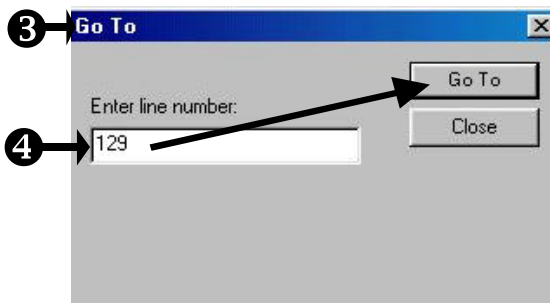
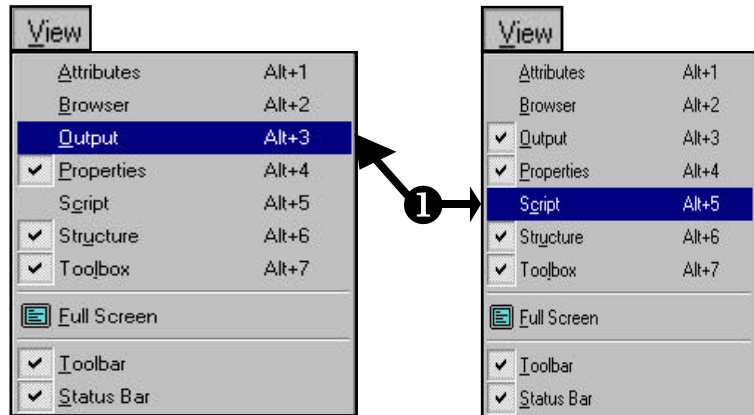
*This is helpful for reviewing error messages after the error dialog is dismissed.*

- Click** in the Script window to switch the focus to this window, and then **press Ctrl-G**.

*A Go To dialog will appear.*

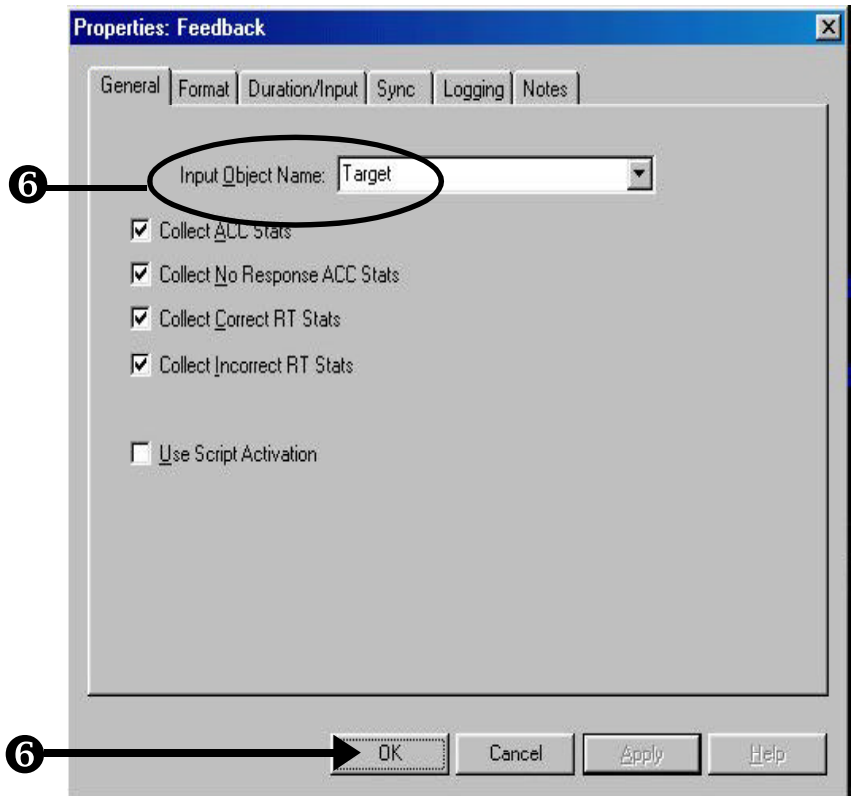
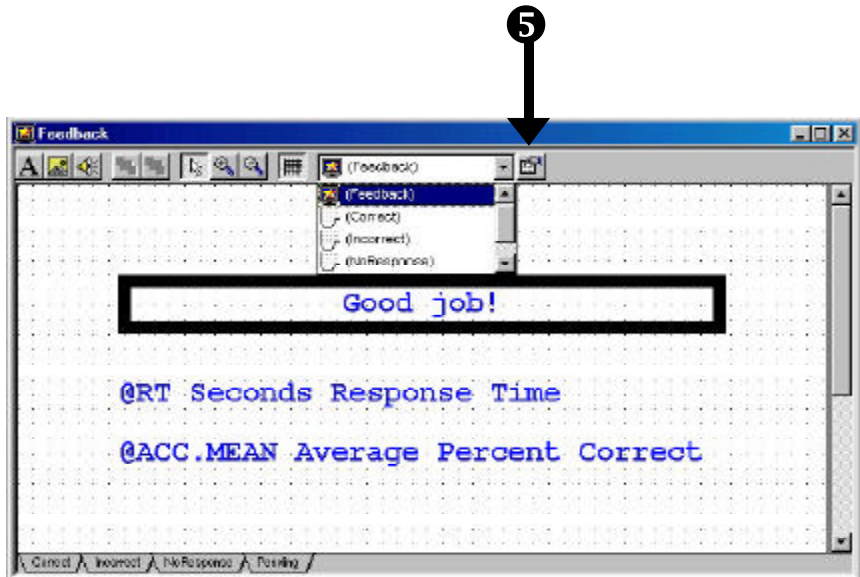
- Enter** the line number listed in the error message and **click** the **Go To** button.

*The cursor will be placed in the Script window, and will be blinking at the line at which the error occurred.*



## Task 3 continued...

- 5) Now we will correct our error. **Click** in the Feedback window that you opened in the Workspace. Make sure that the entire Feedback object is shown in the window at the top of the toolbar. **Open** this object's Property Pages again by clicking on the Properties icon.
- 6) In the Feedback Properties window, **reset** the "Input Object Name" field to **Target**. **Click OK**.
- 7) **Close** the Feedback, Script, and Output windows.
- 8) If you like, you can **rerun** the program to ensure that the error has been eliminated.



## Task 4: Generate a Run-time error

The goal of this task is to generate and handle a Run-time error. This task will introduce a Run-time error by asking the Target object to display the value for an attribute that does not exist.

- 1) In the Structure window, **double click** the **Target** object to open it.

*The Target object is used to display the values of the [Target] attribute.*

- 2) **Edit** Target to display **[Tarfet]** instead of [Target].

*Spelling errors are the most common causes of errors within E-Prime. Always double check your typing, especially in the List object.*

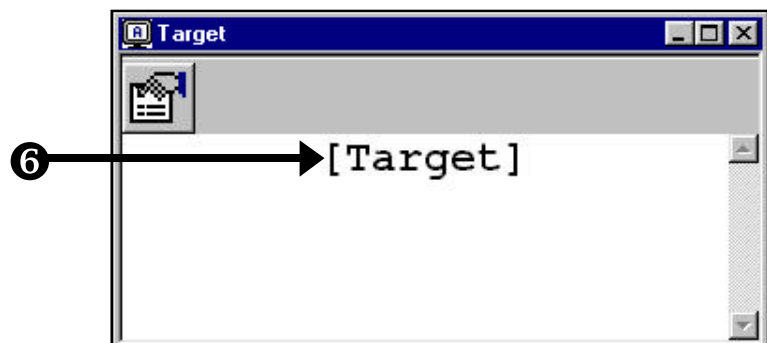
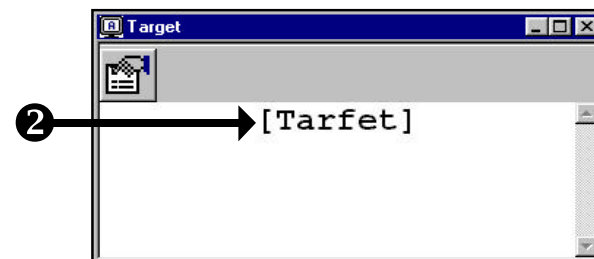
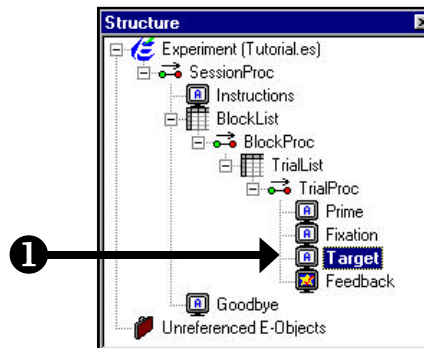
- 3) **Click** the **Run** button to generate and run the script.

- 4) **Hit <Enter>** in the subject initialization and startup dialogs to accept the default values and begin the experiment.

- 5) **Examine** the Run-time error. When you are finished, **click OK** to dismiss the error dialog.

*The error occurred because the attribute [Tarfet] does not exist.*

- 6) To eliminate the error, **fix** the spelling error and **rerun** or **close** the experiment.





## Table of Common Errors

The following table lists commonly encountered errors, a description of the error, and possible solutions to eliminate the error. A complete listing of errors may be found in the Reference Guide Appendix A - *Error List*.

Number	Displayed Message	Error Description	Solution
10000	The allowable response was unrecognized: <response>	The value entered in the Allowable field in the Response Options (Duration/Input Property Page) is not recognized by the input mask.	Enter device specific values for allowable response.
10001	The allowable response cannot be empty	The Allowable field in Response Options (Duration/Input Property Page) must contain a value when input is enabled.	Enter device specific values for allowable response.
10002	Cannot have duplicate response	A single value has been entered more than once. Since the Allowable field in the Response Options (Duration/Input Property Page) represents a mask of values, entering duplicate values would be redundant.	Verify that unique entries are entered only once.
10017	Invalid Termination Response	The value entered in the Termination Response field in the Advanced Response Options (Duration/Input Property Page) is not recognized by the input mask.	Enter device specific value for the termination response.
10018	Correct Response is not part of Allowable	The value entered in the Correct Response field in the Response Options (Duration/Input Property Page) is not included as part of the Allowable Response Options.	Specify a value that is included as part of the Allowable Response.
10019	Termination Response is not part of Allowable	The value entered in the Termination Response field in the Advanced Response Options (Duration/Input Property Page) is not included as part of the Allowable Response Options.	Specify a value that is included as part of the Allowable Response.
10044	The name cannot be longer than 80 characters!	An object was named in the interface with a length of more than 80 characters. An object name can only contain A-Z, a-z, 0-9, must begin with an alphabetic character, must not contain more than 80 characters, and must be unique within the system.	Enter a valid name through the Properties window, Procedure time line, or Structure view windows that does not have more than 80 characters.
10046	Name contains an invalid character.	An object was named in the interface with a value that contains an invalid character. E-Object names are generated to E-Basic script, which does not permit variable names to have invalid characters. An object name can only contain A-Z, a-z, 0-9.	Enter a valid name through the Properties window, Procedure timeline, or Structure view window that does not have any invalid characters.
18005	Cannot load sound file <file>. <error>	An error occurred while attempting to load a sound file. This can be due to file not found, file already open, lack of resources, invalid configuration, or improper driver.	Ensure that the configuration of the file matches the configuration of the sound device, that the file is not already open, and that the filename and path are valid.
18010	The value for MaxLength is invalid	The MaxLength field of the Sound object (General property page) represents a value that is not valid. Valid values for MaxLength cannot be less than 100.	Set the value of MaxLength to a value no less than 100.
18011	The value for BitsPerSample is invalid	The BitsPerSample field of the Sound device (Experiment Object; Devices tab) represents a value that is not valid. Common values are 8 and 16, but the settings are hardware dependent.	Set the value of BitsPerSample to 8 or 16 to match the format of the WAV file. All files must be saved using the same format.
18012	The value for Channels is invalid	The Channels field of the Sound device (Experiment Object; Devices tab) represents a value that is not valid. Valid values are 1 for mono and 2 for stereo.	Set the value of Channels to 1 or 2 to match the format of the WAV file. All files must be saved using the same format.
18013	The value for SamplesPerSecond is invalid	The SamplePerSecond field of the Sound device (Experiment Object; Devices tab) represents a value that is not valid. Common values are 11025, 22050, 44100, but settings are hardware dependent.	Set the value of SamplesPerSecond to 11025, 22050, or 44100 to match the format of the WAV file. All files must be saved using the same format.

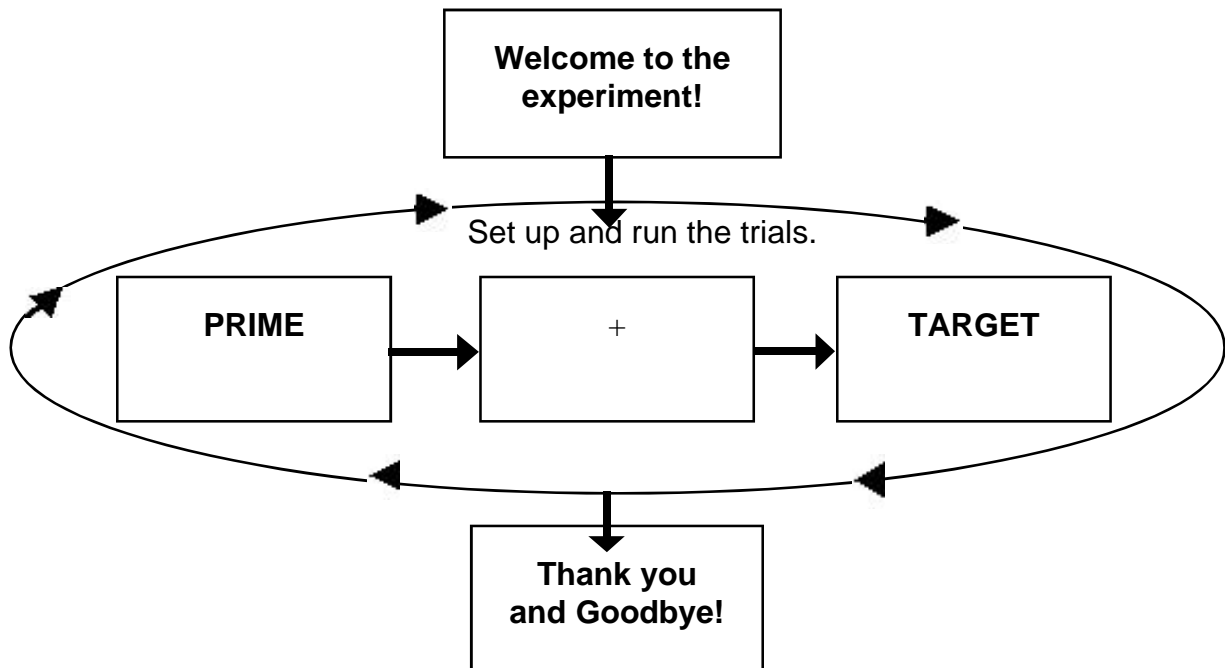


# Using the Paradigm Wizard

The experiment used throughout the E-Prime Getting Started Guide is a variation on the Blair & Banaji (1996) study examining automatic and controlled processes in stereotype priming. With their results, Blair and Banaji supported the proposal that stereotypes may be automatically activated, but that these effects may be controlled, or even eliminated, by perceivers.

*Note: The following tutorial assumes that you have successfully completed the E-Studio tutorial in this manual.*

In the experiment described in this tutorial, subjects will be presented with a prime word for a short duration. The prime word will be either stereotypically masculine or feminine (e.g., sports or flowers), and will have either a positive or negative connotation (e.g., sports or bald). The prime will be replaced by a fixation (+), and then a target word will be presented. The target word will be either a male or female name (e.g., Bob or Linda). The task is to respond to the target word by pressing a “1” if the target word is a male name, or by pressing “2” if the target word is a female name. Reaction time and accuracy will be measured.

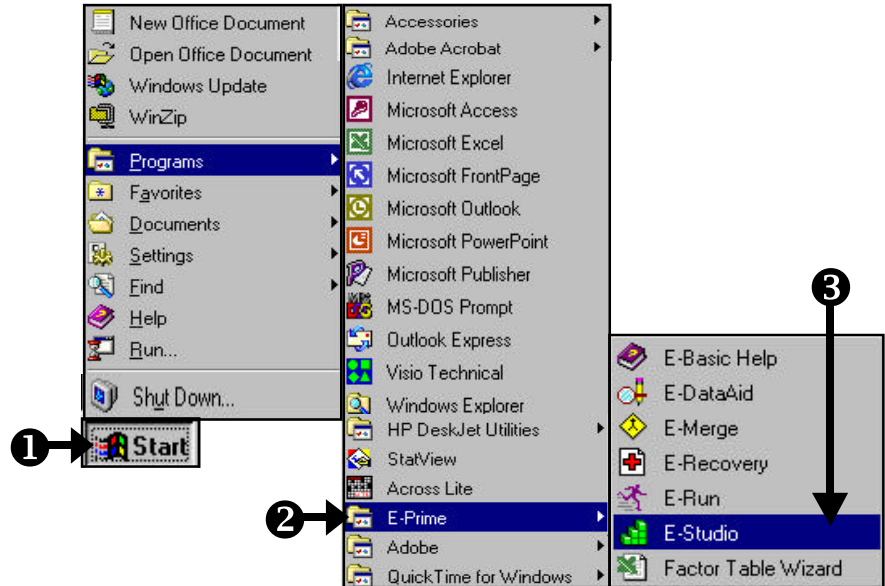




## Task 1: Launch the Paradigm Wizard

The Paradigm Wizard may be used to quickly construct the framework for an experiment. This step guides you through opening the Paradigm Wizard.

- 1) **Launch** E-Studio by **clicking** the **Start** button and **selecting Programs**.
- 2) From the Programs menu, **select E-Prime**.
- 3) From the E-Prime menu, **select E-Studio**.  
*A dialog is displayed allowing you to open a blank experiment, create an experiment using the Paradigm Wizard, or open an existing experiment.*
- 4) **Click** the radio button next to **Paradigm Wizard** to select it.
- 5) **Click** OK.





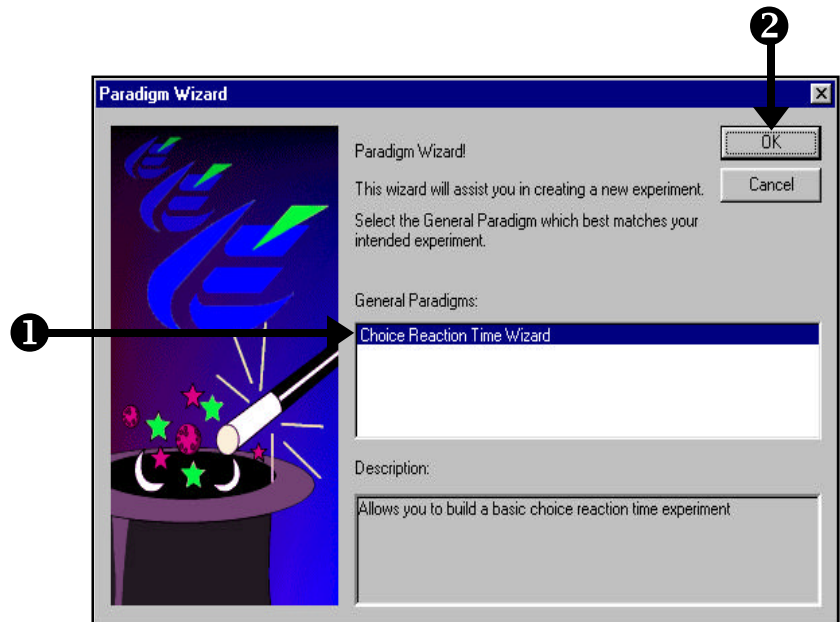
## Task 2: Select the general paradigm

This step guides you through choosing the general paradigm and creating a reaction time experiment.

### 1) Select the Choice Reaction Time Wizard.

*Currently, this is the only paradigm enabled, and it is selected by default.*

### 2) Click OK.



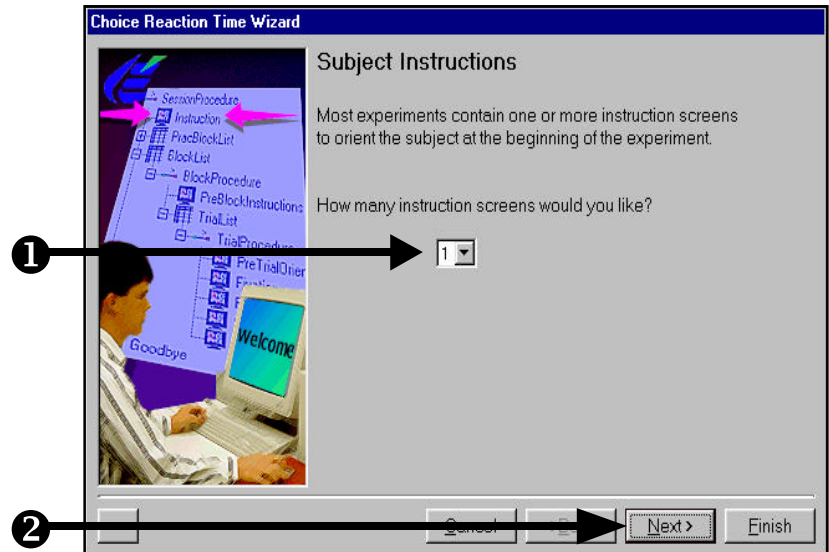


## Task 3: Specify subject instructions

This step will guide you in selecting the number of subject instruction screens to be presented.

1) For the current experiment, only one screen of instructions is necessary. **Set** the number of screens to “1” (default).

2) **Click Next.**



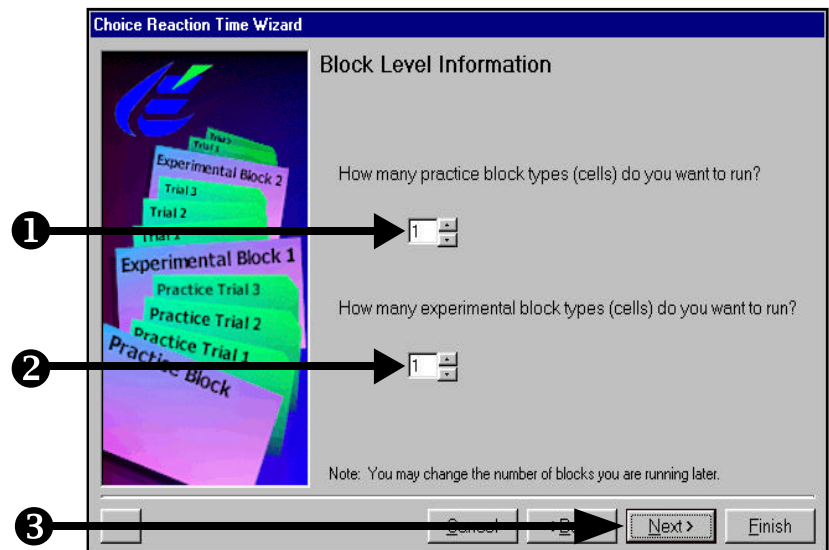




## Task 4: Set the number of blocks to be run

This step shows you how to set the number of practice and experimental blocks to be run. The automaticity in stereotyping experiments calls for one practice block and one block of real trials.

- 1) **Set** the number of practice blocks to “1” (default).
- 2) **Set** the number of experimental blocks to “1” (default).
- 3) **Click Next.**



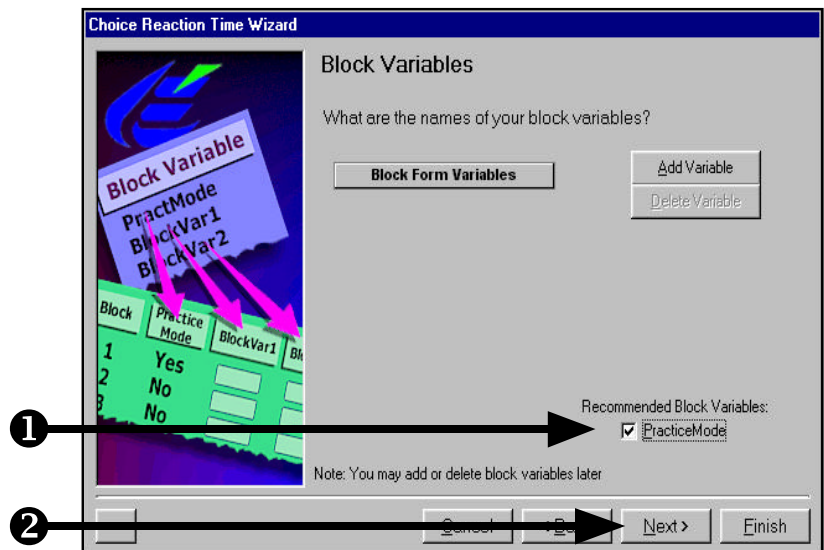


## Task 5: Set Block level variables

This step will guide you through defining your block level variables. The current experiment includes only one block level variable, PracticeMode.

1) **Click** in the checkbox next to **PracticeMode** in the list of **Recommended Block Variables**.

2) **Click Next**.

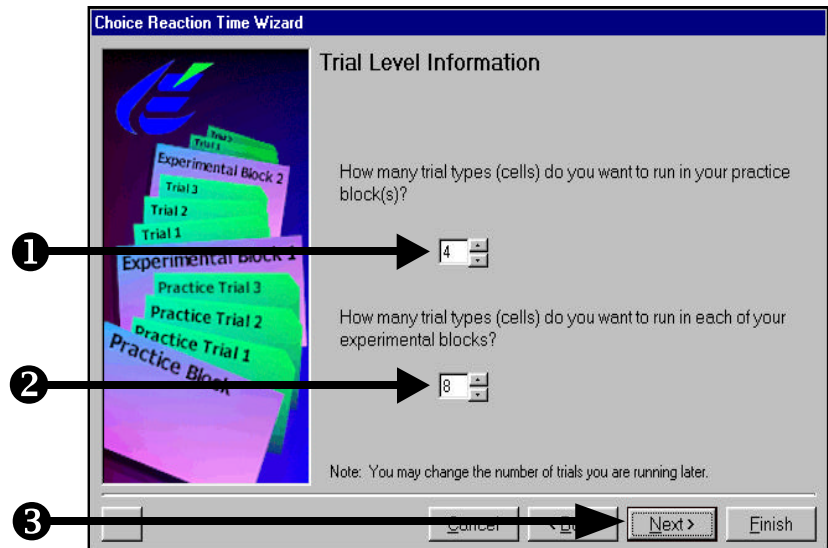




## Task 6: Set the number of trials to be run

This step guides you through designating the number of trials to be run.

- 1) Using the up arrow on the right side of the first text box, **set** the number of practice trials to “4.”
- 2) Using the up arrow on the right side of the second text box, **set** the number of trials in experimental blocks to “8.”
- 3) **Click Next.**





## Task 7: Set Trial level variables

This step will guide you through setting the variables at the trial level.

- 1) The Automaticity in Stereotyping experiment includes the following trial level variables:

**PrimeGender**  
**PrimeType**  
**NameGender**  
**Prime**  
**Target**

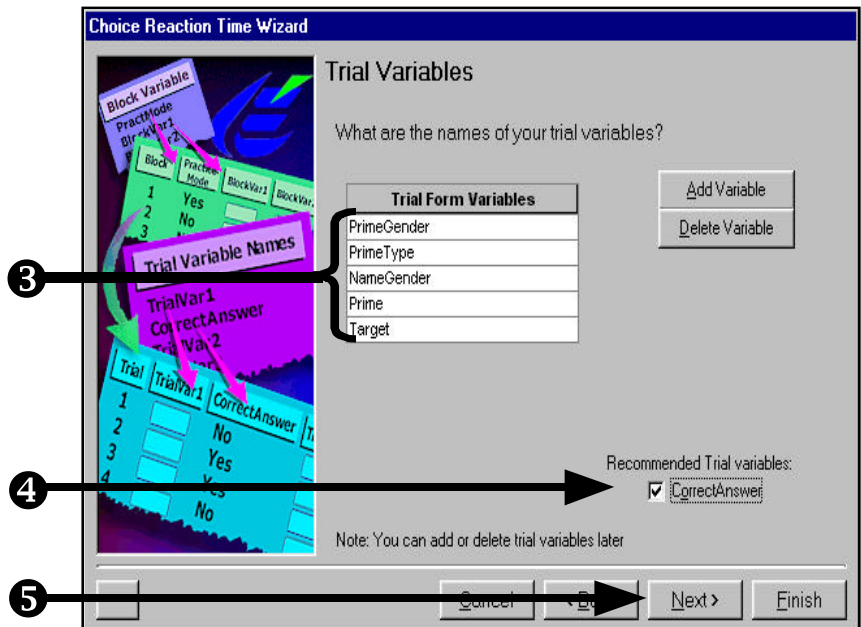
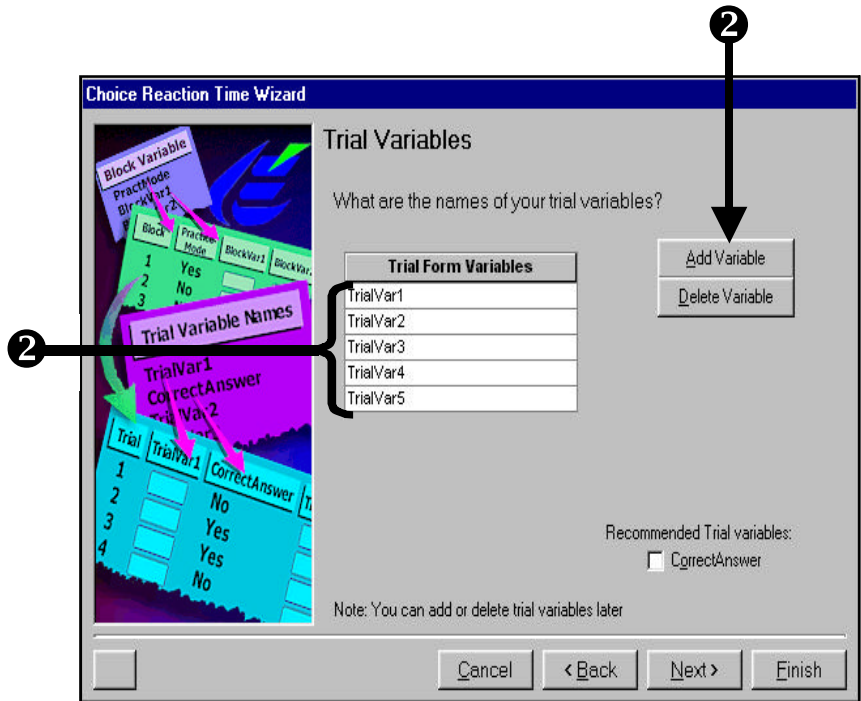
- 2) **Click** the **Add Variable** button 5 times to create 5 trial level variables. The new variables will appear under **Trial Form Variables** (e.g., TrialVar1).

- 3) **Change** the default names of these variables to the more meaningful names above. To do this, **place** the cursor over a box (e.g., the one containing TrialVar1), and **click** to select the box. Then **type** the new variable name (e.g., **PrimeGender**) in the box. **Move** to the next field by using the up and down arrow keys or by pressing **<Enter>**. Enter all 5 variables as shown above in step #1 above.

- 4) **Click** the checkbox next to **CorrectAnswer** in the **Recommended Trial variables** list.

*This will add CorrectAnswer as an independent Variable.*

- 5) **Click Next.**





## Task 8: Define the trial events

This step guides you through setting the specific events that will occur within each trial.

- 1) **Note** that by default, the trial events include Fixation, Stimulus Display, and Feedback. **Click** the checkbox next to **Pre-Trial Orientation** to add this event.

*This will be used to display the Prime.*

- 2) **Verify** that the checkbox next to **Fixation** is selected to present a fixation.

*Note: If you click on a checkbox that has already been selected, then you will deselect it.*

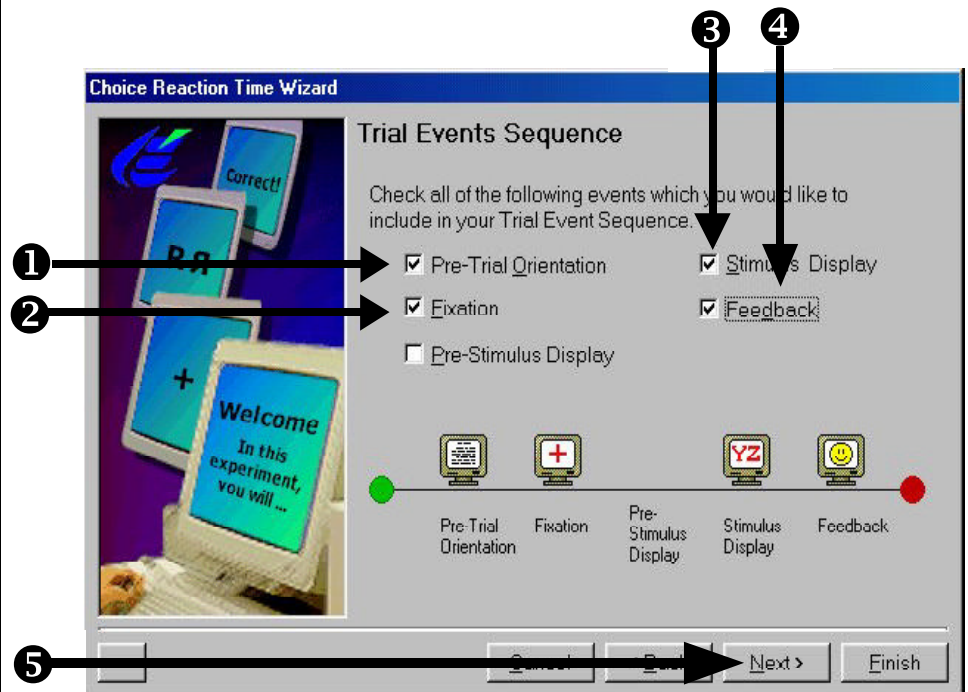
- 3) **Verify** that the checkbox next to **Stimulus Display** is selected.

*This display will be used to present the Target, and to collect a response.*

- 4) **Verify** that the checkbox next to **Feedback** is selected.

*This display will be used to present feedback based to the subject's responses.*

- 5) **Click Next.**





## Task 9: Set the properties for the Pre-Trial Orientation

This step will guide you through setting up the Pre-Trial Orientation display, which will display the Prime for 1000 milliseconds.

1) **Select** the “**your task is**” text in the Pre-Trial Orientation window and **delete** it.

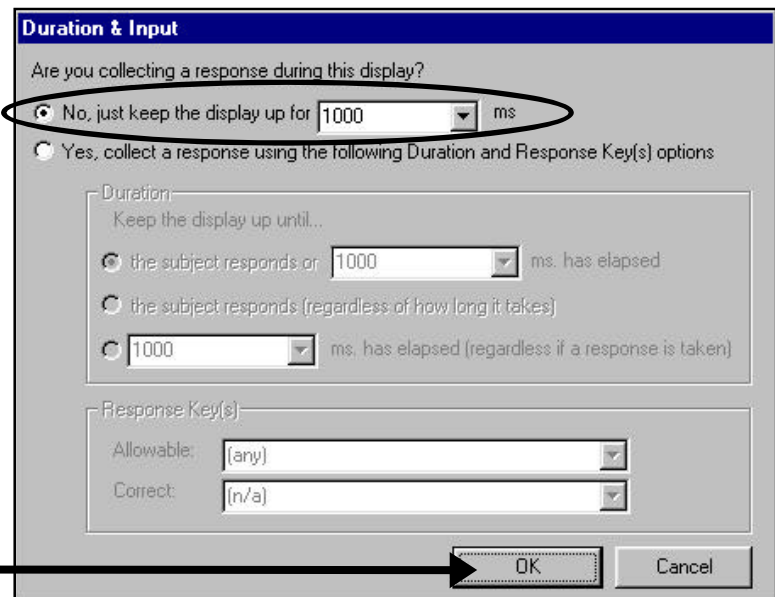
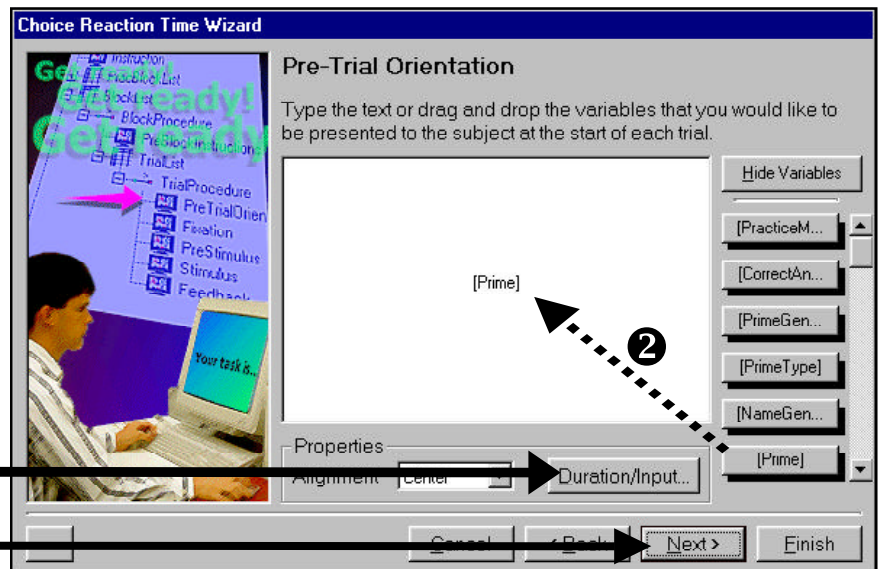
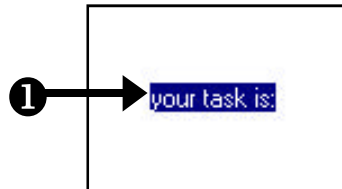
2) **Drag [Prime]** from the Variables list (located to the right of the text window) to the center of the text window.

*[Prime] should be displayed in the center of the display.*

3) **Click the Duration/ Input** button to display the Duration & Input dialog.

4) **Click the OK** button to accept the default (which is to collect no response and display for 1000 ms).

5) **Click Next.**

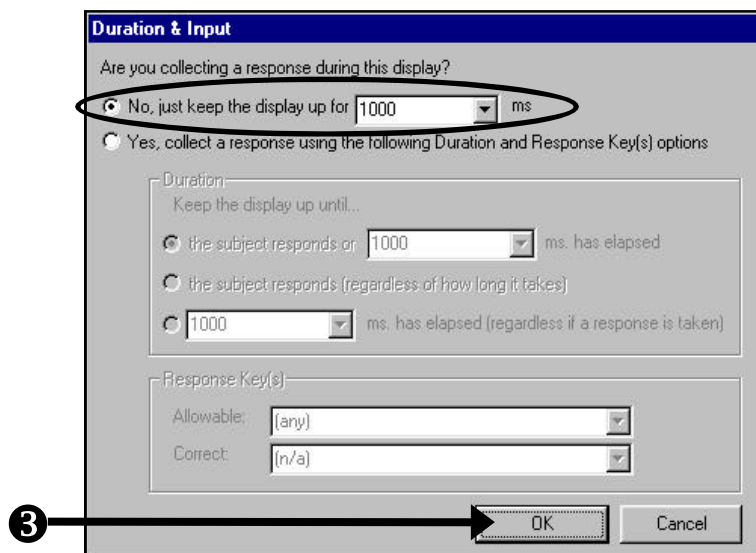
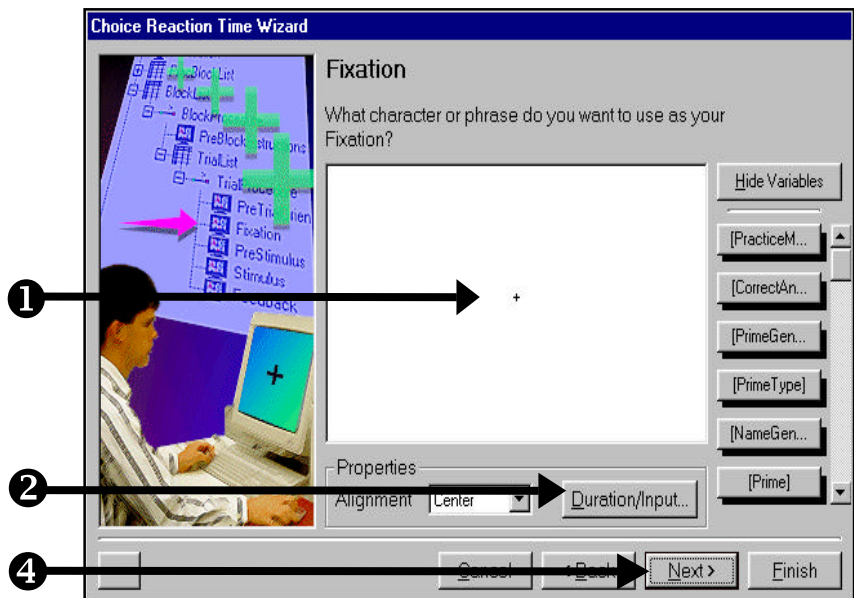




## Task 10: Set the properties for the Fixation display

This step guides you through setting the properties of the Fixation display, which will consist of a “+” displayed in the center of the screen for 1000 milliseconds.

- 1) By default, the Fixation display screen generated by the Wizard consists of a “+” symbol centered in the display.
- 2) **Click the Duration/ Input** button to bring up the Duration & Input dialog.
- 3) The default for the fixation display is to terminate the display after **1000** milliseconds without collecting a response. **Click OK** to accept this default.
- 4) **Click Next** to continue with the next step of the Wizard.

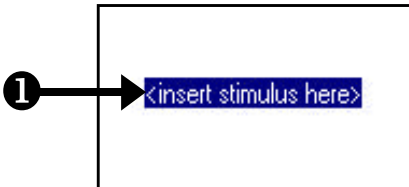




## Task 11: Set the properties for the Stimulus Display

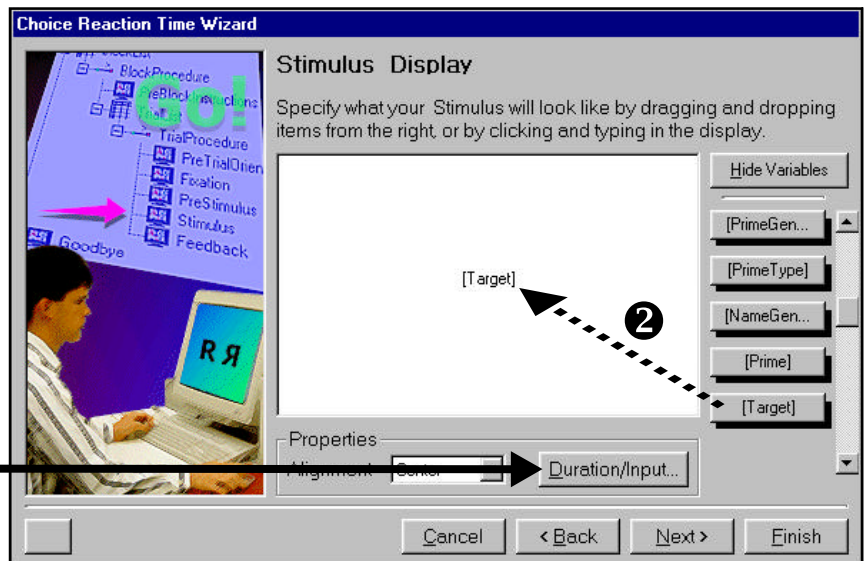
This step will guide you in setting up the Stimulus display, which will display the Target and collect a response.

1) **Select** the “<insert stimulus here>” text in the Stimulus Display window and **delete** it.



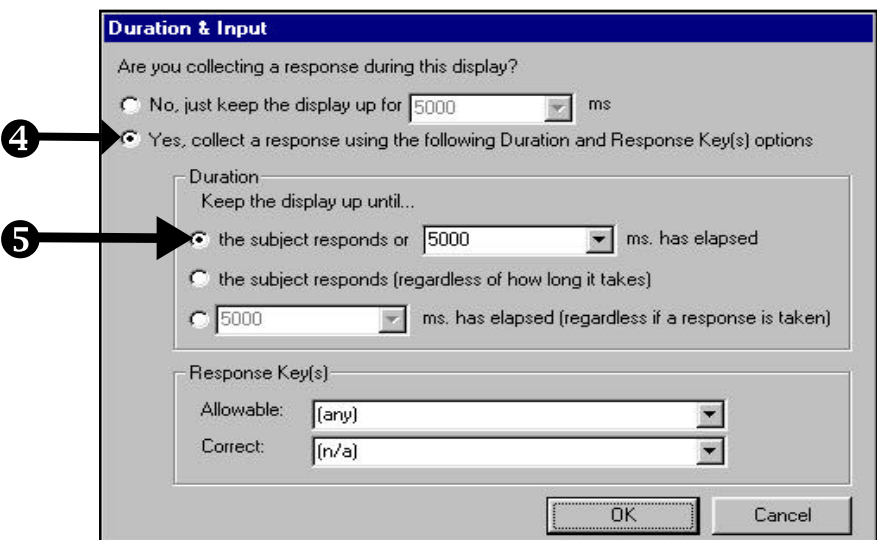
2) **Drag [Target]** from the Variables list (located to the right of the text window) to the center of the text window.

*You may have to scroll down to find [Target] in the Variables list.*



3) **Click** the **Duration/ Input** button to display the Duration & Input dialog.

4) **Verify** that the radio button to enable response collection (i.e., “**Yes, collect a response using the following...**”) is selected.



5) Under Duration, **locate** the field that specifies that the display remain up until “**the subject responds or 5000 ms has elapsed.**”

Continued next page...





## Task 11 continued...

6) **Change** the duration to 10000 ms (i.e., **highlight** the 5000 and **enter** 10000).

7) Under Response Key(s), **set** the allowable keys to "12." To do this, **highlight (any)** in the Allowable field, and **enter** 12.

8) From the drop-down box in the Correct field, **scroll down** and **select** [CorrectAnswer].

9) **Click OK** to accept the settings and dismiss the Duration & Input dialog.

10) **Click Next** in the Stimulus Display window to continue.

Duration  
Keep the display up until...

the subject responds or 10000 ms. has elapsed

the subject responds (regardless of how long it takes)

5000 ms. has elapsed (regardless if a response is taken)

Response Key(s)

Allowable: 12

Correct: (n/a)

Response Key(s)

Allowable: 12

Correct: (n/a)

(n/a)  
(SPACEBAR)  
(ENTER)  
[PracticeMode]  
[CorrectAnswer]  
[PrimeGender]  
[PrimeType]  
[NameGender]

Cancel

Duration & Input

Are you collecting a response during this display?

No, just keep the display up for 10000 ms

Yes, collect a response using the following Duration and Response Key(s) options

Duration  
Keep the display up until...

the subject responds or 10000 ms. has elapsed

the subject responds (regardless of how long it takes)

10000 ms. has elapsed (regardless if a response is taken)

Response Key(s)

Allowable: 12

Correct: [CorrectAnswer]

OK Cancel

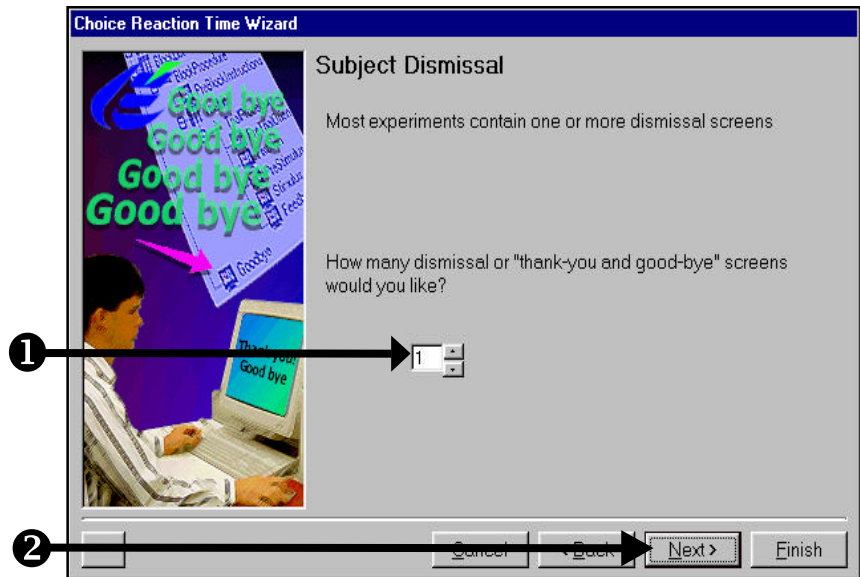
Cancel < Back Next > Finish



## Task 12: Determine the number of Subject Dismissal screens

This step will guide you in selecting the number of dismissal screens to be presented to the subject.

- 1) **Set** the number of dismissal screens to be "1" (this is the default).
- 2) **Click Next** to continue.



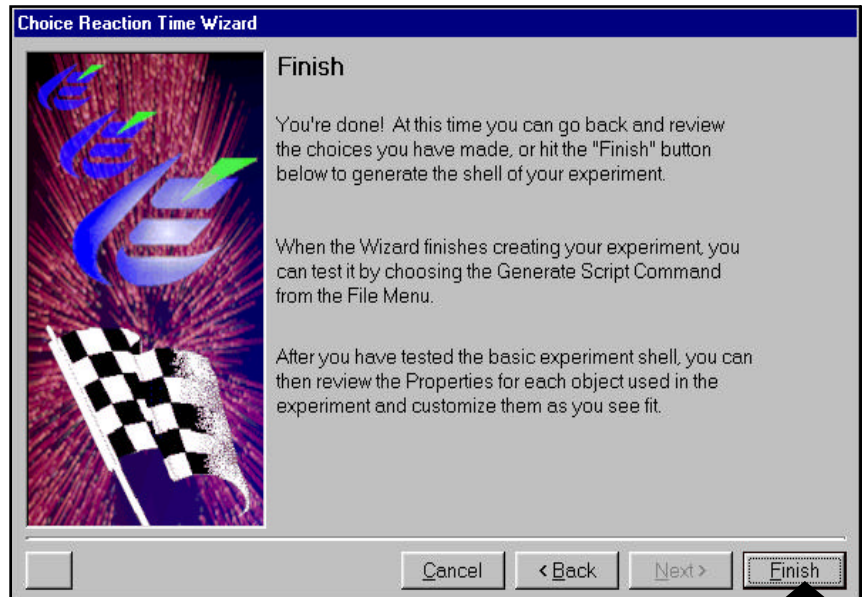


## **Task 13: Finish**

This step guides you through completion of the Paradigm Wizard.

### **1) Click Finish.**

*The Paradigm Wizard will generate an experiment shell based on the properties designated for each of the displays, and will open this experiment shell in E-Studio.*





## Task 14: Examine the experiment generated by the Paradigm Wizard

This step guides you through the examination of the experiment shell created in E-Studio by the Paradigm Wizard.

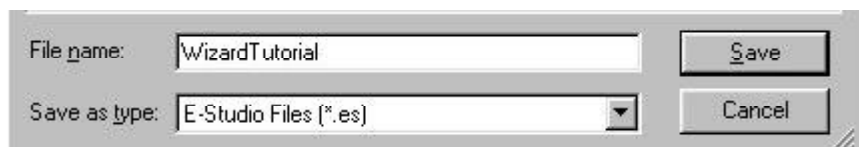
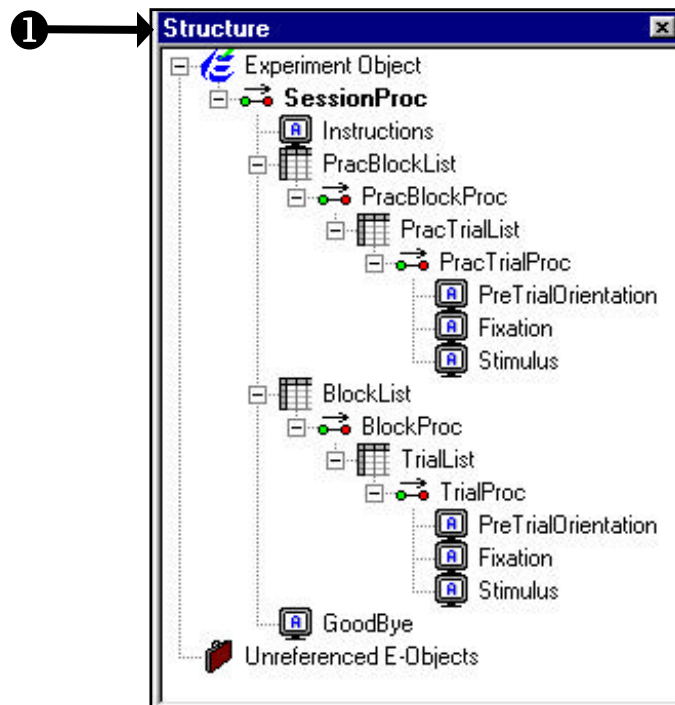
1) In E-Studio, **examine** the Structure window of the experiment generated by the Wizard.

2) **Open** the various objects in the Workspace to determine whether the properties are set correctly.

3) The Wizard generates the shell of the experiment, which will run as-is.

*The Wizard enters question marks (?) as placeholders for undefined values. To complete the experiment, you need to fill in the instructions, the stimuli to be presented, and the goodbye text. Follow the next few steps to complete the PracTrialList and the TrialList.*

4) **Save** your experiment as **WizardTutorial** using the Save As command in the File menu.





## Task 15: Complete the PracTrialList

This step guides you through the completion of the PracTrialList object, which will define the stimuli to be displayed during the practice trials.

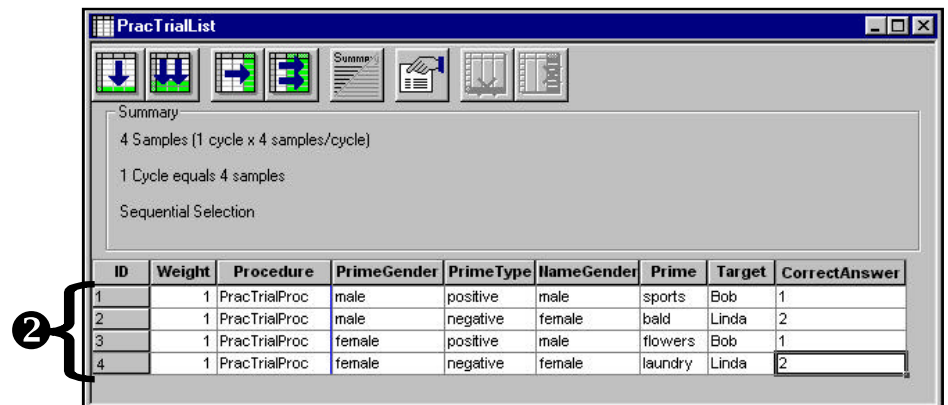
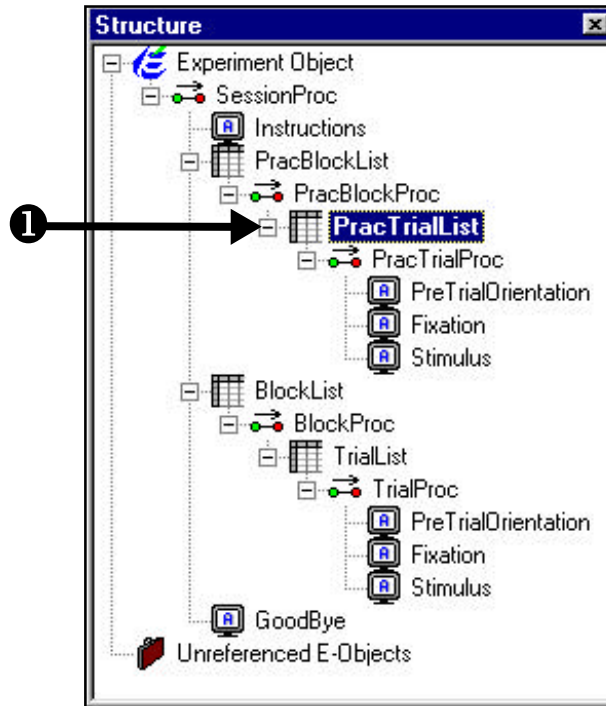
1) In the Structure window within E-Studio, **double click** PracTrialList to open this object in the workspace.

2) **Complete** the PracTrialList so that it matches the one to the right.

*The PracTrialList defines the stimuli that will be presented during the block of practice trials.*

*Note: The Nested attribute is unused in this experiment, so it has been hidden. To hide Nested, click on the column heading, right click, and select Hide Attribute from the menu that appears.*

3) **Close** the PracTrialList window in the Workspace.





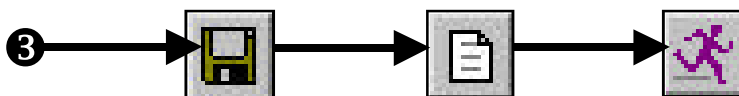
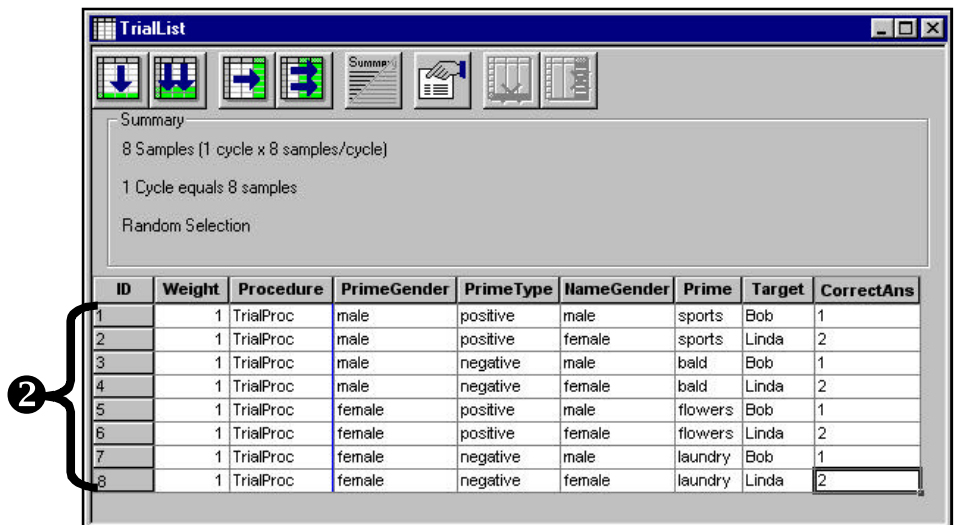
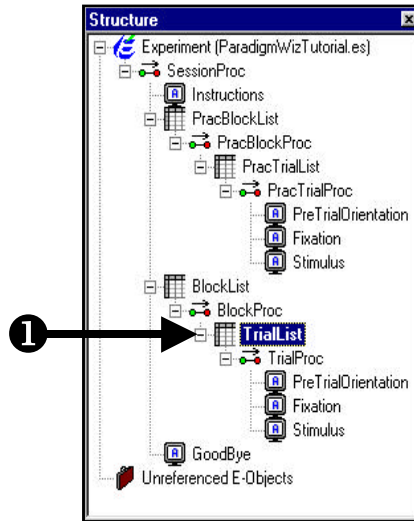
## Task 16: Complete the TrialList

This step guides you through the completion of the TrialList object, which defines the stimuli to be displayed during the experimental trials.

1) In the Structure window, **double click** **TrialList** to open this object in the Workspace.

2) **Complete** the TrialList object so that it matches the one to the right.

3) **Save, Generate,** and **Run** your experiment.  
*Your program will now display the stimuli entered in the PracTrialList and TrialList objects, and will score the response collected in relation to the CorrectAnswer attribute. To edit the text displays, simply open the objects in the Workspace and edit the text.*





# Merging Data Files

## Task 1: Open E-Merge

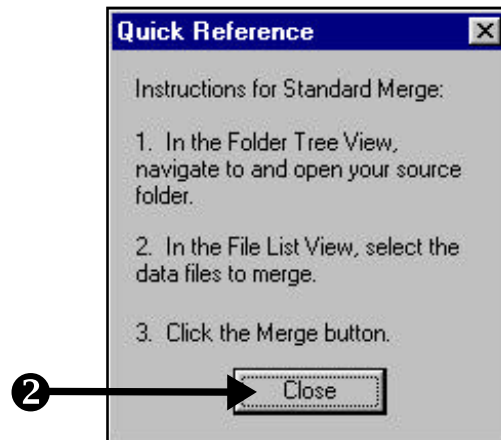
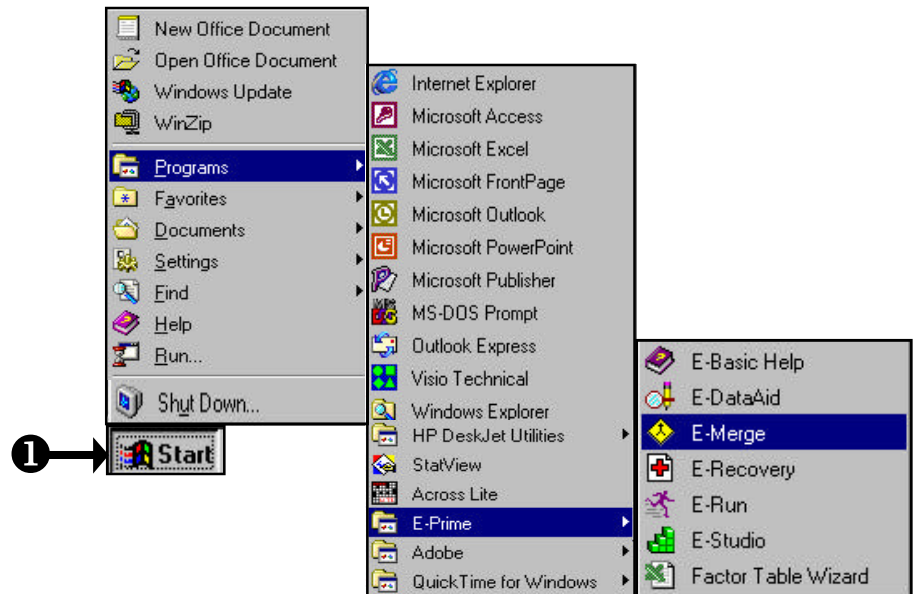
The E-Merge application may be used to merge individual data files into a master file for analysis. This step guides you through opening the E-Merge application.

- 1) From the Start menu, **select Programs, E-Prime, and E-Merge.**

*A Quick Reference dialog is displayed to aid in the merging of files.*

- 2) **Click Close** to dismiss the Quick Reference dialog, or simply **reposition** it by clicking on the title bar and dragging the dialog to the side of the screen.

*The Quick Reference dialog may be redisplayed using the View menu.*



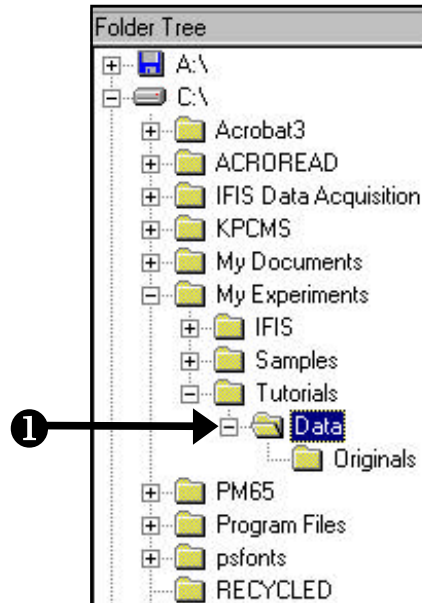


## Task 2: Locate your experiment files

The Folder Tree window on the left side of the E-Merge display allows you to navigate to the folder containing your data files. This step will guide you through locating the data files to be used in this tutorial.

- 1) In the Folder Tree, **navigate** to the **C:/My Experiments/Tutorials/Data** folder.

*Located within the Data folder are 5 subject data files for the Tutorial experiment. The data files are displayed in the File List window on the right side of the display.*



- 2) In the File List (on the right side of the display), you should see a list of files as shown to the right.

The screenshot shows a 'File List' window with a table of files. A circled '2' and a bracket highlight the list of files.

File Name	Experiment	Status	Subject	Session	Last Merged	Last Modified	Created
Tutorial-1-1.edat	Tutorial	Single Session	1	1			09/14/1999 1:37:45 PM
Tutorial-2-1.edat	Tutorial	Single Session	2	1			09/14/1999 1:38:39 PM
Tutorial-3-1.edat	Tutorial	Single Session	3	1			09/14/1999 1:39:31 PM
Tutorial-4-1.edat	Tutorial	Single Session	4	1			09/14/1999 1:40:22 PM
Tutorial-5-1.edat	Tutorial	Single Session	5	1			09/14/1999 1:41:15 PM



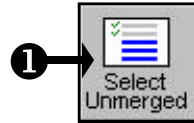


## Task 3: Merge data files

This step will guide you in selecting individual data files to be merged into a target file.

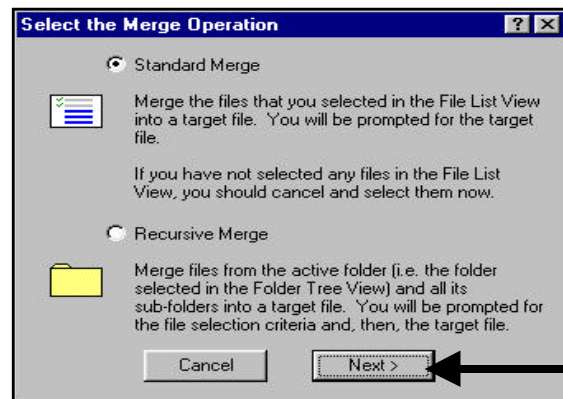
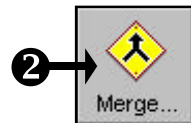
- 1) **Click the Select Unmerged** tool to select all E-Prime data files (\*.edat) that have not yet been merged into another file.

*An individual file may be selected by clicking on the file name.*



File Name	Experiment	Status	Subject	Session
Tutorial-1-1.edat	Tutorial	Single Session	1	1
Tutorial-2-1.edat	Tutorial	Single Session	2	1
Tutorial-3-1.edat	Tutorial	Single Session	3	1
Tutorial-4-1.edat	Tutorial	Single Session	4	1
Tutorial-5-1.edat	Tutorial	Single Session	5	1

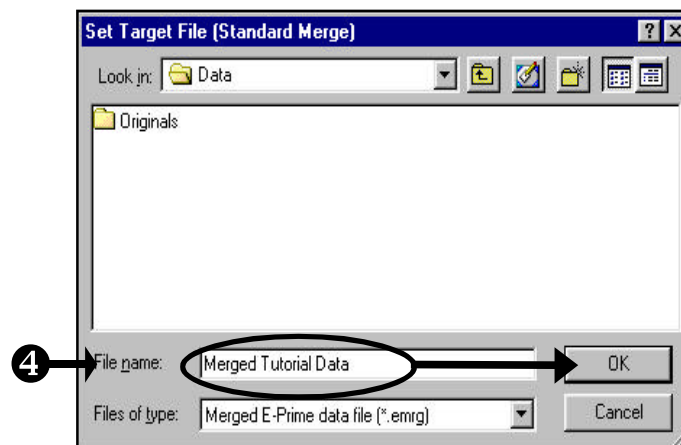
- 2) **Click the Merge** tool button on the toolbar.



- 3) **Click Next** for Standard Merge in the Select the Merge Operation dialog.

- 4) In the Set Target File dialog, **navigate** to the C:/My Experiments/Tutorials/Data folder and **type "Merged Tutorial Data"** in the File name field. **Click OK.**

*The results of the merge operation will be sent to the target file (Merged Tutorial Data.emrg in the Data folder).*

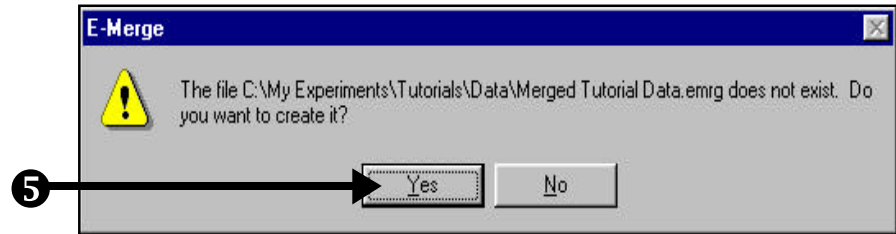


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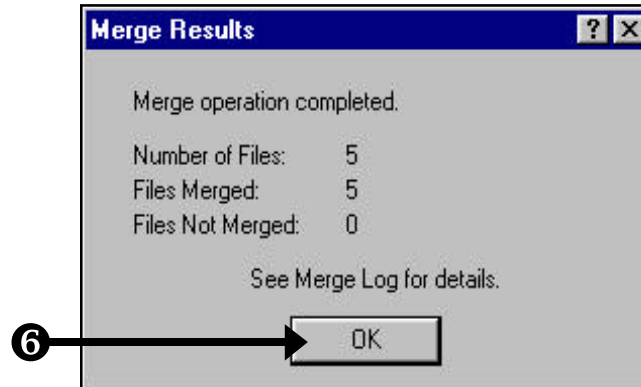


## Task 3 continued...

5) Since the target file does not already exist, a dialog is displayed asking if you would like to create it. **Click Yes.**



6) A dialog is displayed summarizing the results of the merge operation. **Click OK** to dismiss the Merge Results dialog.



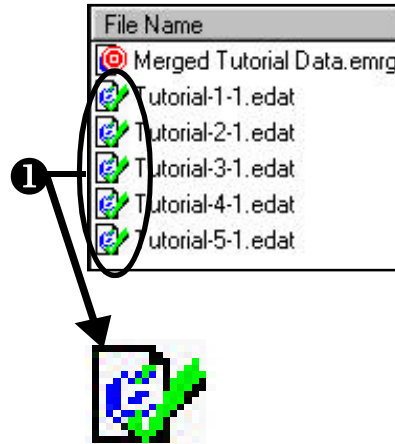


## Task 4: Examine merge results

This step guides you through an examination of the results from the previous merge operation.

- 1) **Notice** the icons to the left of the data files (\*.edat) in the File List window. These indicate that the files have been merged.

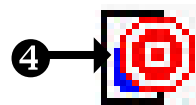
*The icon for a merged data file consists of a green checkmark on the E-Prime icon.*



- 2) The Last Merged column for each of the data files lists the date of the merge operation just performed.

File Name	Experiment	Status	Subject	Session	Last Merged
Merged Tutorial Data.emrg		TARGET	---	---	
Tutorial-1-1.edat	Tutorial	Single Session	1	1	01/26/2000 11:16:43 AM
Tutorial-2-1.edat	Tutorial	Single Session	2	1	01/26/2000 11:16:43 AM
Tutorial-3-1.edat	Tutorial	Single Session	3	1	01/26/2000 11:16:43 AM
Tutorial-4-1.edat	Tutorial	Single Session	4	1	01/26/2000 11:16:43 AM
Tutorial-5-1.edat	Tutorial	Single Session	5	1	01/26/2000 11:16:43 AM

- 3) Merged Tutorial Data.emrg is now listed in the File Name column and receives the designation of “TARGET” in the Status column.



- 4) The icon to the left of Merged Tutorial Data.emrg is the icon for a target file.

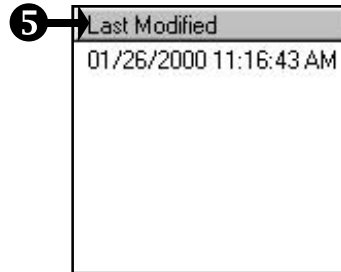
Continued next page...



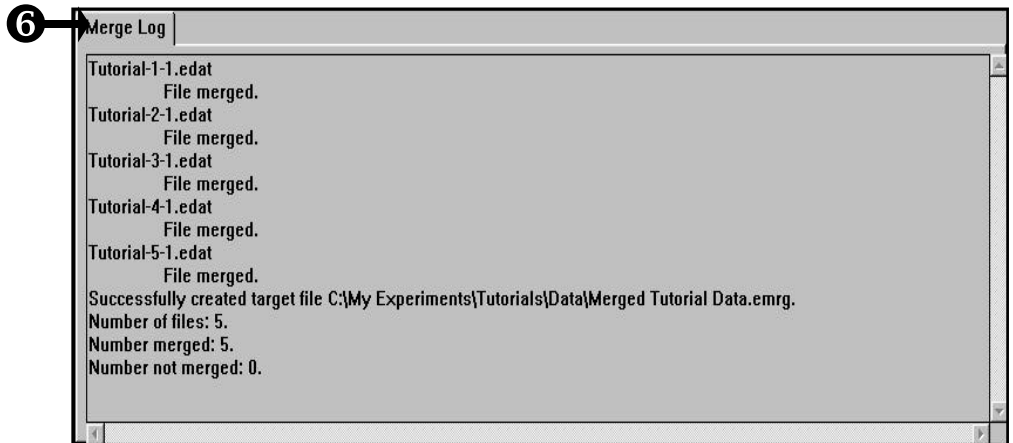
## Task 4 continued...

- 5) The Last Modified column for the Target File (Merged Tutorial Data.emrg) lists the date of the merge operation.

*Note that Merged Tutorial Data is the only file that has been modified.*



- 6) The Merge Log window, displayed at the bottom of the application, displays the details of the merge operation (including: the name of each merged file, the result of the operation, the number of selected files merged, and the number of files not merged).



- 7) **Exit** the application.

**Your merged data is now ready for input into E-DataAid!**



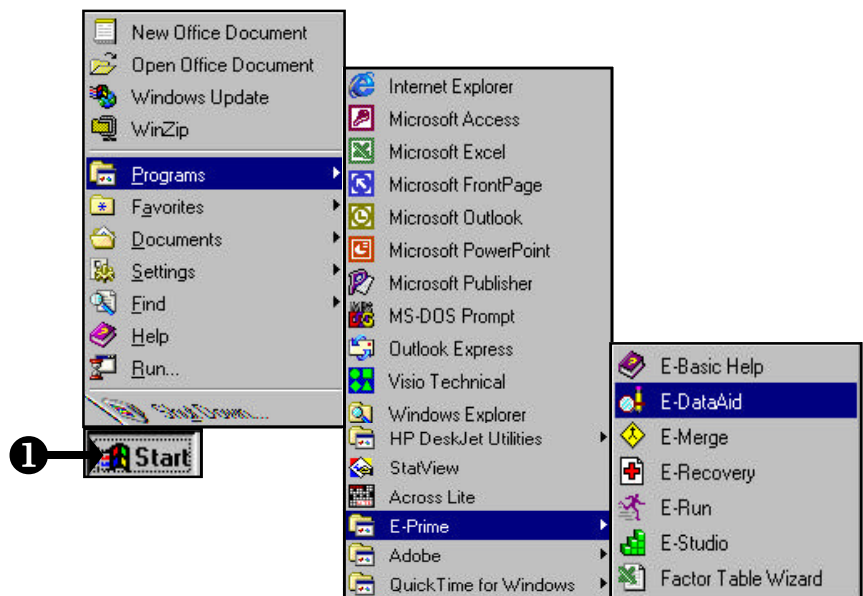
# Preparing Data for Analysis

## Task 1: Open E-DataAid

The E-DataAid application may be used to examine your data and prepare it for export to a tab-delimited text file so that it may be read into another application (such as Excel). This step guides you through opening the E-DataAid application.

- 1) From the Start menu, **select Programs, E-Prime, and E-DataAid.**

*The E-DataAid application does not open to a specific data file or to a blank file. A file must be opened within the application. The only active tool button is the Open button.*





## Task 2: Open a data file

This step guides you through locating and opening the data file to be used in this tutorial.

**Note:** You MUST run the Merging Data Files tutorial in this manual in order to create the **Merged Tutorial Data.emrg** file that is used here in Task 2.

- 1) Select the Open** command from the File menu.

*The Admin Open command allows the user to set security options.*

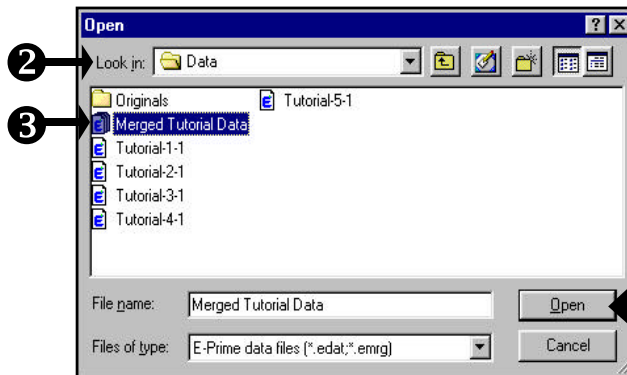
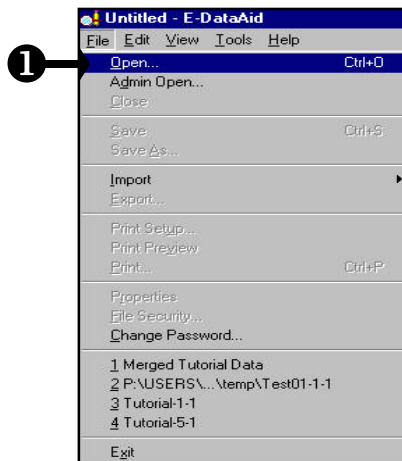
- 2) In the Open dialog,** **navigate** to the **Data** folder in C:\My Experiments\Tutorials\Data directory.

- 3) Select the Merged Tutorial Data.emrg** file.

*The Merged Tutorial Data.emrg file contains data from the 5 subjects who participated in the Tutorial experiment.*

- 4) Click Open.**

*The spreadsheet contained within the selected file will be displayed.*



	Name	Gender	Prime	Prime Gender	Prime Type	Procedure[Trial]	Running[Trial]
1	male		sports	male	positive	TrialProc	TrialList
2	female		sports	male	positive	TrialProc	TrialList
3	male		laundr	female	negative	TrialProc	TrialList
4	male		bald	male	negative	TrialProc	TrialList
7	female		bald	male	negative	TrialProc	TrialList
10	male		sports	male	positive	TrialProc	TrialList
11	male		bald	male	negative	TrialProc	TrialList
14	female		laundr	female	negative	TrialProc	TrialList
15	male		flower	female	positive	TrialProc	TrialList
16	female		bald	male	negative	TrialProc	TrialList
17	male		flower	female	positive	TrialProc	TrialList
18	female		flower	female	positive	TrialProc	TrialList
19	male		bald	male	negative	TrialProc	TrialList
21	male		laundr	female	negative	TrialProc	TrialList
22	female		laundr	female	negative	TrialProc	TrialList
23	female		bald	male	negative	TrialProc	TrialList
24	female		sports	male	positive	TrialProc	TrialList



## Task 3: Filter the data

This step guides you through filtering the data to include only those trials during which the subject responded correctly.

- 1) **Click** the **Filter** tool button to display the Filter dialog.

*The Filter dialog may also be displayed using the Tools menu.*

- 2) **Select** **Target.ACC** in the “Column name” list and **click** the **Checklist** button.

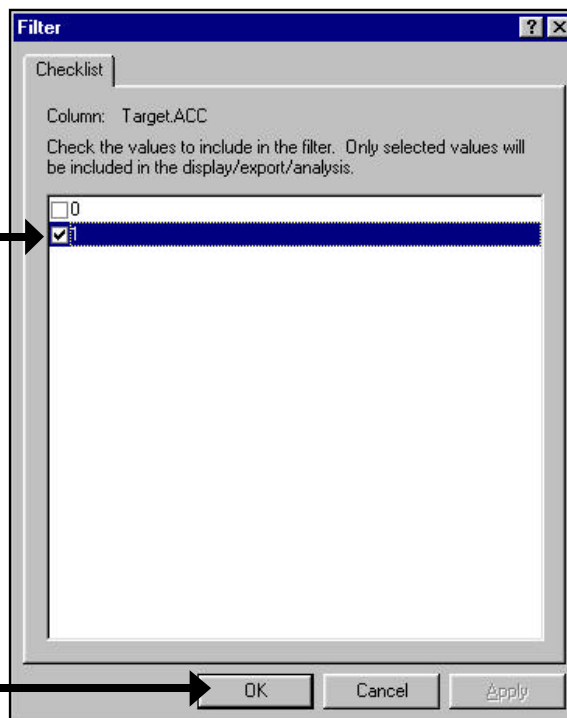
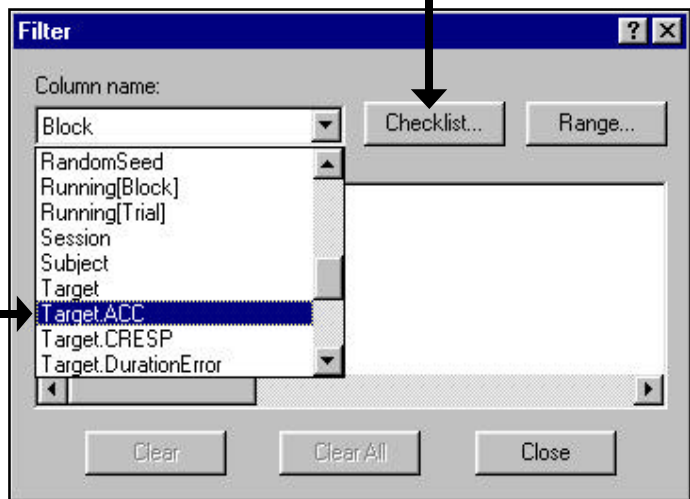
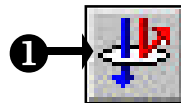
*The Target.ACC variable contains the accuracy of the subject’s response for each trial (0=incorrect, 1=correct).*

- 3) On the Checklist page of the Filter dialog, **click** the checkbox next to “1” to filter for (i.e., include) only correct responses.

- 4) **Click** **OK** to apply the filter.

*The display will be refreshed to show only correct answers, and Target.ACC=1 will be listed in the “Current filters” field on the Filter dialog.*

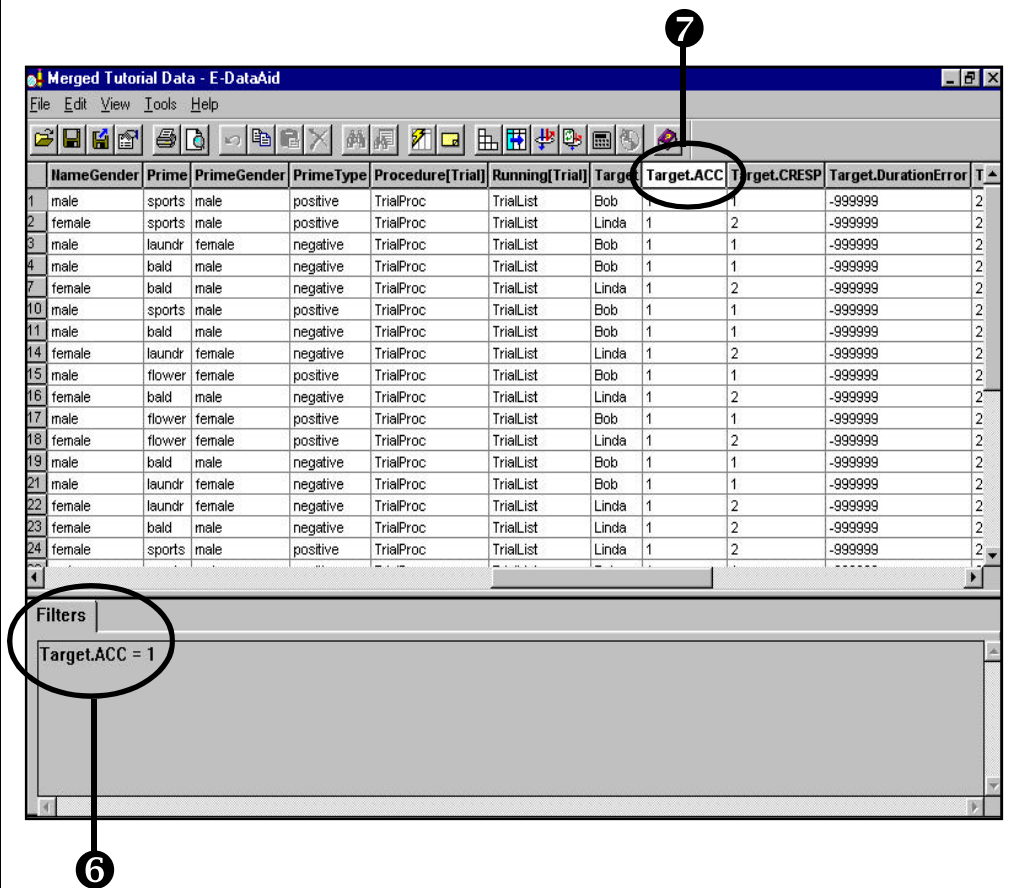
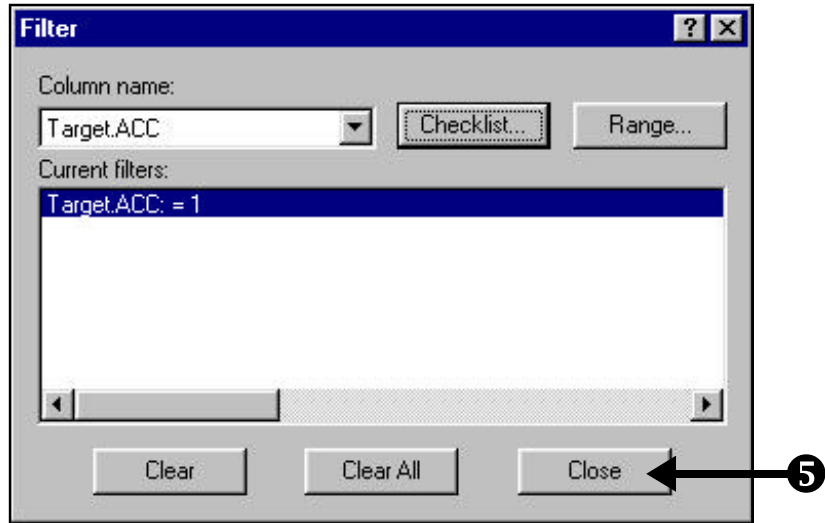
Continued next page...





## Task 3 continued...

- 5) **Click Close** in the Filter dialog to dismiss it.
- 6) **Notice** that the Filters Bar at the bottom of the display lists **Target.ACC=1** as an active filter.
- 7) **Notice** that the Target.ACC column header will be displayed in white to indicate that a filter is now in place.







## Task 4: Edit the cells

This step illustrates how to edit the values within the spreadsheet, and how E-DataAid displays altered data. For this example, we incorrectly assigned one of our subject numbers, so we need to change the subject number for that subject.

- 1) **Click** in the first cell under the **Subject** column to select it.
- 2) **Change** the Subject number in this cell from “1” to “11” by typing directly in the cell.
- 3) **Press <Enter>** or **click** in another cell to accept the edit to the Subject number.

*E-DataAid displays all alterations to data in red. All cells in the Subject column associated with this session of data have been modified to display “11” in red.*

	ExperimentName	Subject	Session	Date	Group	RandomSeed	Time	Block	BlockList
1	Tutorial	1	1	09-1	1	-747118593	13:37	1	1
2	Tutorial	1	1	09-1	1	-747118593	13:37	1	1
3	Tutorial	1	1	09-1	1	-747118593	13:37	1	1
4	Tutorial	1	1	09-1	1	-747118593	13:37	1	1
7	Tutorial	1	1	09-1	1	-747118593	13:37	1	1
10	Tutorial	2	1	09-1	1	-684735322	13:37	1	1
11	Tutorial	2	1	09-1	1	-684735322	13:37	1	1
14	Tutorial	2	1	09-1	1	-684735322	13:37	1	1
15	Tutorial	2	1	09-1	1	-684735322	13:37	1	1
16	Tutorial	2	1	09-1	1	-684735322	13:37	1	1
17	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
18	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
19	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
21	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
22	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
23	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
24	Tutorial	3	1	09-1	1	-621879512	13:38	1	1

	ExperimentName	Subject	Session	Date	Group	RandomSeed	Time	Block	BlockList
1	Tutorial	11	1	09-1	1	-747118593	13:37	1	1
2	Tutorial	11	1	09-1	1	-747118593	13:37	1	1
3	Tutorial	11	1	09-1	1	-747118593	13:37	1	1
4	Tutorial	11	1	09-1	1	-747118593	13:37	1	1
7	Tutorial	11	1	09-1	1	-747118593	13:37	1	1
10	Tutorial	2	1	09-1	1	-684735322	13:37	1	1
11	Tutorial	2	1	09-1	1	-684735322	13:37	1	1
14	Tutorial	2	1	09-1	1	-684735322	13:37	1	1
15	Tutorial	2	1	09-1	1	-684735322	13:37	1	1
16	Tutorial	2	1	09-1	1	-684735322	13:37	1	1
17	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
18	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
19	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
21	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
22	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
23	Tutorial	3	1	09-1	1	-621879512	13:38	1	1
24	Tutorial	3	1	09-1	1	-621879512	13:38	1	1



## Task 5: Analyze the data

This step illustrates how to use the Analyze command to create a table of means for reaction time by condition.

- 1) From the Tools Menu, **select** the **Analyze** command, or **click** the Analyze tool button.

*The Analyze dialog will be displayed.*

- 2) In the "Name" field, **type** "Mean RT by Condition" as the title for the analysis.

- 3) In the Variables list, **click** **NameGender**, and **drag** it to the Columns list to designate it as a column.

- 4) **Designate PrimeType** and **PrimeGender** as Columns.

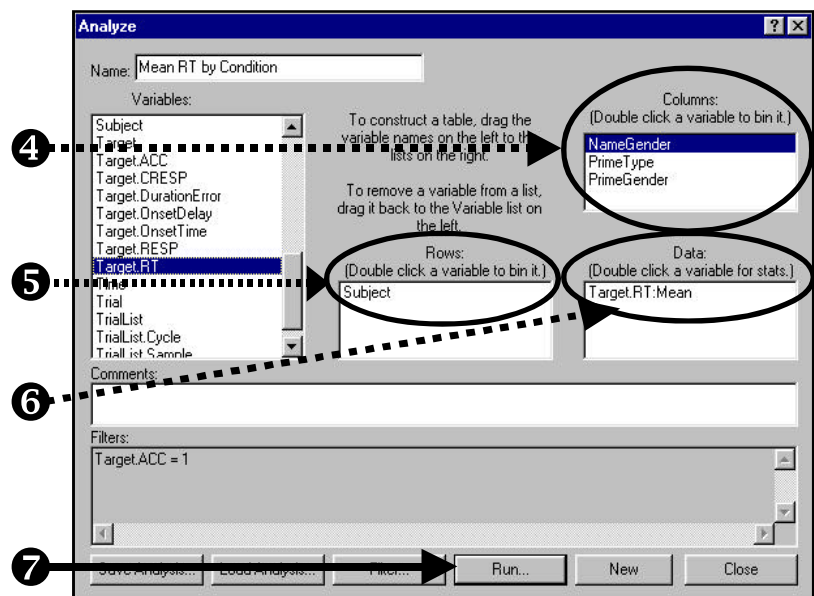
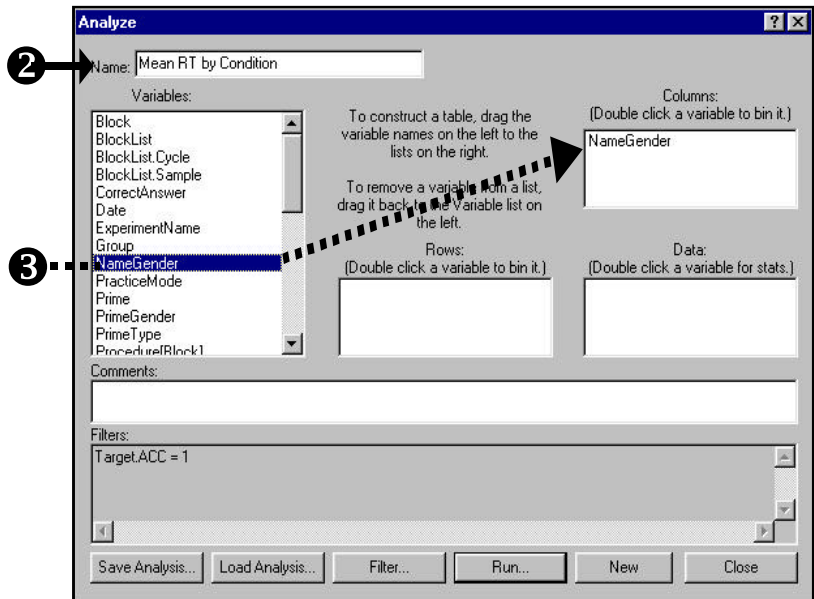
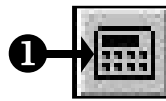
*This will create one cell per condition according to the levels of the independent variables (2 x 2 x 2).*

- 5) **Click Subject** in the Variables list and **drag** it to the Rows list.

- 6) **Click Target.RT** in the Variables list and **drag** it to the Data list.

*Note that you may double click on a variable in the Rows, Columns, or Data list to change the stat.*

Continued next page...





## Task 5 continued...

### 7) Click Run.

*This will display a table dialog showing the mean reaction time per condition for each of the subjects.*

*Because we filtered for only correct responses, and because we have only a few subjects, some of the cells are empty.*

Table

Column Conditions:  
NameGender, PrimeType, PrimeGender

	A	B	C	D	E	F	G	H
1			female	female	female	female	male	male
2			negative	negative	positive	positive	negative	negative
3	Subject	Stats	female	male	female	male	female	male
4	2	Mean Target.RT	468.00	579.00				304.00
5	3	Mean Target.RT	985.00	994.00	359.00	781.00	539.00	950.00
6	4	Mean Target.RT	401.00	656.00				
7	5	Mean Target.RT	861.00	1178.00	667.00	664.00	632.00	834.00
8	11	Mean Target.RT		462.00		876.00	452.00	385.00

Display Mode:  
 Plot  
 StatView and SPSS  
 Custom

Table Options...  
Plot Options...  
Excel Plot...  
Excel Copy...  
Clipboard  
Export...  
Close



## Task 6: Export table of means to StatView

In this step, you will export the table of means to a text file for import into StatView.

- 1) Under “Display Mode,” which is located to the right of the Table, **click** the radio button next to **StatView and SPSS**.

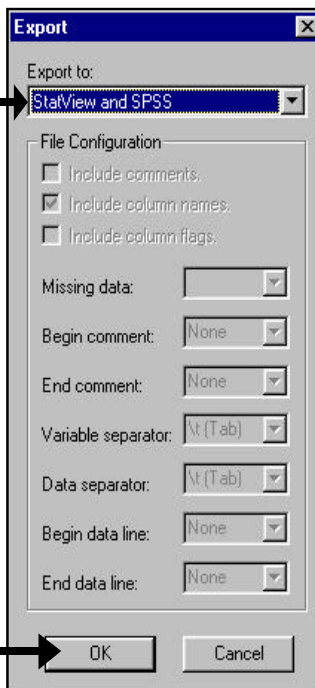
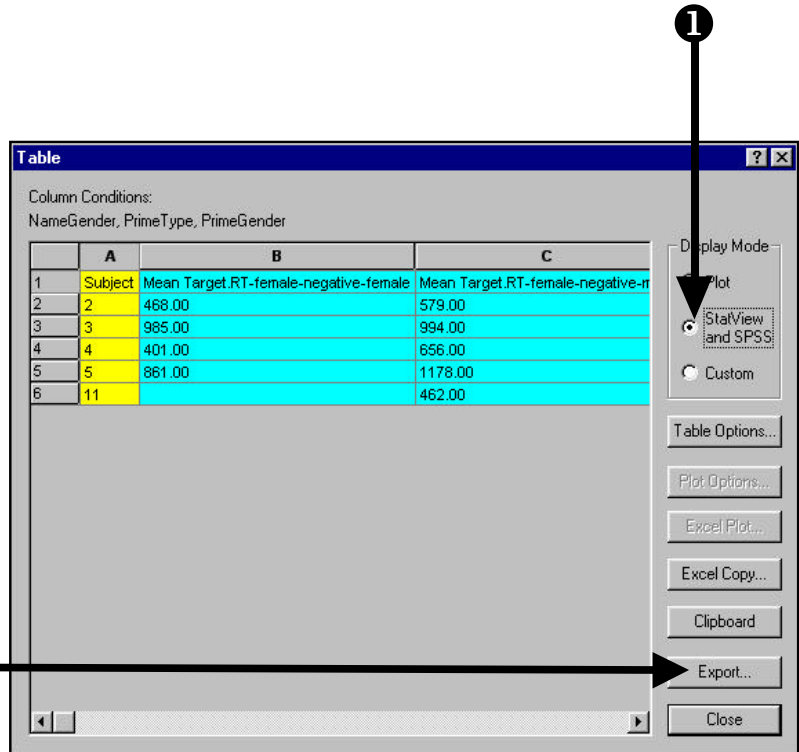
*The table will be altered to show the StatView orientation.*

- 2) **Click** the **Export** button, which is located to the right of the Table.

*The Export dialog is displayed in order to set the options for export.*

- 3) In the Export dialog, **select StatView and SPSS** (default) in the drop-down box under “Export to,” and this will automatically set the default options for export to StatView.

- 4) **Click** the **OK** button at the bottom of the Export dialog.



Continued next page...



## Task 6 continued...

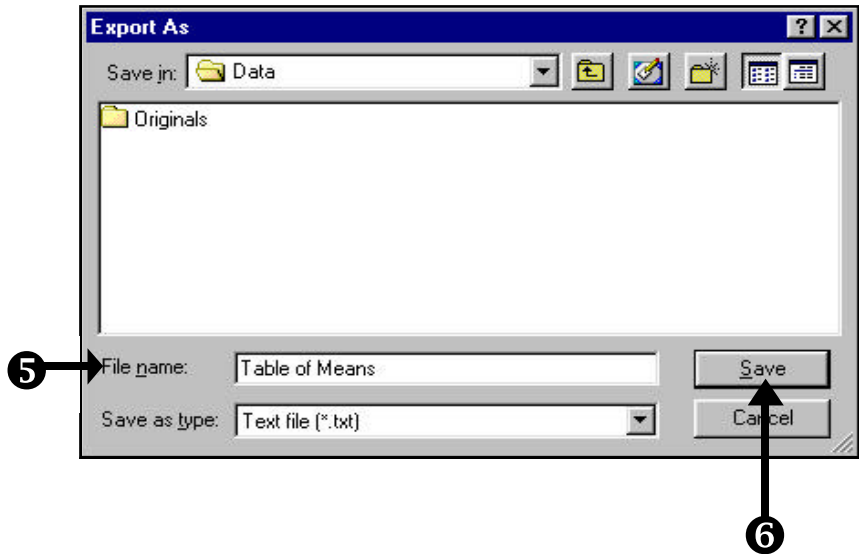
5) In the Export As dialog, **navigate** to the C:\My Experiments\Tutorials\Data folder and type “**Table of Means**” in the “File name” field.

6) **Click Save.**

*The table of means will be saved as a text file in the Data folder.*

7) **Close** the Table and Analyze dialogs. When you close the Analyze dialog, you will be prompted to save the analysis. **Click No** to continue.

*The settings for the analysis could be saved to be reloaded at a later time.*





## Task 7: Export data to text

In this step, you will export the displayed spreadsheet data to a tab-delimited text file, which may then be imported into Excel.

- 1) **Select the Export** option from the File menu.

*The Export command exports the currently displayed spreadsheet data to a text file, including any filters currently applied (i.e., Target.ACC=1).*

- 2) In the Export dialog, **set** the “Export to” field to **Excel**.

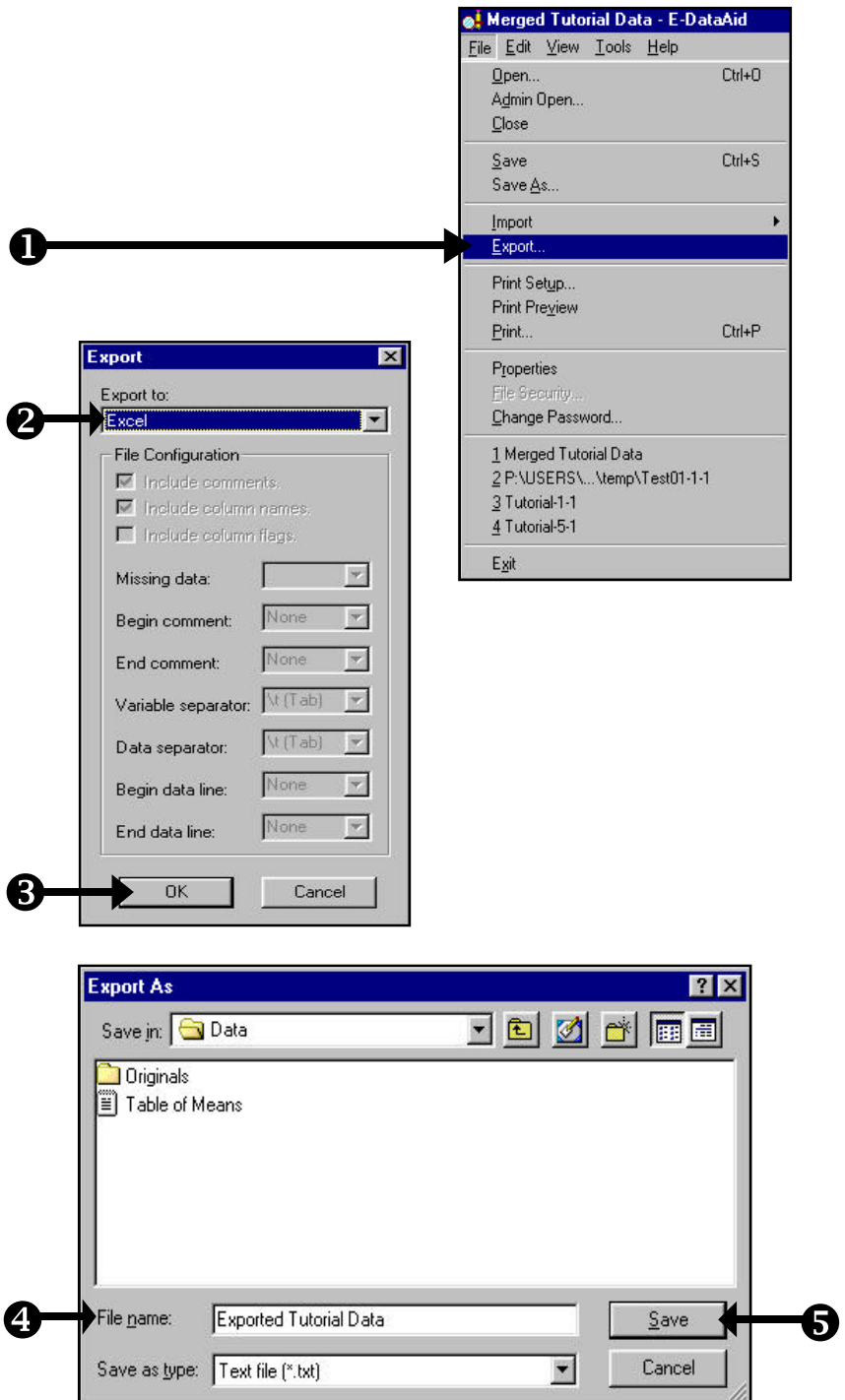
*The appropriate settings are already defined, so all of the remaining fields remain inactive.*

- 3) **Click OK.**

- 4) In the Export As dialog, **navigate** to the C:\My Experiments\Tutorials\Data folder and type “**Exported Tutorial Data**” in the “File name” field.

- 5) **Click Save.**

*The displayed data will be exported to a tab-delimited text file (Exported Tutorial Data.txt), which can easily be imported into Excel.*

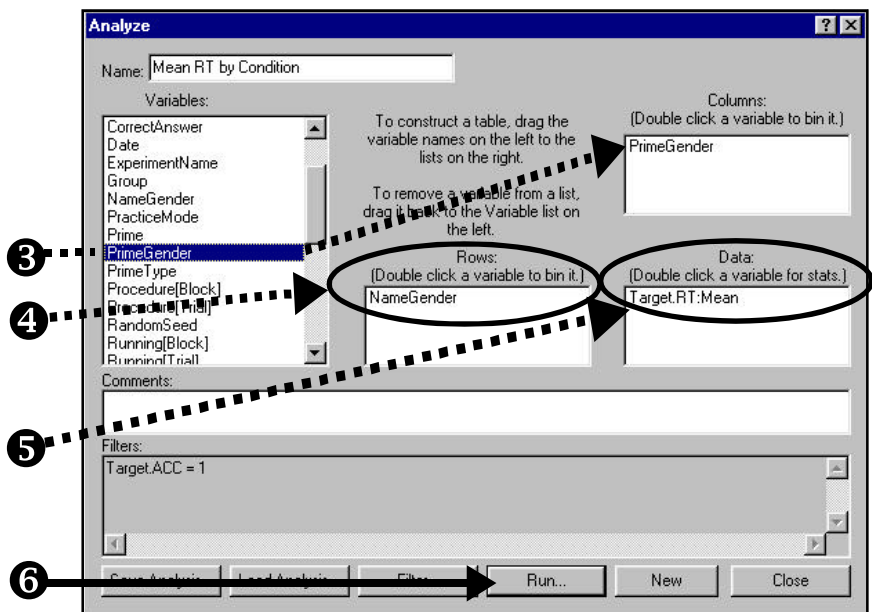
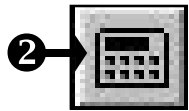




## Task 8: Create an Excel plot

This step illustrates how to use the Analyze command and a table of means (reaction time by condition) to create an Excel plot.

- 1) **Continue** using the **Merged Tutorial Data.emrg** file to create the Excel plot.
- 2) From the Tools menu, **select** the **Analyze** command, or **click** the Analyze tool button.  
*The Analyze dialog will be displayed.*
- 3) In the Variables list, **click PrimeGender**, and **drag** it to the **Columns** list to designate it as a column.
- 4) **Click NameGender** in the Variables list, and **drag** it to the **Rows** list.
- 5) **Click Target.RT** in the Variables list, and **drag** it to the **Data** list.  
*Note that you may double click on a variable to change the stat.*
- 6) **Click Run.**  
*This will display a Table dialog showing the mean reaction time for PrimeGender by NameGender.*



	A	B	C	D
1	NameGender	Stats	female	male
2	female	Mean Target.RT	623.50	773.75
3	male	Mean Target.RT	701.67	575.88

Continued next page...



## Task 8 continued...

- 7) **Click** the radio button next to **Plot** under Display Mode in the Table dialog.

*This will enable the Excel Plot button in the Table dialog.*

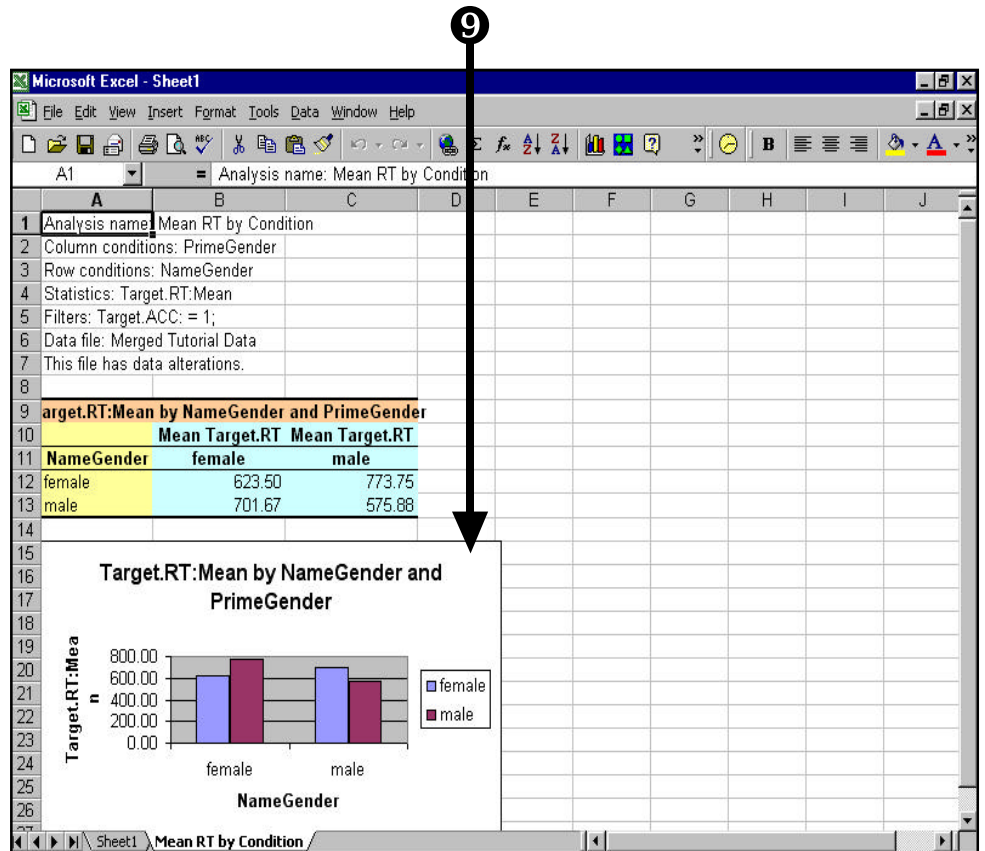
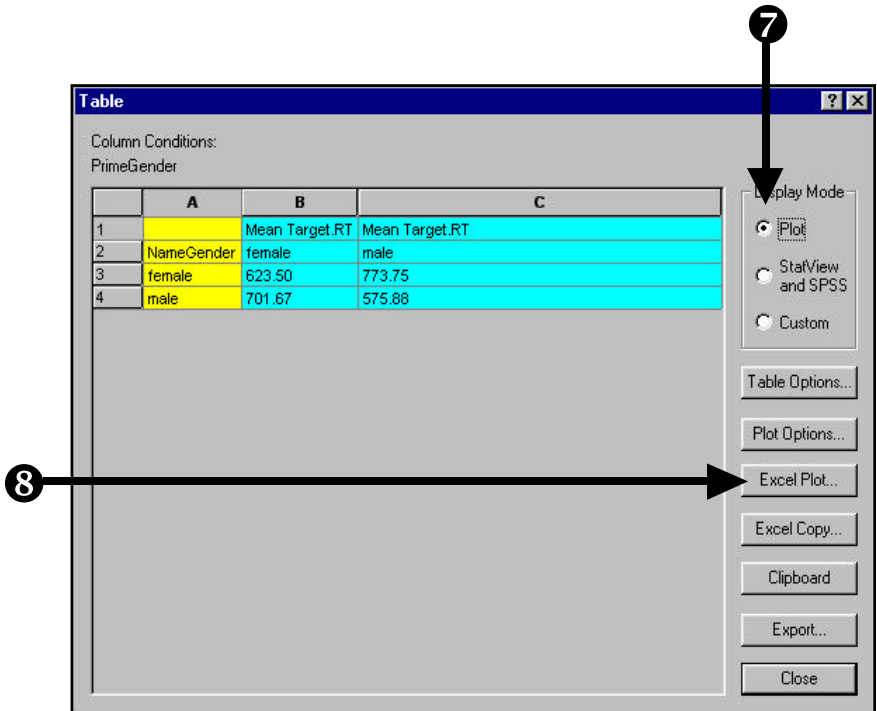
- 8) **Click** the **Excel Plot** button.

*E-DataAid will launch Excel and plot the data.*

- 9) **Inspect** the Excel plot that is created by E-DataAid. Then **exit** Excel without saving.

- 10) **Close** the Table and Analyze dialogs.

- 11) **Exit** E-DataAid without saving (**select Exit** from the File menu and when asked, "Save Changes?" **click No**).







## Task 9: Import text file into Excel

In this step, you will import the text file containing the merged data into Excel.

1) **Open** Excel.

2) From the File menu in Excel, **select Open**.

3) In the Open dialog, **navigate** to the folder containing your Exported Tutorial Data.txt file (C:\My Experiments\Tutorials\Data).

*Be sure the Files of Type field in the Open dialog is set to "Text Files."*

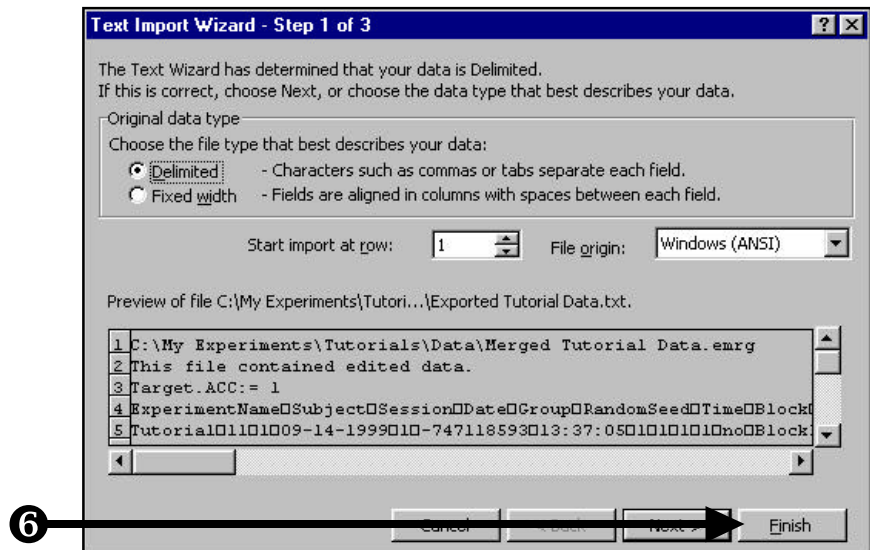
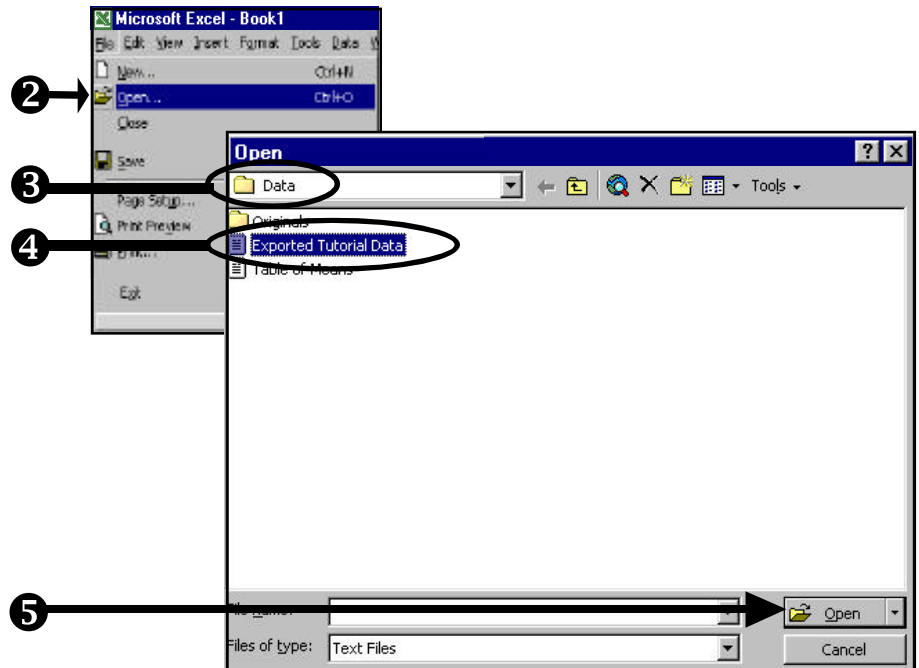
4) **Select Exported Tutorial Data.txt**.

5) **Click Open**.

6) In the Text Import Wizard, **click Finish**.

*The Exported Tutorial Data.txt file will be opened in an Excel spreadsheet. Header information is included: a list of the path and filename for the imported data file, a notice that the file contains edited data, and information about the filter that was placed on the data when it was exported (Target.ACC=1).*

7) **Exit** Excel (**select Exit** from the File menu).



	A	B	C	D	E	F	G	H
1	C:\My Experiments\Tutorials\Data\Merged Tutorial Data.emrg							
2	This file contained edited data.							
3	Target.ACC:= 1							
4	Experimen	Subject	Session	Date	Group	RandomSe	Time	Block
5	Tutorial	11	1	#####	1	-7.5E+08	13:37:05	1
6	Tutorial	11	1	#####	1	-7.5E+08	13:37:05	1
7	Tutorial	11	1	#####	1	-7.5E+08	13:37:05	1



## Task 10: Import table of means into StatView

Complete this step only if you have purchased a copy of StatView. In this step, you will import the table of means into StatView.

1) **Open** StatView.

2) From the File menu in StatView, **select Open**.

3) In the Open dialog, **navigate** to the folder containing your Table of Means.txt file (C:\My Experiments\Tutorials\Data).

4) **Select Table of Means.txt**.

5) **Click Open**.

6) In the StatView Import dialog, **click Import** to accept the default settings.

*The Table of Means.txt file is a tab-delimited text file with numeric and string data. The Import command will open a dialog displaying the Table of Means.txt data in StatView format.*

7) **Close** the Table of Means.txt dialog in StatView without saving.

8) **Close** StatView.

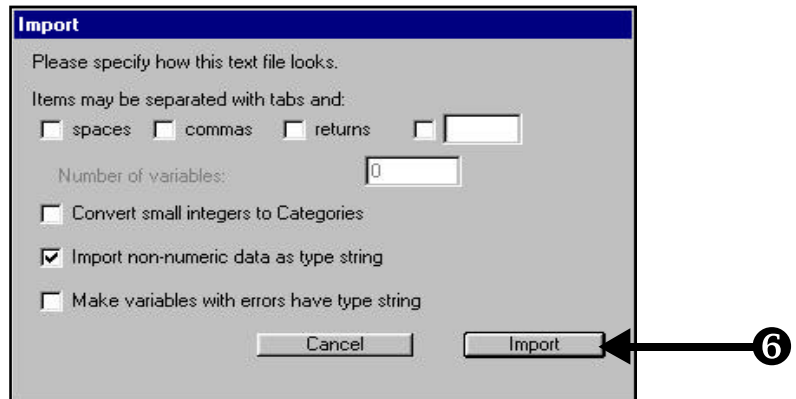
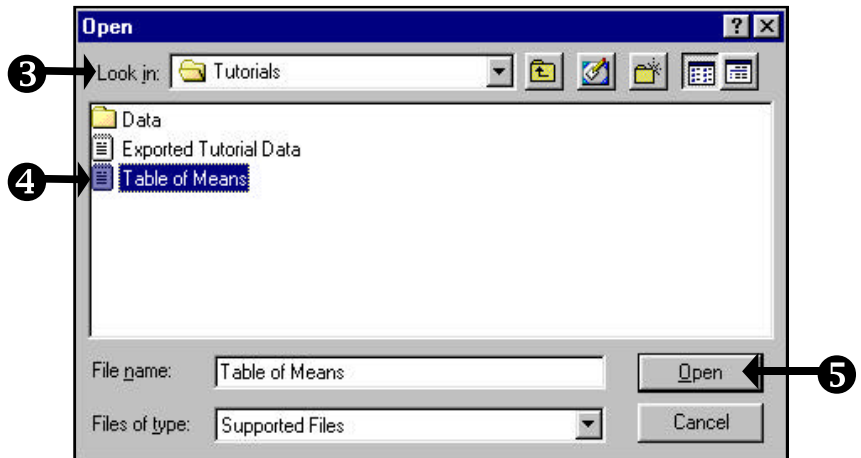
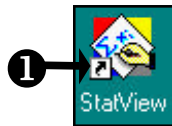


Table of Means.txt (imported)				
Compact		Expand		Criteria: No Criteria
	Subject	Mean Target.RT-female-negative-female	Mean Target.RT-female-negat	
Type:	Integer	Real	Real	
Source:	User Ente...	User Entered	User Entered	
Class:	Continuous	Continuous	Continuous	
Format:	*	Free Format Fixed	Free Format Fixed	
Dec. Places:	*	2	2	
1	2		468.00	
2	3		985.00	
3	4		401.00	
4	5		861.00	
5	11		*	



# ***Advanced Tutorials***

The advanced tutorial exercises will guide you through modification of the experiment that you created in the E-Studio tutorial. You must have successfully completed the E-Studio tutorial before attempting to work through the following exercises.

In the following set of tutorials, you will learn how to:

- Modify an existing experiment to use images rather than text stimuli.



- Modify an existing experiment to present sound and text simultaneously.



- Modify an existing experiment to accept input from the PST Serial Response Box.



- Add user-written script to an existing experiment.





# Tutorial 1: Modify Tutorial.es to present pictures

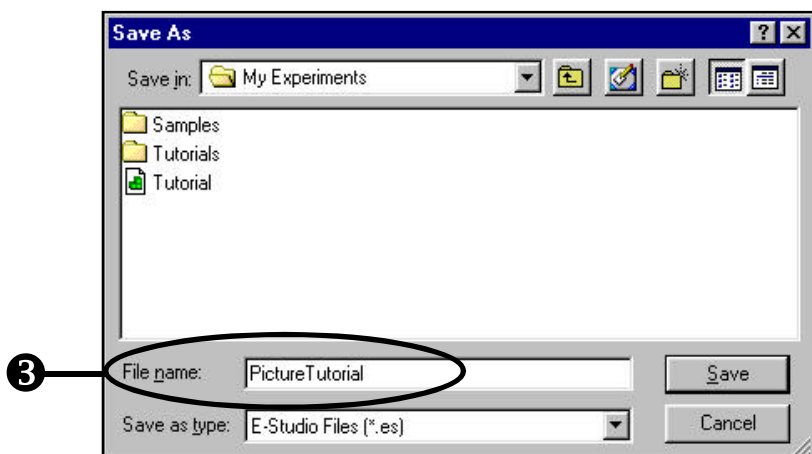
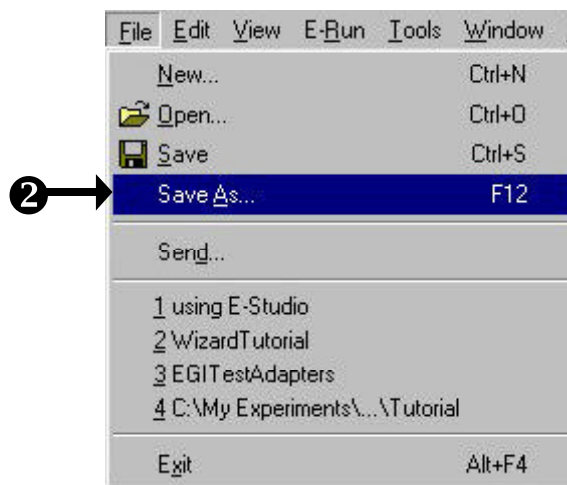
This tutorial assumes that you have successfully completed the E-Studio tutorial in this manual. Do not attempt to work through the following tasks unless this assumption is correct.

## Task 1.1: Open Tutorial.es and save as PictureTutorial.es

This task will save a copy of the Tutorial.es experiment under a new name in order to make some modifications.

- 1) Within the E-Studio application, **open** Tutorial.es.
- 2) In the File menu, **select** the **Save As** command.
- 3) In the Save As dialog, **change** the “File name” field to “**Picture Tutorial**” and then **click Save**.

*PictureTutorial will automatically be opened in E-Studio.*





## Task 1.2: Create an ImageDisplay object

This task will create an ImageDisplay object, which will be used to present images rather than text.

- 1) **Click** the ImageDisplay object in the Toolbox and **drag** it to the Workspace.

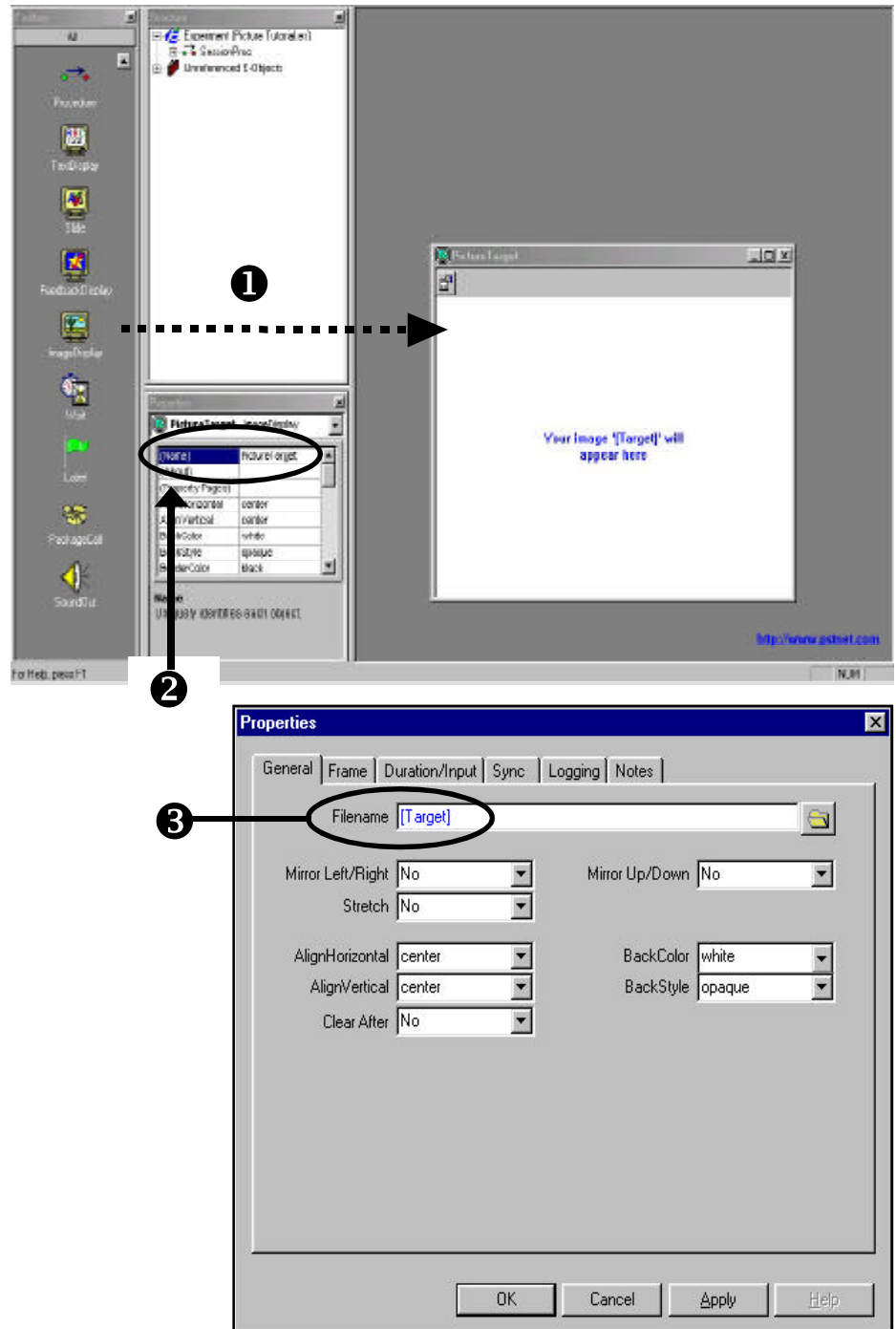
*A new ImageDisplay object will be created in the Workspace and will appear in the Structure window (in the Unreferenced E-Objects folder).*

- 2) **Rename** the ImageDisplay object as **PictureTarget**.

*The PictureTarget object is going to replace the Target object from the Tutorial experiment.*

- 3) **Click** the Properties button to display the Property Pages. On the General tab, **enter [Target]** in the “Filename” field to indicate that the image to be displayed will vary according to the Target attribute.

*Instead of text, as in the Tutorial experiment, the Target attribute will hold the filenames of the images to display.*





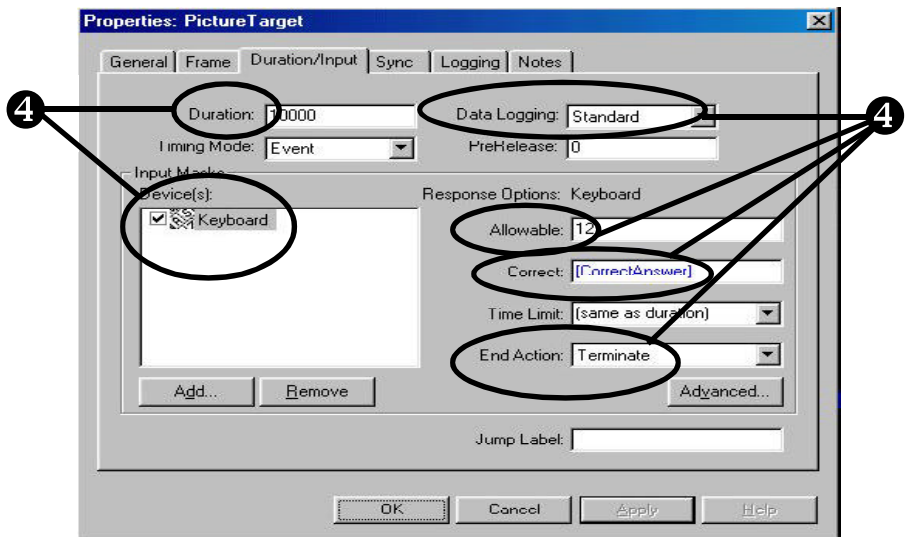
## Task 1.2 continued...

4) On the Duration/Input tab, do the following:

- **Set** the Duration to **10000** milliseconds
- **Add** the keyboard as the input Device
- **Set** the Allowable response field to the "1" and "2" keys (by entering "12")
- **Set** the Correct field to **[CorrectAnswer]**
- **Set** the trial to **Terminate** upon response
- **Set** Data Logging to "Standard"

When you are finished on this tab, **close** the Property Pages by clicking the **OK** button.

*These are the settings used by the Target object in Tutorial. We are simply changing the type of stimulus presentation.*



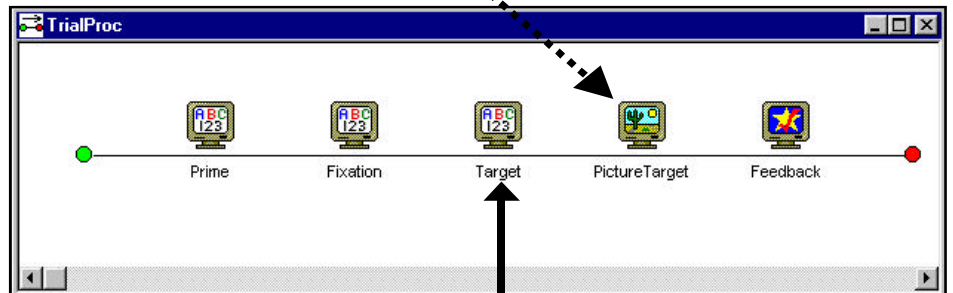
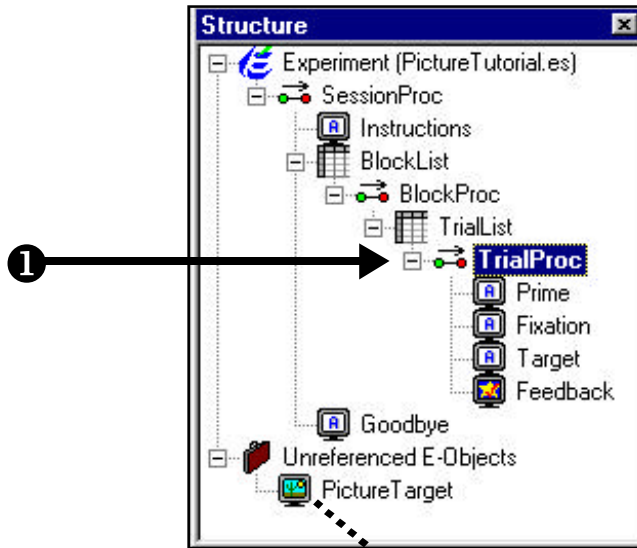


## Task 1.3: Add PictureTarget to the trial procedure

This task will guide you through the replacement of the text stimulus display with the picture display.

- 1) **Open** the TrialProc in the Workspace.
- 2) From the Unreferenced E-Objects folder in the Structure window, **drag** the PictureTarget object to the right of the Target object.
- 3) **Click** the Target object to select it.
- 4) **Delete** the Target object from the TrialProc.

*To do this, select the Target object and press the Delete key, or right click on the object after selecting it and choose the Delete command from the context menu that appears.*





## Task 1.4: Modify the List object

This task will guide you through the modification of the List object to list the names of the images to display rather than text.

- 1) **Open** the TrialList object in the Workspace.
- 2) In the Target attribute column, **modify** the values to name your image files.  
*Female.bmp and male.bmp are included in the My Experiments\Tutorials folder as part of the E-Prime installation. These files must be copied to the current directory.*

ID	Weight	Nested	Procedure	PrimeGender	PrimeType	NameGender	CorrectAns	Prime	Target
1		1	TrialProc	male	positive	male	1	sports	male.bmp
2		1	TrialProc	male	positive	female	2	sports	female.bmp
3		1	TrialProc	male	negative	male	1	bald	male.bmp
4		1	TrialProc	male	negative	female	2	bald	female.bmp
5		1	TrialProc	female	positive	male	1	flowers	male.bmp
6		1	TrialProc	female	positive	female	2	flowers	female.bmp
7		1	TrialProc	female	negative	male	1	laundry	male.bmp
8		1	TrialProc	female	negative	female	2	laundry	female.bmp





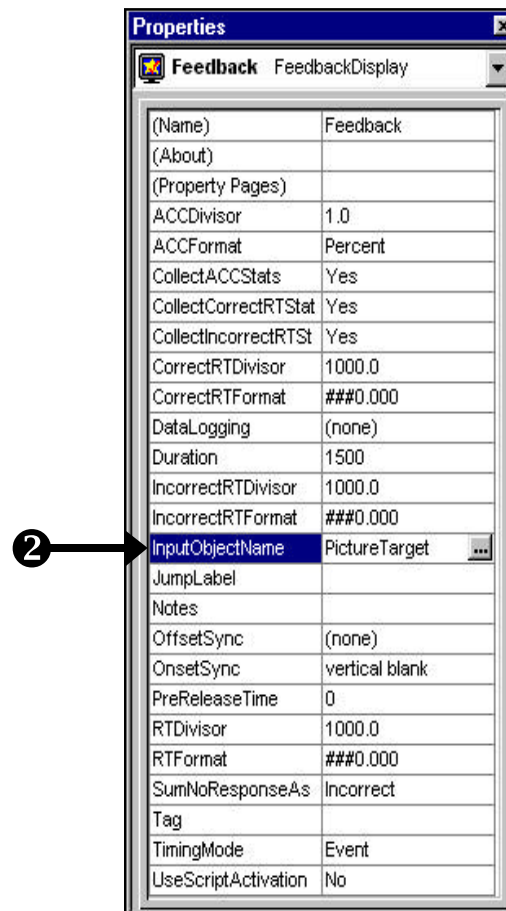
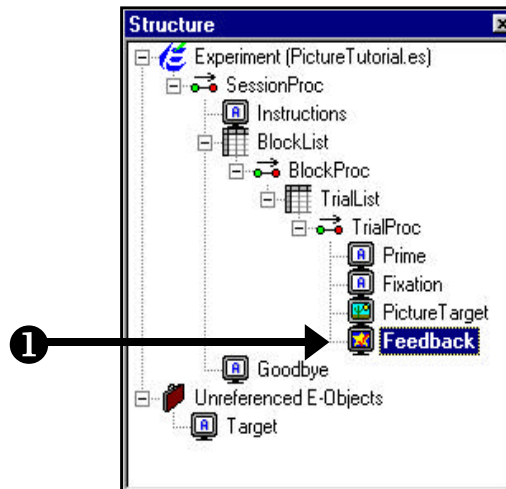
## Task 1.5: Edit the Feedback object

This task will guide you through the editing of the Feedback object in order to modify the input object.

- 1) **Click** on the Feedback object in the Structure window to display its properties in the Properties window.

**IMPORTANT!** Before you proceed to the next item, verify that FeedbackDisplay is actually displayed within the drop-down window at the top of the Properties window. If it is not, be sure to select the Feedback object from the drop-down list before proceeding.

- 2) In the InputObjectName field, **change** Target to **PictureTarget**.





## Task 1.6: Edit the Instructions

This task will guide you through editing the instructions for the experiment.

1) **Open** the Instructions object in the Workspace.

2) **Edit** the Instructions to be relevant to the modified program.

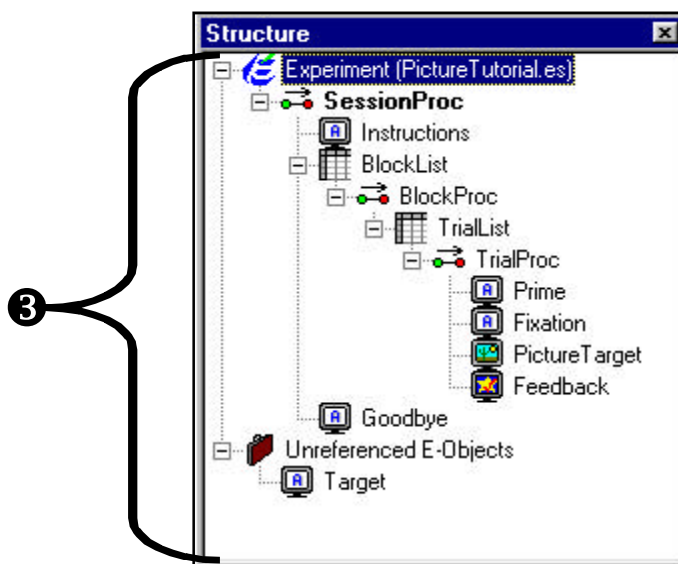
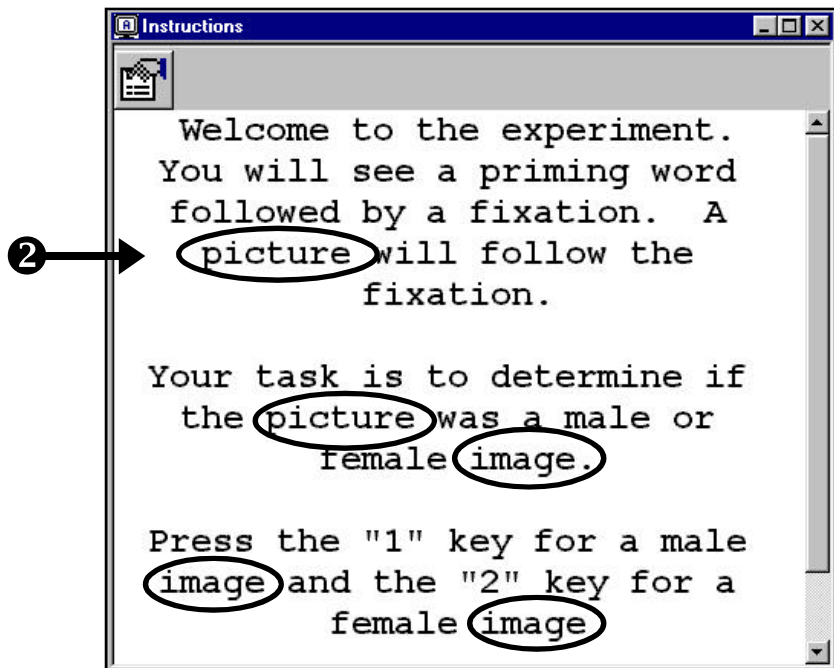
*Specifically, you should remove the text "target word" and replace it with "picture" or "image." Also change the word "name" to "image."*

3) **Verify** that your experiment structure resembles that to the right. **Save** and **Run** the PictureTutorial experiment.

*The experiment should be identical to the previous E-Studio tutorial experiment with two exceptions. First, the instructions should be modified to reflect that the target is a picture rather than text. Second, the target stimuli should actually appear as child-like figure drawings of either a boy or a girl.*

*Note that the images necessary are supplied within the My Experiments\Tutorials folder.*

**IMPORTANT!** The images must be copied and saved in the same folder as PictureTutorial.es.



**Note:** If you experience Run-time errors, refer to the Troubleshooting section in this manual.



# Tutorial 2: Modify Tutorial.es to present sound

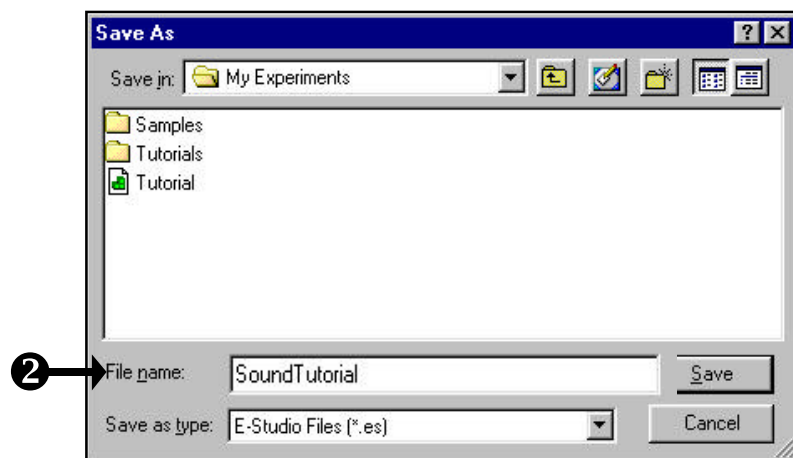
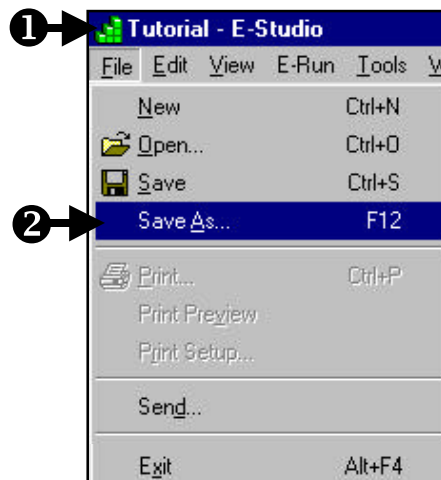
This tutorial assumes that you have a DirectX Audio card installed on your PC. In addition, this tutorial assumes that you have successfully completed the E-Studio tutorial. Proceed with this tutorial only if these assumptions are correct.

## Task 2.1: Open Tutorial.es and save as SoundTutorial.es

1) **Open** Tutorial.es in E-Studio.

2) In the File menu, **select** the **Save As** command and save Tutorial as **SoundTutorial.es**.

*SoundTutorial will automatically be opened in E-Studio.*





## Task 2.2: Create a Slide object

This task will create a Slide object in the trial procedure which will be used to present simultaneous text and sound.

- 1) **Click** on the Slide object in the Toolbox and **drag** it to the Workspace

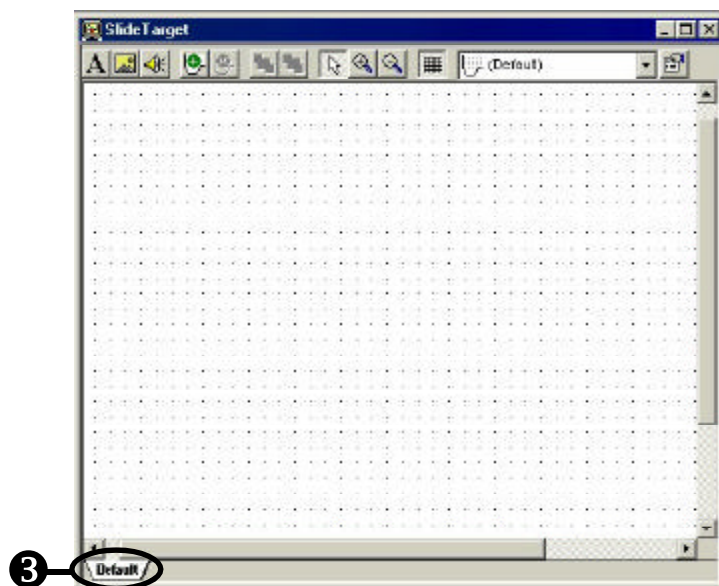
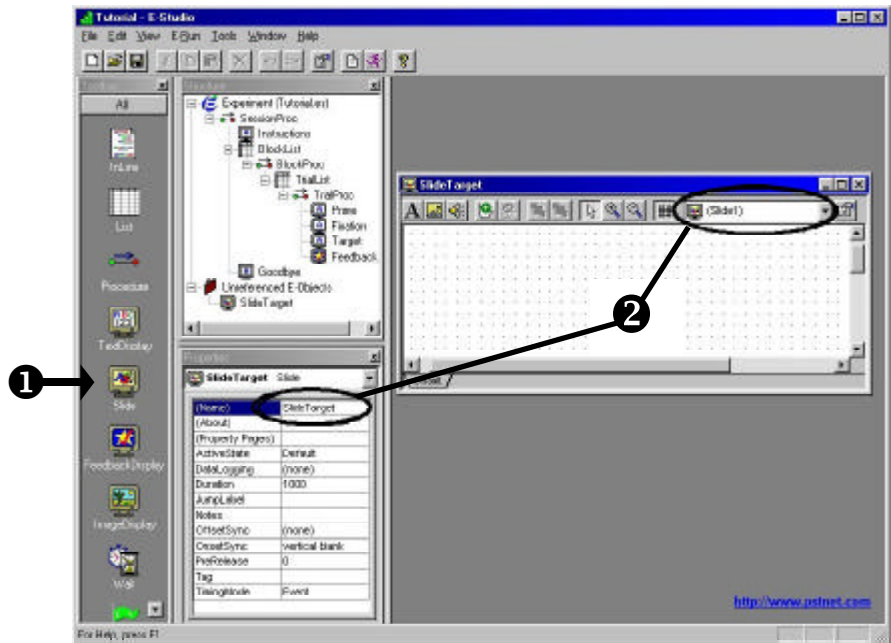
*A new Slide object will be created in the Workspace and will appear in the Structure window in the Unreferenced E-Objects folder.*

- 2) **Select** the Slide object from the dropdown box and **Rename** it to **SlideTarget**.

*The SlideTarget is going to replace the Target object from the Tutorial experiment.*

- 3) **Click** the Default tab at the bottom of SlideTarget in the Workspace.

*The default SlideState becomes active.*





## Task 2.3: Add text to the Slide object

This task will add a text block to the Slide object so that it can present text stimuli.

- 1.) **Click** the text tool on the Slide tool bar, then click anywhere within the active Slide window.

*A standard text sub-object will appear in the Slide window.*

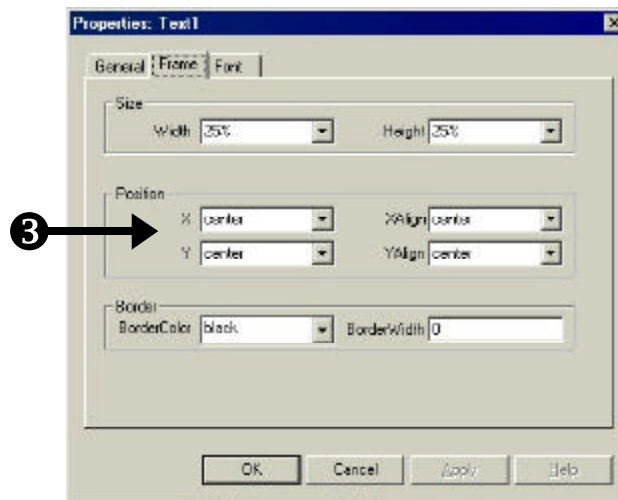
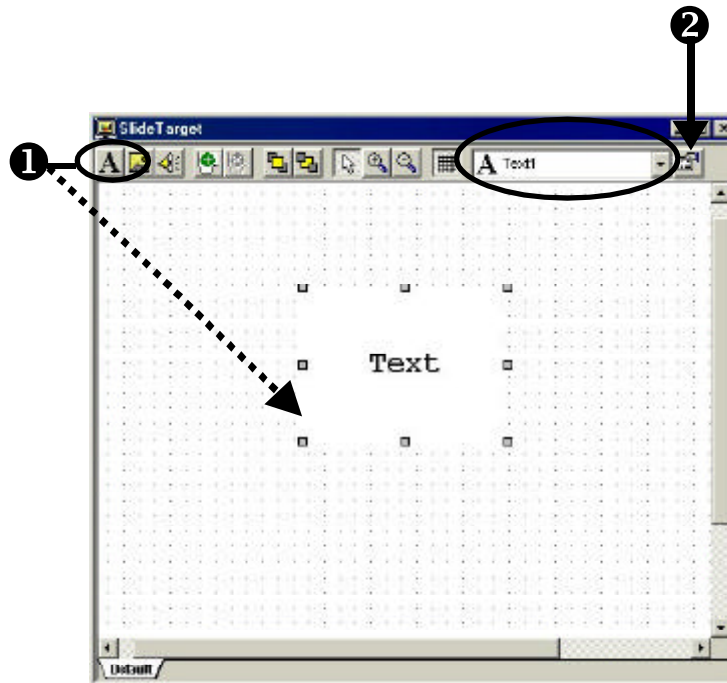
- 2.) Use the drop-down menu on the Slide toolbar to make sure the text block is the active object on the Slide. Then **click** the Properties button on the Slide toolbar.

*The drop-down menu allows you to individually select the entire Slide, slide states, or sub-objects on the Slide. When setting properties on the Slide, you set them only for the active object.*

- 3.) On the Frame tab for the text block, set the X- and Y- Position properties to **Center**.

*This will center the text block in the middle of the Slide.*

- 4.) On the General tab, enter **[Target]** in the Text field to indicate that the text to be displayed will vary according to the Target attribute, which was created earlier in the TrialList.





## Task 2.4: Add sound to the Slide object

This task will create a sound sub-object on the Slide, so that sound stimuli can be presented simultaneously with text.

1.) **Click** the sound tool on the Slide tool bar, then click anywhere within the active Slide window.

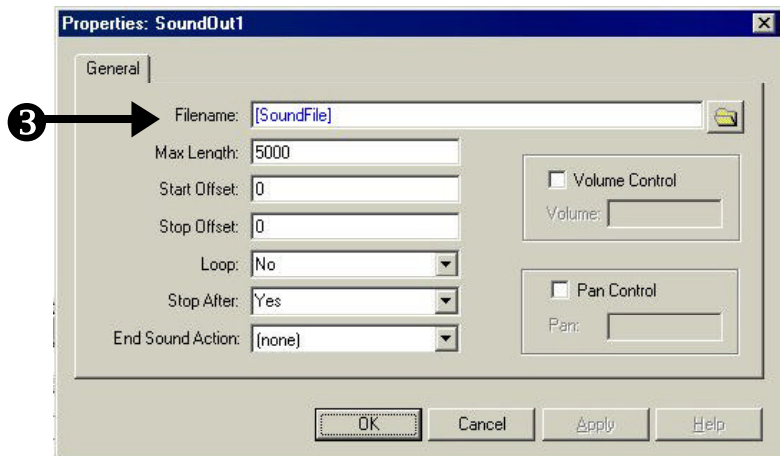
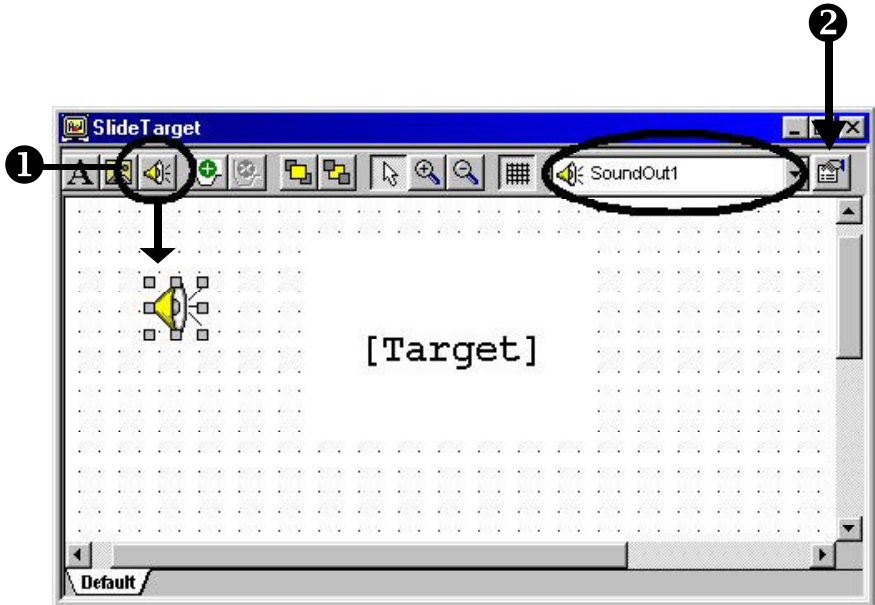
*A sound sub-object will appear in the Slide window. The sound sub-object will not be visible at run-time, and can be placed anywhere on the Slide itself.*

2.) Use the drop-down menu on the Slide toolbar to make sure the sound sub-object is the active object on the Slide. Then **click** the Properties button on the Slide toolbar.

3.) On the General tab, set the Filename field of the sound sub-object to refer to **[SoundFile]**.

*The SoundFile attribute will be added to the TrialList in the next step. The filename for the sound sub-object will be resolved by this attribute at run-time.*

4.) **Click** OK to dismiss the Properties pages.





## Task 2.5: Set Duration/Input properties for the SlideTarget

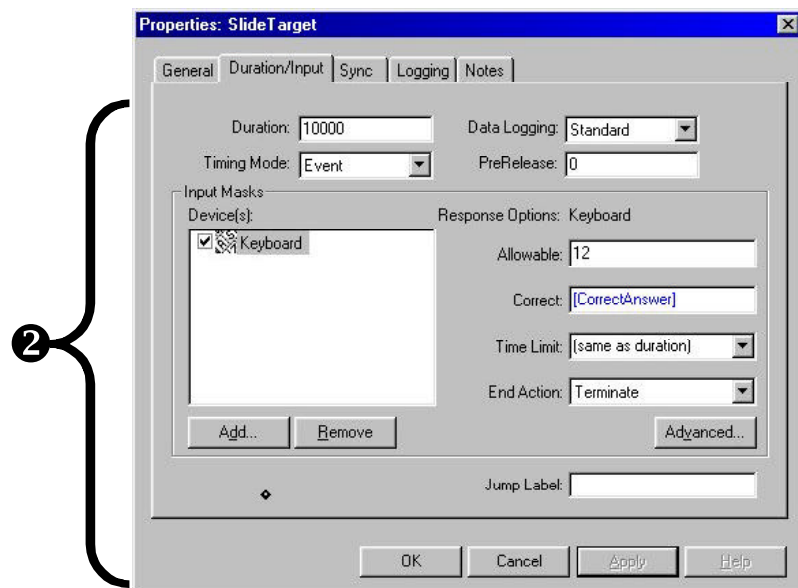
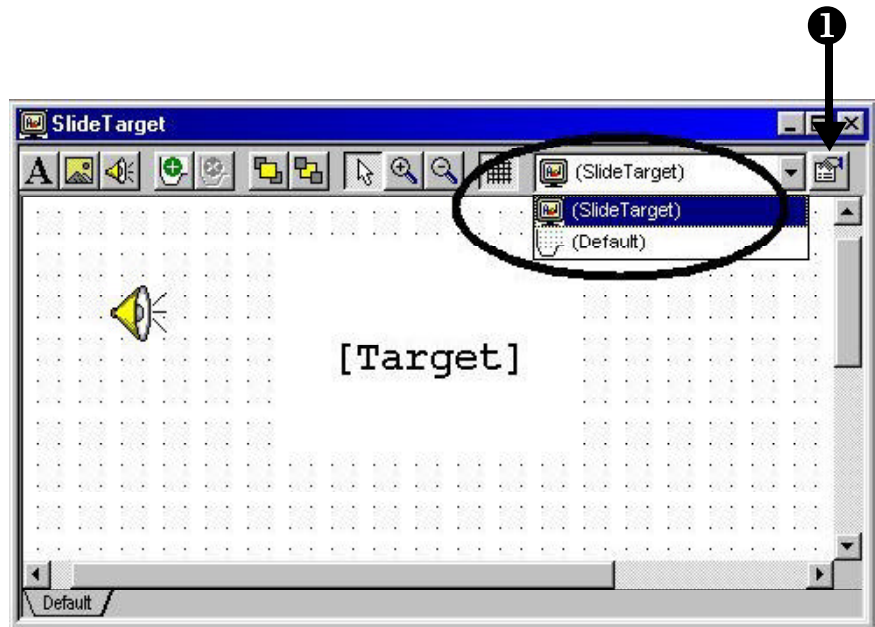
1.) Use the drop-down menu on the Slide toolbar to select the entire Slide object. Then **click** the Properties button on the Slide toolbar.

2.) On the Duration/Input tab, do the following:

- **Set** the Duration to **10000** milliseconds
- **Add** the keyboard as the input Device
- **Set** the Allowable response field to the "1" and "2" keys (by entering "12")
- **Set** the Correct field to **[CorrectAnswer]**
- **Set** the trial to **Terminate** upon response
- **Set** Data Logging to "Standard"

When you are finished on this tab, **close** the Property Pages by clicking the **OK** button.

*These are the settings used by the Target object in Tutorial. We are simply changing the type of stimulus presentation.*



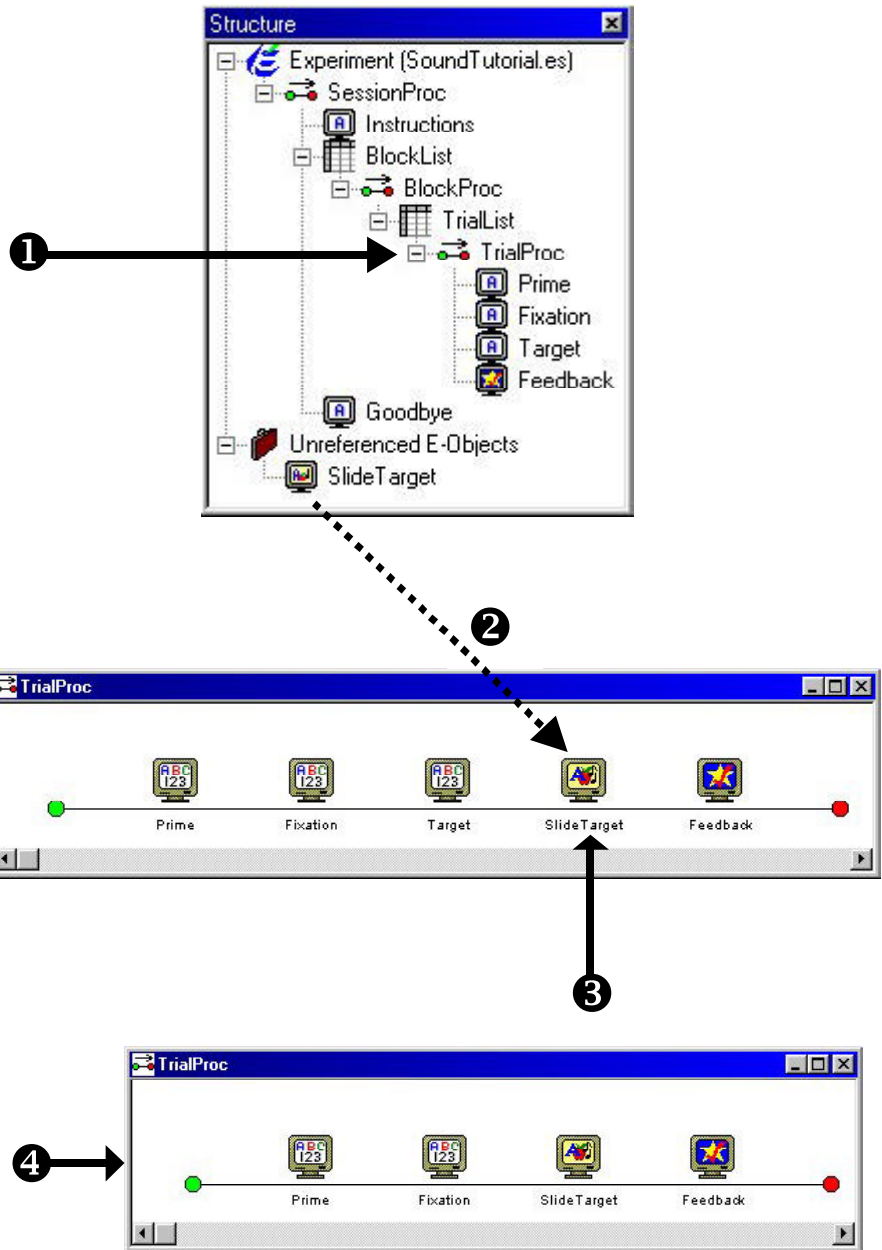


## Task 2.6: Add SlideTarget to the trial procedure

This task will guide you through the replacement of the text stimulus display with the picture display.

- 1) **Open** the TrialProc in the Workspace.
- 2) From the Unreferenced E-Objects folder in the Structure window, **drag** the SlideTarget object to the right of the Target object.
- 3) **Click** the Target object to select it.
- 4) **Delete** the Target object from the TrialProc.

*To do this, select the Target object and press the Delete key, or right click on the object after selecting it and choose the Delete command from the context menu that appears.*





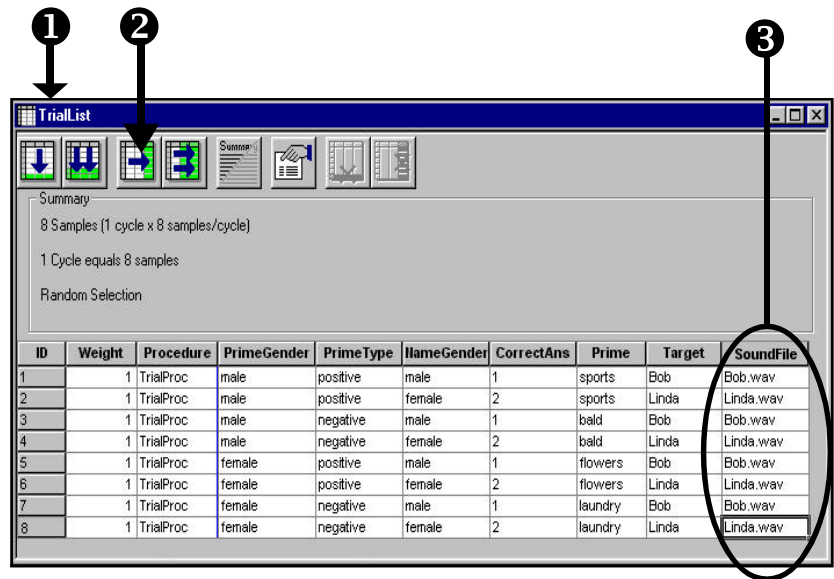


## Task 2.7: Modify the List object

This task will add the SoundFile attribute to list the audio files to present.

- 1) **Open** the TrialList object in the Workspace.
- 2) Use the Add Attribute tool button to **add** an attribute called **SoundFile**.
- 3) **Enter** the names of the sound files to present as values for the SoundFile attribute.

*Two audio files (**Bob.wav** and **Linda.wav**) are included in the My Experiments\Tutorials folder as part of the E-Prime installation. Copy these files to your current directory.*

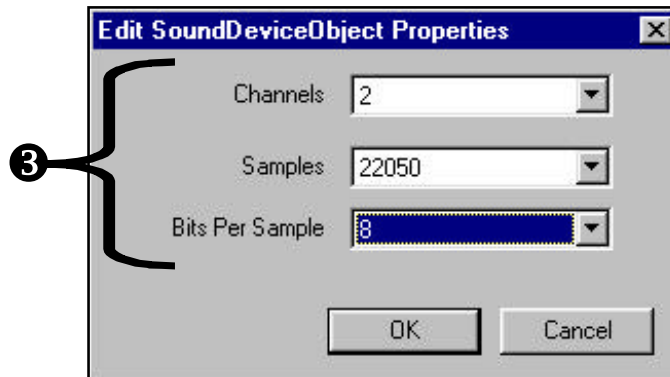
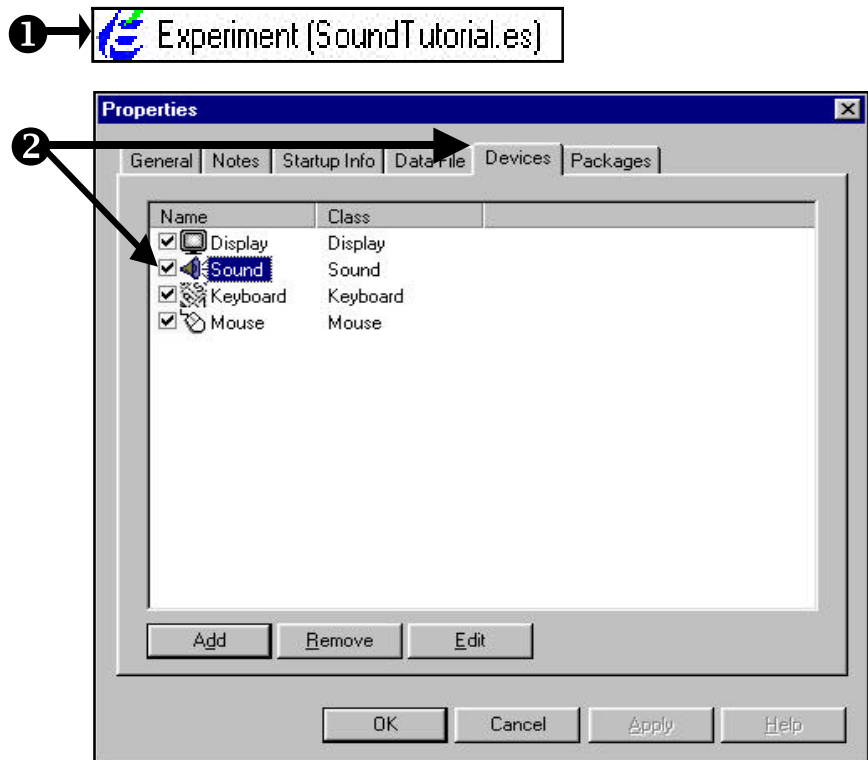




## Task 2.8: Edit the Experiment object

This task will guide you through editing the Experiment object to designate the format of the audio files to present.

- 1) **Open** the Experiment object in the Workspace by double clicking the Experiment object icon in the Structure window.
- 2) **Click** on the **Devices** tab of the Experiment Object dialog. **Click** the box next to the Sound device to add sound to the experiment. Then click **Sound** to highlight it and **click** the **Edit** button.
- 3) In the Edit SoundDeviceObject Properties dialog, **set** the properties of the sound device to format the buffer to present \*.wav files saved as **2** Channels (stereo), **22050** Hz, and **8** Bits Per Sample. **Click OK**.
- 4) **Click OK** in the Experiment Object dialog to close it.





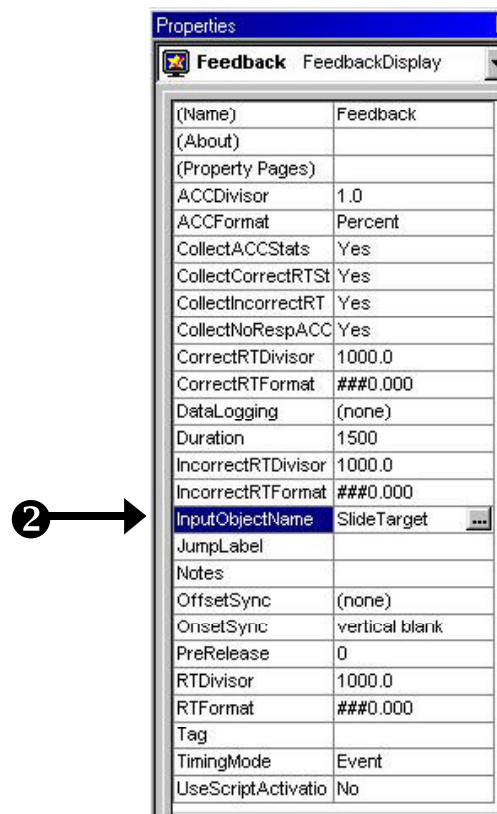
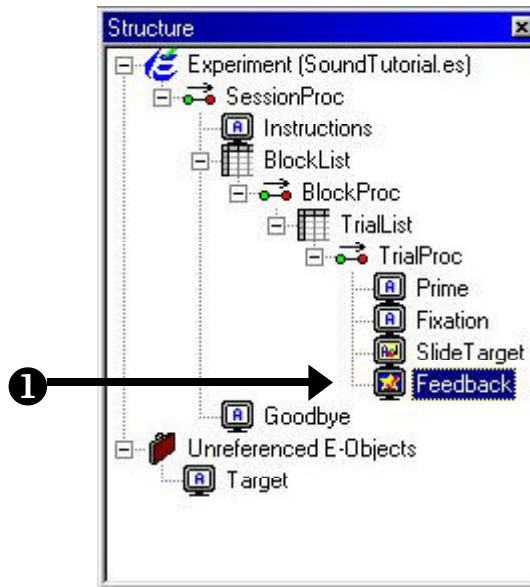
## Task 2.9: Edit the Feedback object

This task will guide you through the editing of the Feedback object in order to modify the input object.

- 1) **Click** on the Feedback object in the Structure window to display its properties in the Properties window.

**IMPORTANT!** Before you proceed to the next item, verify that FeedbackDisplay is actually displayed within the drop-down window at the top of the Properties window. If it is not, be sure to select the Feedback object from the drop-down list before proceeding.

- 2) In the InputObjectName field, **change** Target to **SlideTarget**.





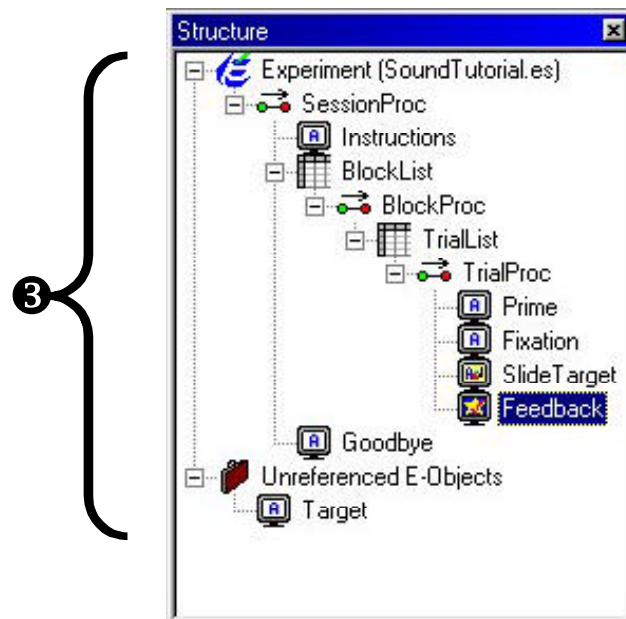
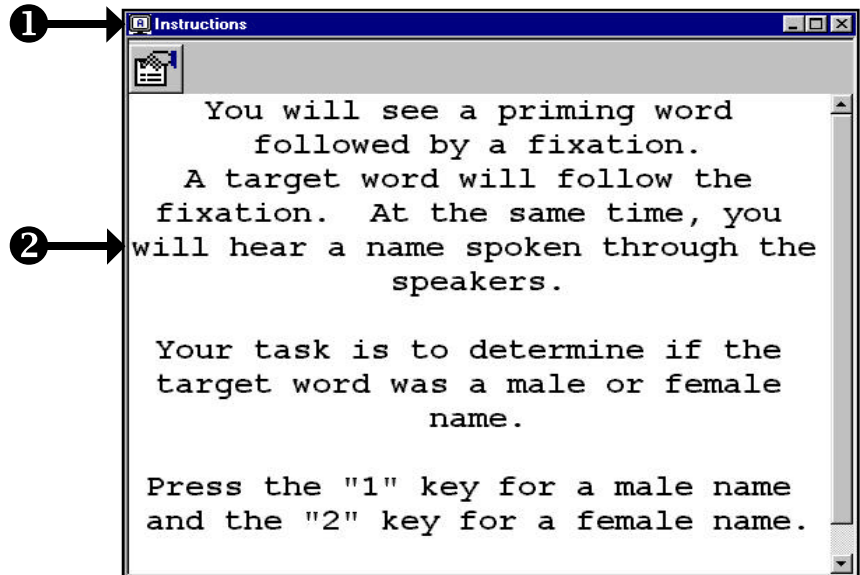
## Task 2.10: Edit the Instructions object

This task will guide you through editing the instructions for the experiment.

- 1) **Open** the Instructions object in the Workspace.
- 2) **Edit** the Instructions so that they are appropriate for the modified experiment.
- 3) **Verify** that your experiment structure resembles that to the right. **Save** and **Run** the experiment.

*The experiment should be identical to the first E-Studio tutorial experiment with two exceptions. First, the instructions should be modified to reflect that a name will be spoken through the speakers at the same time that the target word appears. Second, during the experiment, the target word should be accompanied by a female voice stating the name Bob or Linda.*

The WAV files are supplied within the C:\My Experiments\Tutorials folder, and should be saved within the same folder as your SoundTutorial.es file.



**Note:** If you experience Run-time errors, refer to the Troubleshooting section in this manual.



# Tutorial 3: Modify Tutorial.es to accept Serial Response Box input

This tutorial assumes that you have a PST Serial Response Box (model 200-200A) correctly installed on your PC. Additionally, it assumes that you have successfully completed the E-Studio tutorial. Proceed with this tutorial only if BOTH of these assumptions are correct.

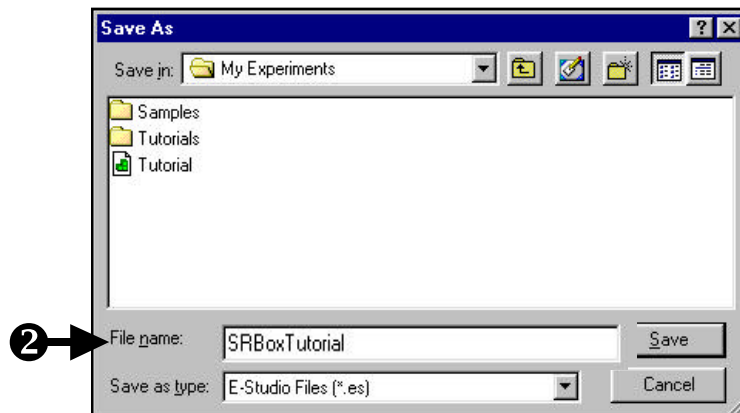
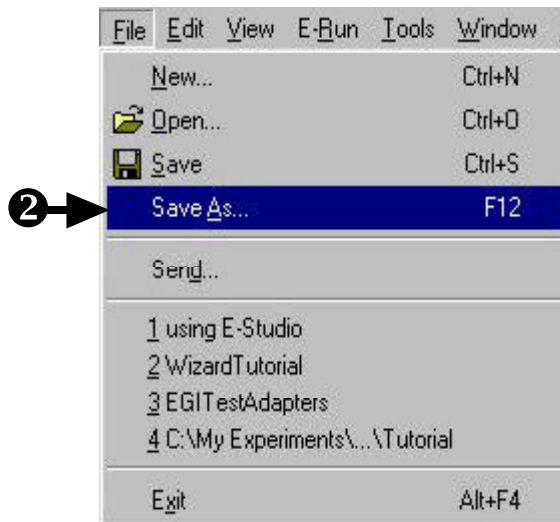
## Task 3.1: Open Tutorial.es and save as SRBoxTutorial.es

This task will save the Tutorial.es experiment under a new name in order to make modifications.

1) **Open** Tutorial.es in E-Studio.

2) In the File menu, **select** the Save As command and **save** Tutorial as **SRBoxTutorial.es**.

*SRBoxTutorial will automatically be opened in E-Studio.*

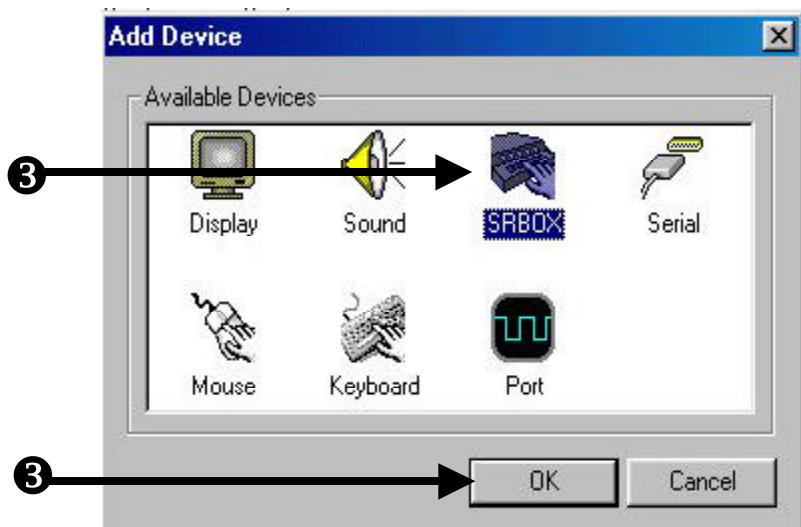
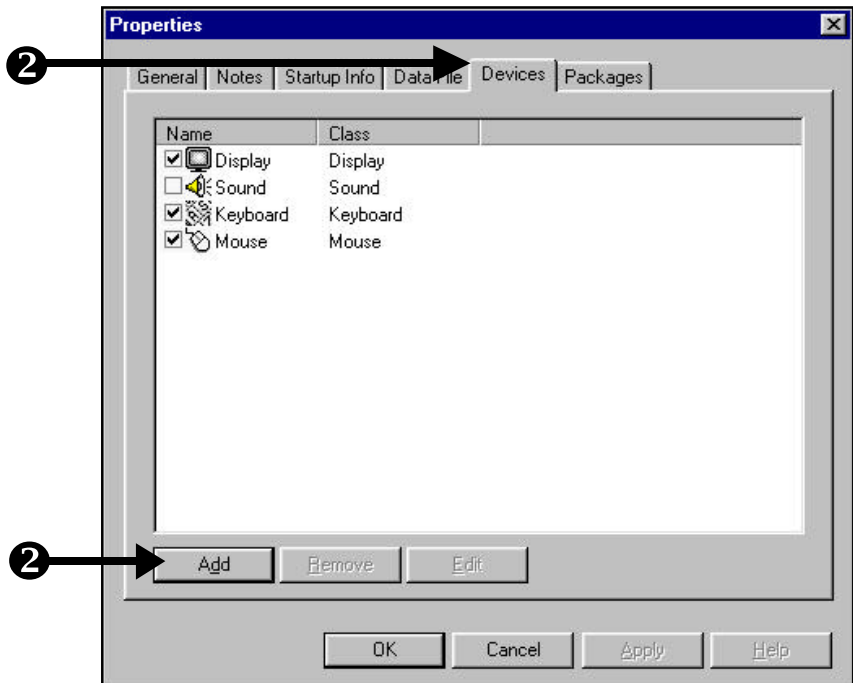




## Task 3.2: Add SRBox as input device

This task will add the Serial Response Box/Button Box as an input device.

- 1) **Double click** on the Experiment object to open a Properties dialog.
- 2) **Click** on the **Devices** tab of the Properties dialog. Click the **Add** button to display the Add Device dialog.
- 3) In the Add Device dialog, **select SRBOX** and **click OK** to add the SRBox device to the Experiment object.

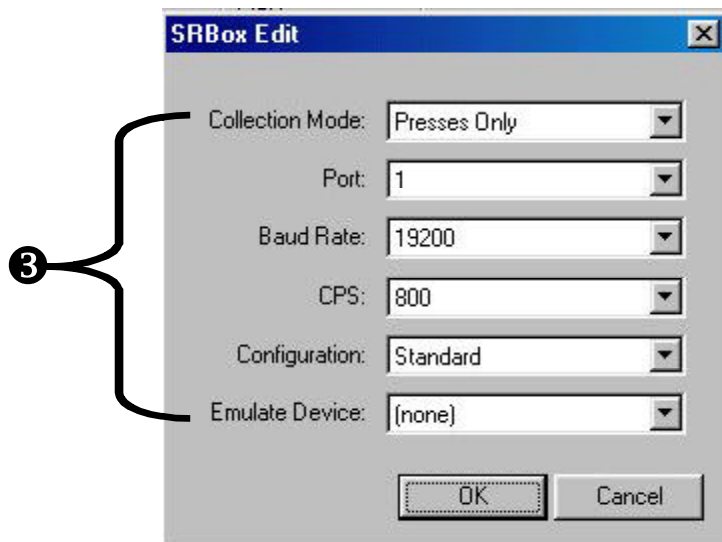




## Task 3.3: Edit the SRBox input device

This task will guide you through editing the Serial Response Box/Button Box input device to set the parameters.

- 1) In the Experiment object Properties dialog, **select** the **SRBOX** device.
- 2) **Click** the **Edit** button to display the SRBOX Edit dialog.
- 3) In the SRBOX Edit dialog, **modify** the settings as needed and **click OK**.  
*Accept the default settings for the Baud Rate and CPS fields. Modify the Port address to match the COM port to which the SRBox is connected. You can download a program to test the settings from PST's website.*
- 4) **Click OK** in the Experiment object Properties dialog to close it.





## Task 3.4: Enable Response Box input

This task will set the Serial Response Box as the input device for the Target object.

- 1) **Open** the Property Pages for the Target object, and **click** on the **Duration/Input** tab.

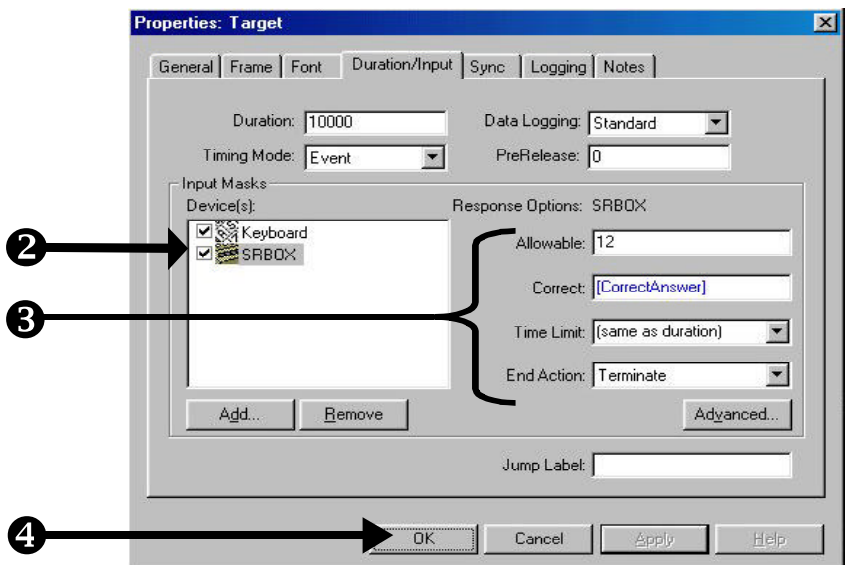
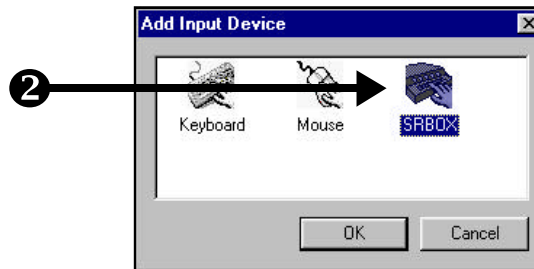
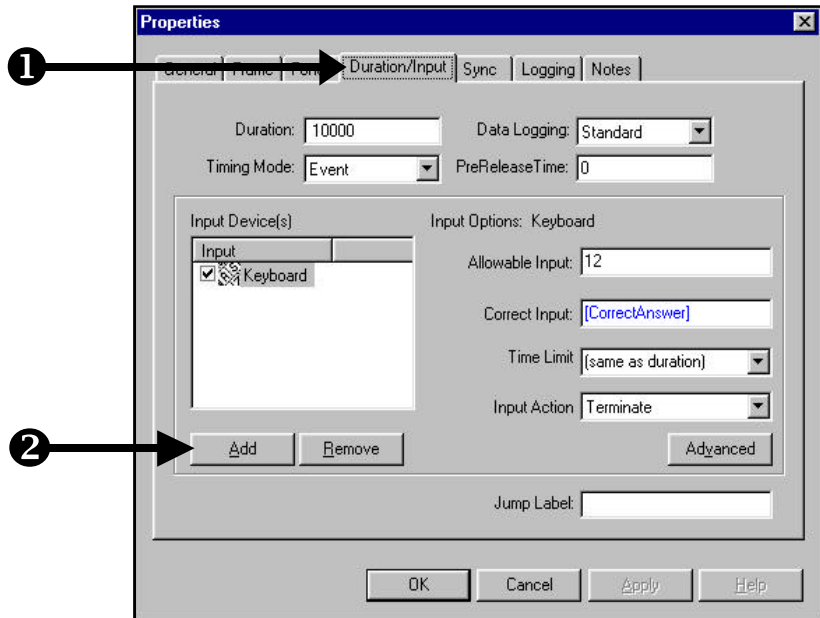
*SRBox input will be enabled for the Target object only. Other objects will continue to accept input from the keyboard.*

- 2) **Add** the SRBox to the Input Devices list and **uncheck** the Keyboard.

*The Keyboard will remain in the Input Devices list, and its settings will be retained. This is useful for switching between input devices.*

- 3) **Click** on the SRBox to select it, and then **set** the Input Options as in the picture to the right.

- 4) **Click OK** when you are finished.







## Task 3.5: Edit the Instructions

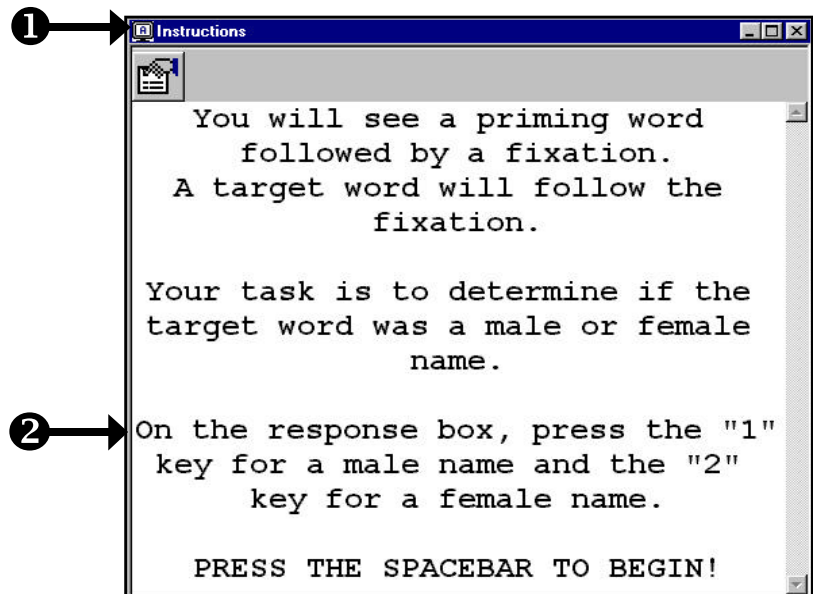
This task will guide you through editing the instructions for the experiment.

1) **Open** the Instructions object in the Workspace.

2) **Edit** the Instructions to reflect the use of the PST Serial Response Box.

3) **Save** and **Run** the experiment.

*The experiment should be identical to Tutorial.es with two exceptions. It will now accept the 1 and 2 keys on the SRBox as allowable input in response to the stimulus presented by the Target object, and the Instructions will be changed.*



**Note:** If you experience Run-time errors, refer to the Troubleshooting section in this manual.

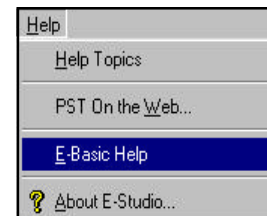


# Tutorial 4: Modify Tutorial.es to use script

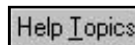
This tutorial assumes that you have successfully completed the E-Studio tutorial in this manual. Do not attempt to work through the following tasks unless this assumption is correct.

This tutorial will guide you through the process of adding your own script to an experiment. The added script will determine the location of the stimulus on a clock face. You will be asked to enter a number of lines of code into an InLine object in E-Studio. This is NOT a tutorial on how to write code. If you would like help with writing the actual code for an experiment, see the online E-Basic help or refer to Chapter 4-Using E-Basic in the User's Guide. Alternatively, you can follow the steps below to access E-Basic help directly from E-Studio.

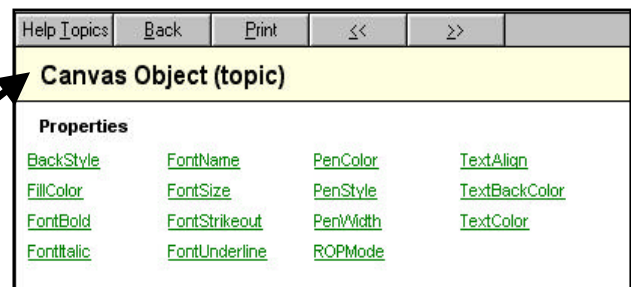
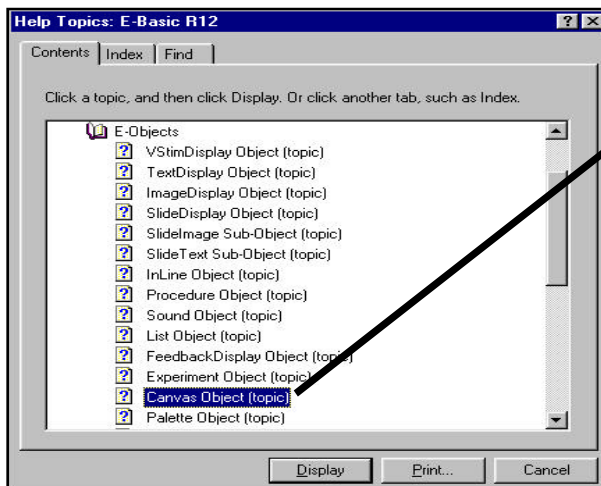
- Select E-Basic Help from the Help menu in E-Studio.



- Click on Help Topics.



- To view information on a particular topic, double click on any item on the Contents tab of the help system (as below), or enter a specific term on the Index tab.





## Task 4.1: Open Tutorial.es and save as ScriptTutorial.es

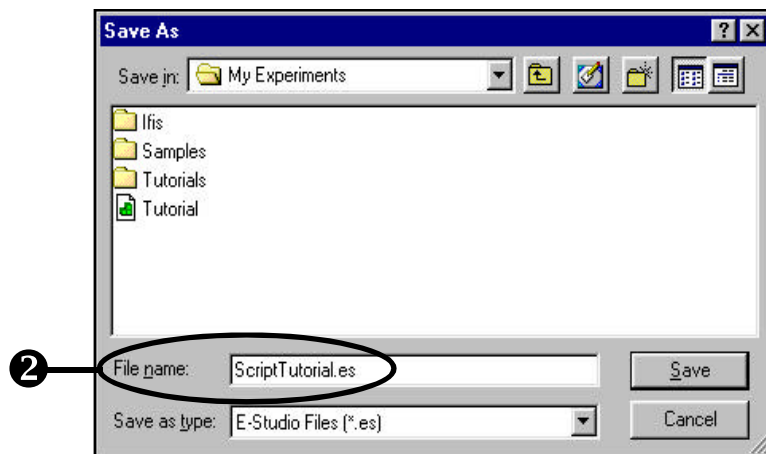
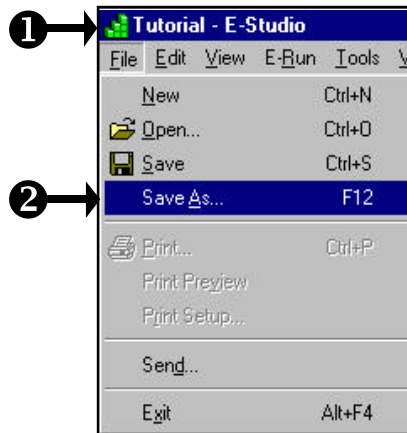
This task will save a copy of the Tutorial.es experiment under a different name in order to make some modifications.

1) **Open** Tutorial.es in E-Studio.

2) In the File menu, **select** the **Save As** command and **save** Tutorial as

**ScriptTutorial.es.**

*ScriptTutorial will automatically be opened in E-Studio.*





## Task 4.2: Create an InLine object

This task will create an InLine object for the purpose of entering script to determine the stimulus location.

- 1) **Click** the InLine object in the Toolbox and **drag** it to the Workspace.

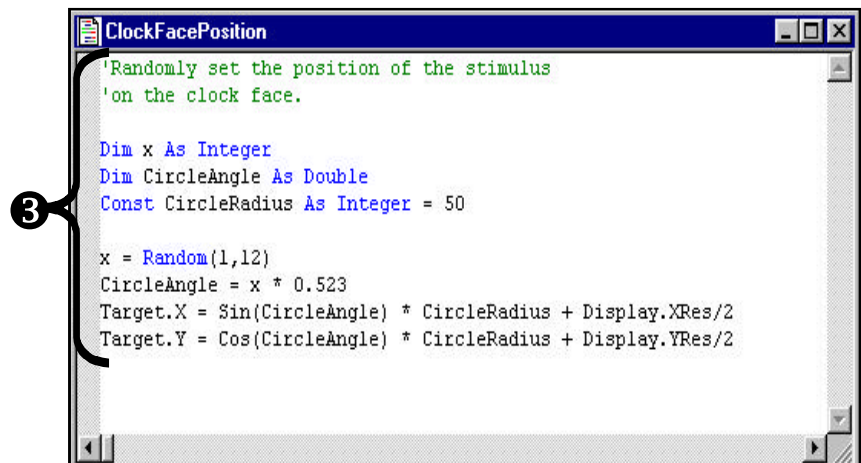
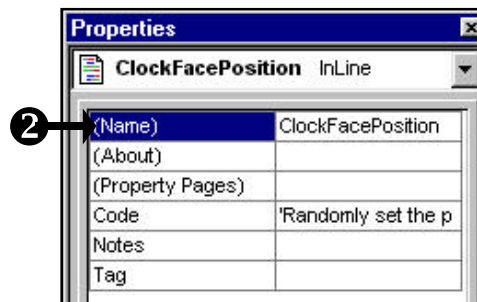
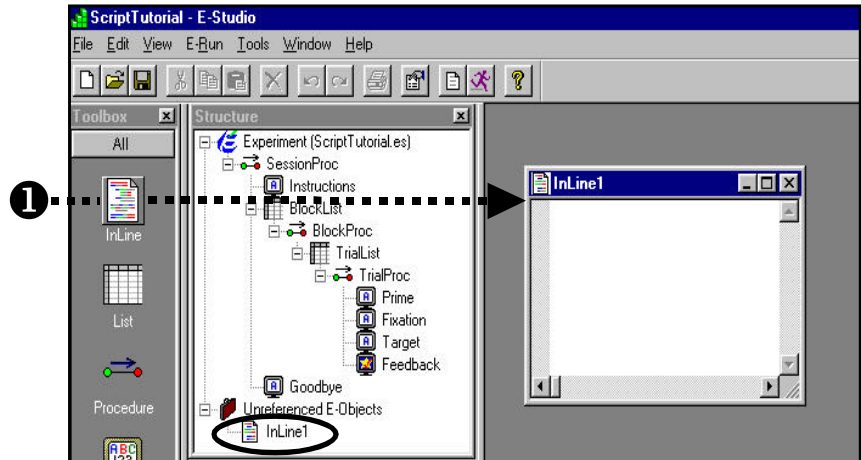
*A new InLine object will be created in the Workspace and will appear in the Structure window (in the Unreferenced E-Objects folder).*

- 2) **Rename** the InLine1 object as **ClockFacePosition**.

*The purpose of the InLine object is to randomly determine the location of the stimulus in a circular area (i.e., in the positions on a clock face).*

- 3) **Enter** the script (exactly as shown to the right) in the ClockFacePosition object.

*The Random command randomly selects a value from 1-12, representing a location on a clock face. The X and Y coordinate values are calculated for this location and are assigned to the X and Y properties for the Target object. This sets the location of the stimulus display for each trial.*



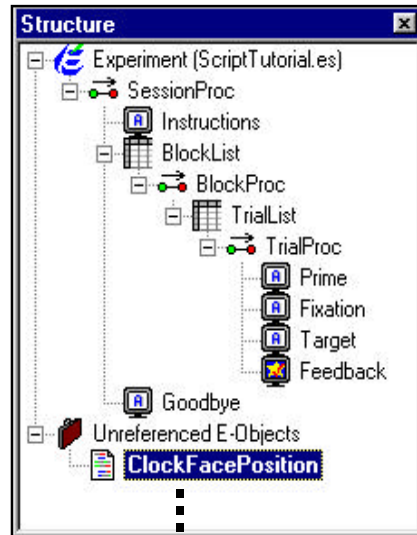


## Task 4.3: Add ClockFacePosition to the trial procedure

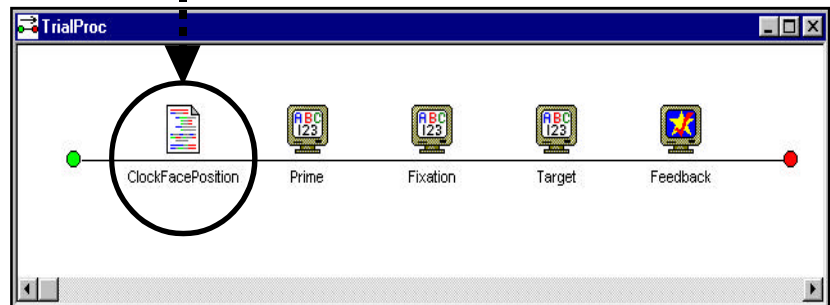
- 1) **Open** the TrialProc in the Workspace.
- 2) From the Unreferenced E-Objects folder, **drag** ClockFacePosition to place it as the first event in the TrialProc.

3) **Save** and **run**.

*The program will now present the Target stimuli at random locations around the defined circular area.*



2





## Task 4.4: Add script to log the random location, and send information to the Output window

This task will add script to the ClockFacePosition InLine object to log the location of the stimulus and send information to the Output window.

- 1) **Click** in the ClockFacePosition object. **Add** two lines of script to ClockFacePosition to match the image to the right.

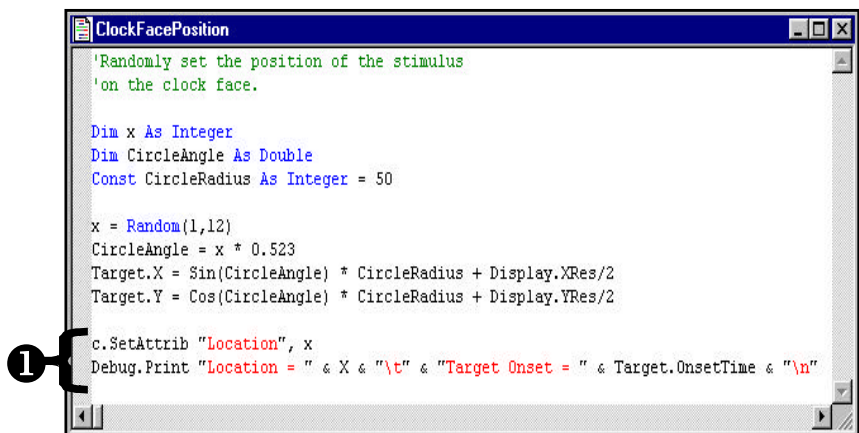
*The c.SetAttrib command is used to set the value of x (i.e., the random location on the clock face) as an attribute to be logged in the data file.*

*Otherwise, x is simply a temporary variable discarded at the end of the run.*

*The Debug.Print command is used to send a string to the Debug tab in the Output window. The string is composed of the location of the stimulus display on each trial, and the onset time of the object presenting the stimulus. This output may be reviewed after the run terminates in order to verify the validity of the values.*

- 2) **Save** and **run**.

*You will not notice any difference during the run, but the next few tasks will examine the results of the additional script.*



```
ClockFacePosition
'Randomly set the position of the stimulus
'on the clock face.

Dim x As Integer
Dim CircleAngle As Double
Const CircleRadius As Integer = 50

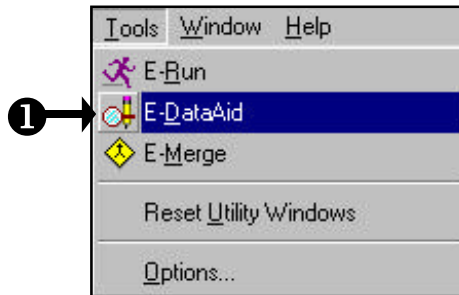
x = Random(1,12)
CircleAngle = x * 0.523
Target.X = Sin(CircleAngle) * CircleRadius + Display.XRes/2
Target.Y = Cos(CircleAngle) * CircleRadius + Display.YRes/2

c.SetAttrib "Location", x
Debug.Print "Location = " & X & "\t" & "Target Onset = " & Target.OnsetTime & "\n"
```



## Task 4.5: Examine the logging of the Location attribute in the data file

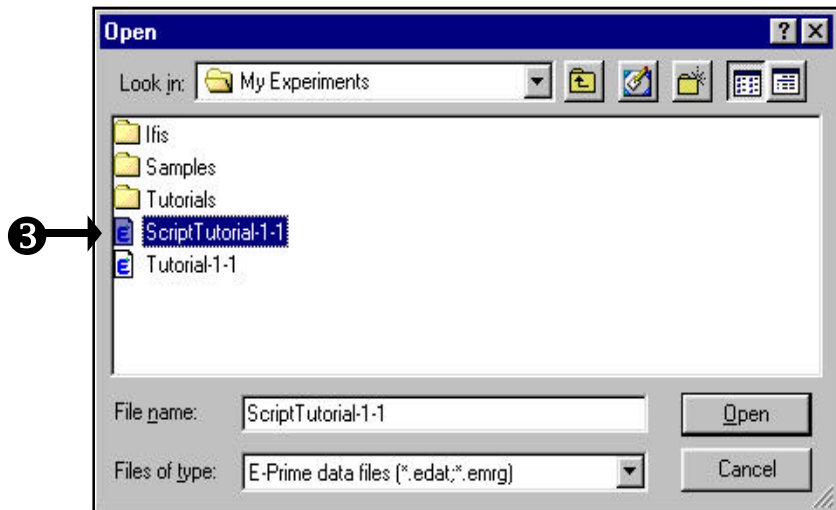
- 1) After the run terminates, **select** the **E-DataAid** command from the Tools menu.  
*This opens the E-DataAid application.*



- 2) In E-DataAid, **select** the **Open** command from the File menu.

- 3) In the Open dialog, **select** the **ScriptTutorial-1-1** data file just collected from the running of ScriptTutorial.es, and **click Open**.

*Assuming that the default subject and session number were selected, the data would have been collected in a file named ScriptTutorial-1-1.edat.*



- 4) **Scroll** to the right in the spreadsheet to find the **Location** attribute within the list of variables at the trial level.

*This column lists the position in which each stimulus appeared. According to the script, the stimulus can appear in 12 positions within a circular area (i.e., like a clock face).*

A screenshot of the E-DataAid application window showing a spreadsheet. The spreadsheet has columns: Procedure[Block], Running[Block], Trial, CorrectAnswer, Location, Name, and Gender. The 'Location' column is circled in black. A black arrow labeled '4' points to the 'Location' column header. The data rows are as follows:

	Procedure[Block]	Running[Block]	Trial	CorrectAnswer	Location	Name	Gender
1	BlockProc	BlockList	1	2	11	female	
2	BlockProc	BlockList	2	1	10	male	
3	BlockProc	BlockList	3	1	9	male	
4	BlockProc	BlockList	4	1	3	male	
5	BlockProc	BlockList	5	2	2	female	
6	BlockProc	BlockList	6	1	6	male	
7	BlockProc	BlockList	7	2	7	female	
8	BlockProc	BlockList	8	2	10	female	

- 5) **Close** E-DataAid.



## Task 4.6: View the results of the script in the Output window

- 1) In E-Studio, **hold** down the **Alt** key and **press** “**3**” to display the Output window.

*By default, the Output window appears at the bottom of the application window.*

- 2) **View** the output on the Debug tab in the Output window.

*The Debug.Print command was used to print the location of the stimulus display, and the onset time of the object displaying the stimulus to the Output window during each trial.*

- 3) **Close** E-Prime.

