

LE-Prime 2

Getting Started Guide



E-Prime

GETTING STARTED GUIDE

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E-Prime® Version

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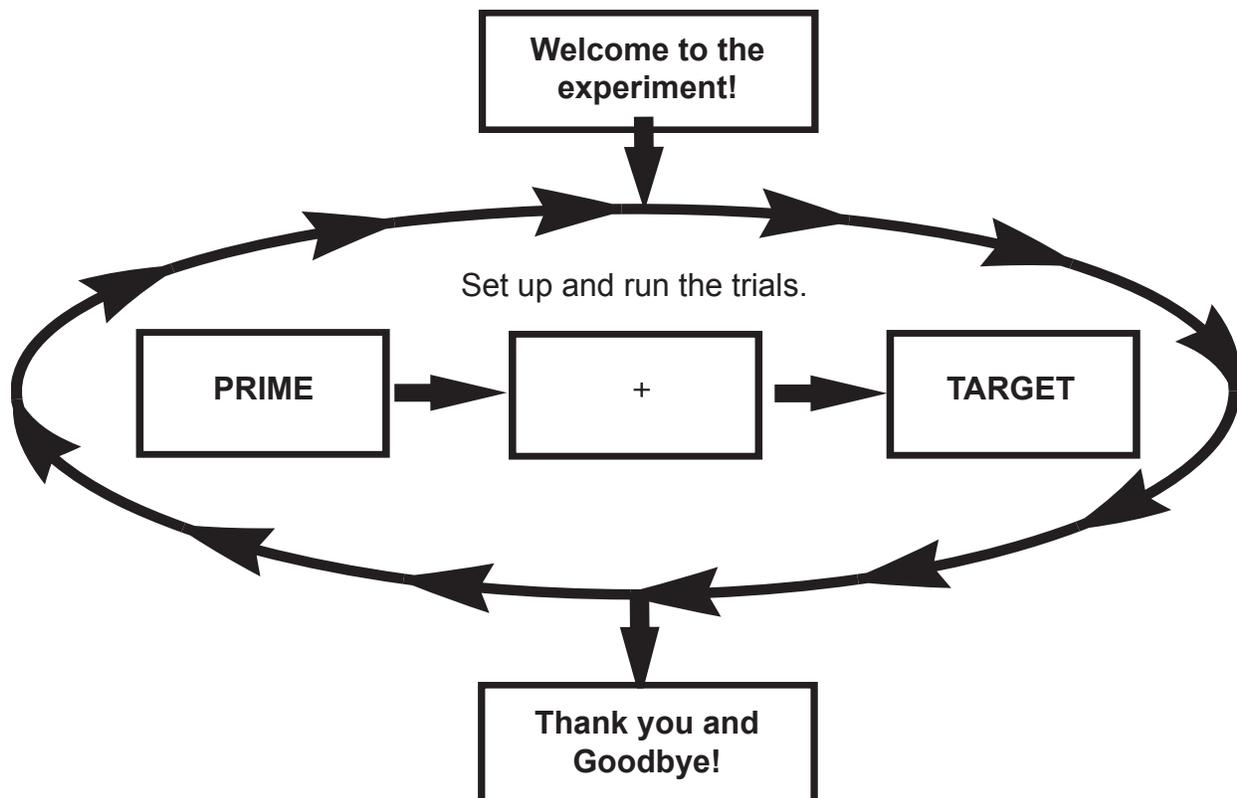
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E-Studio: Getting Started

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.

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



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



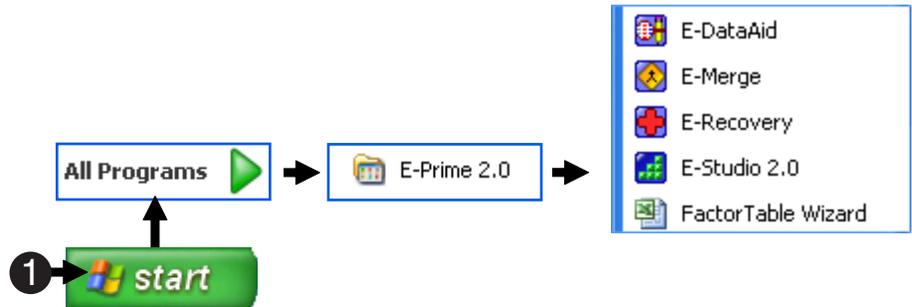
The goal of this task is to open the E-Studio application and begin creating a new experiment.

- 1) Click on the Start Menu, **select All 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.



Step 2 Image Intentionally Left Out



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 window, which contains a hierarchical representation of your experiment.

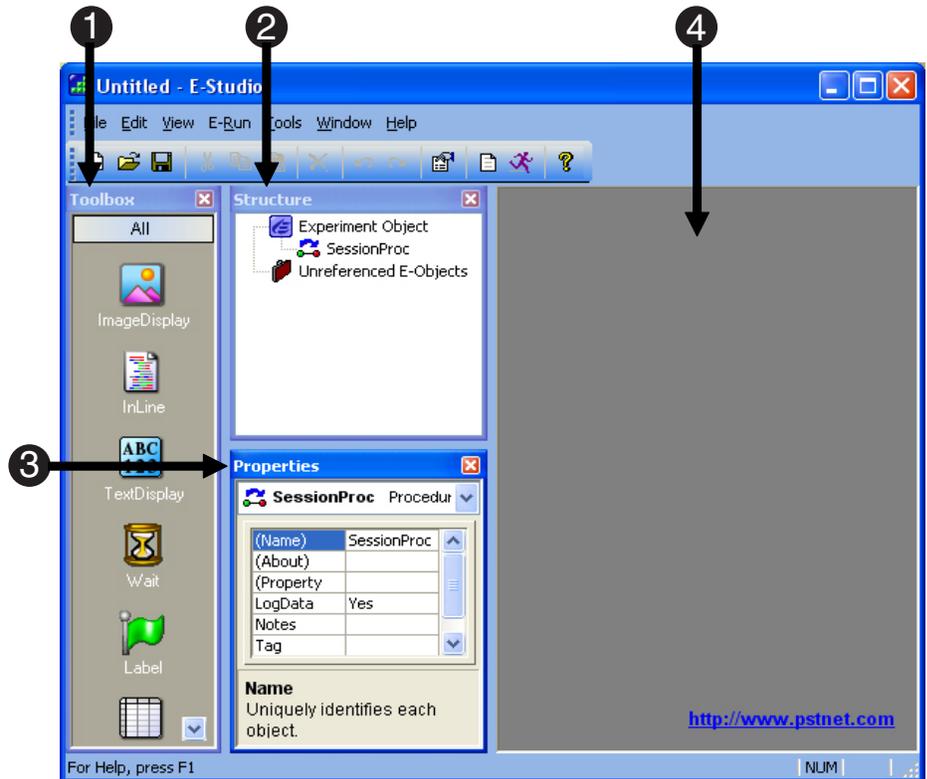
This window features a tree view similar to that in Windows Explorer.

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.

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

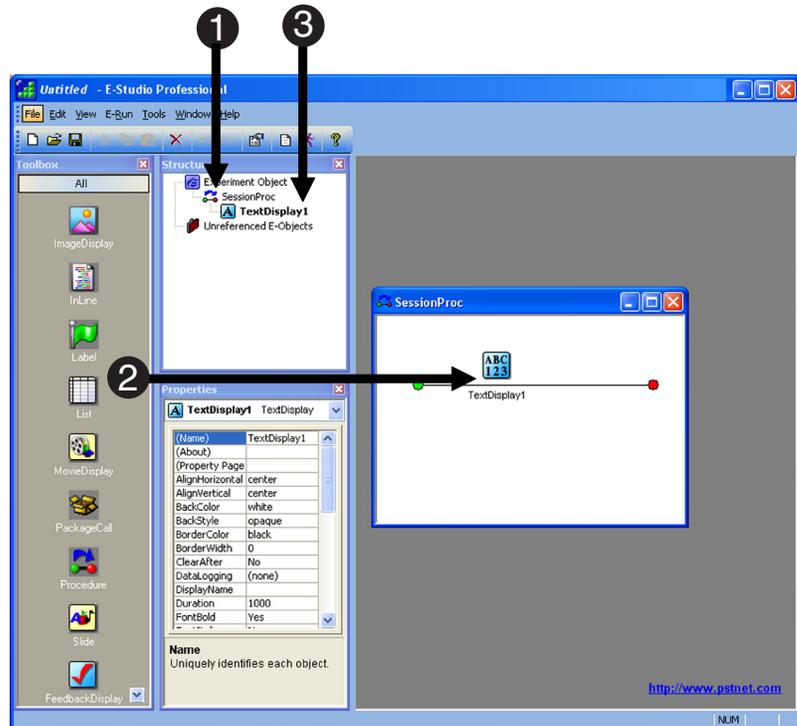
SessionProc is a Procedure object automatically created in each new Experiment Specification (ES) file. Double clicking an object will open a window version of the object in the Workspace. You can resize the various windows to fit in the Workspace.

2) Click and 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 is 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.

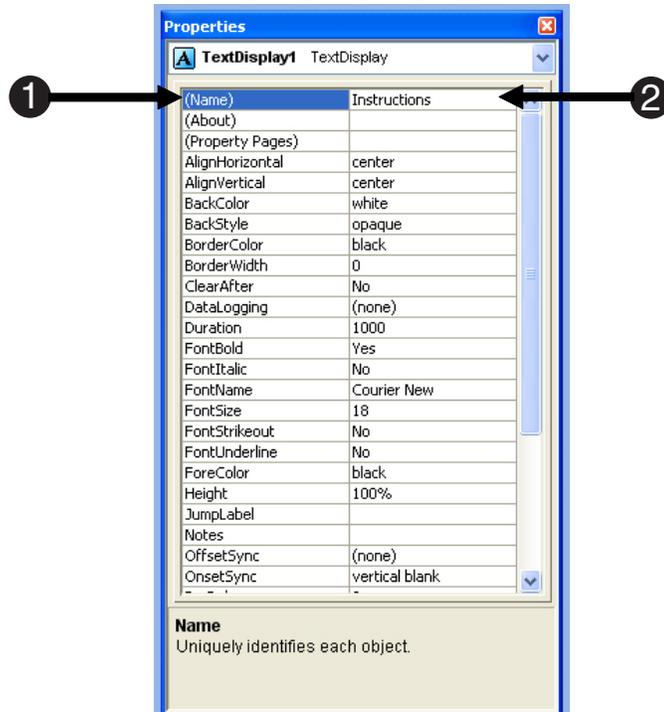
This feature is similar to that in Visual Basic.

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**. **Press** the **Enter** key to accept the new name.

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.





Task 5: Save the experiment and view the Property Pages

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.

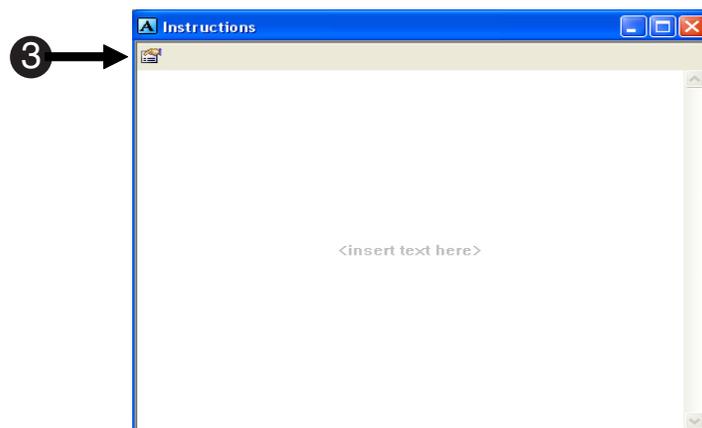
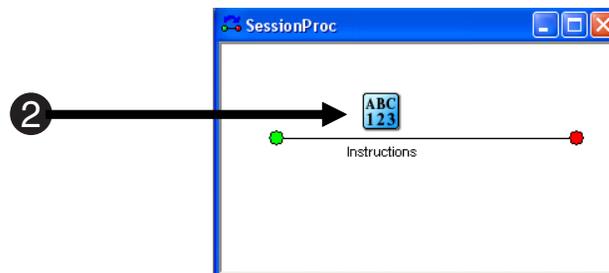
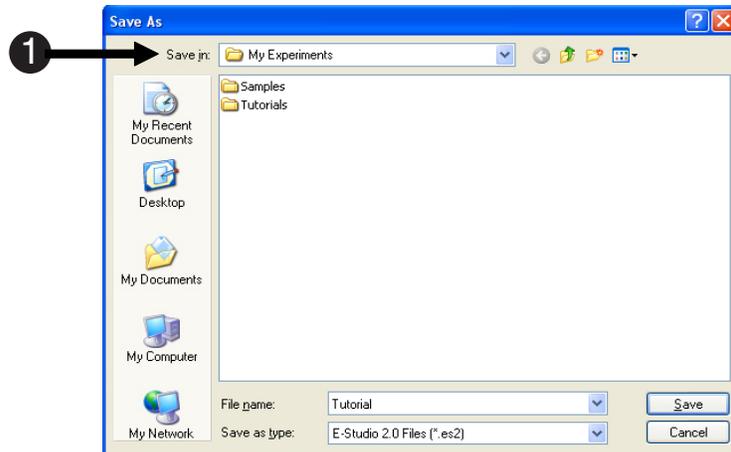
Experiment Specification files receive an .ES extension. The number following the ES indicates the version of E-Studio.

- 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 **Property Pages** button in the upper left corner of the Instructions 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 object properties

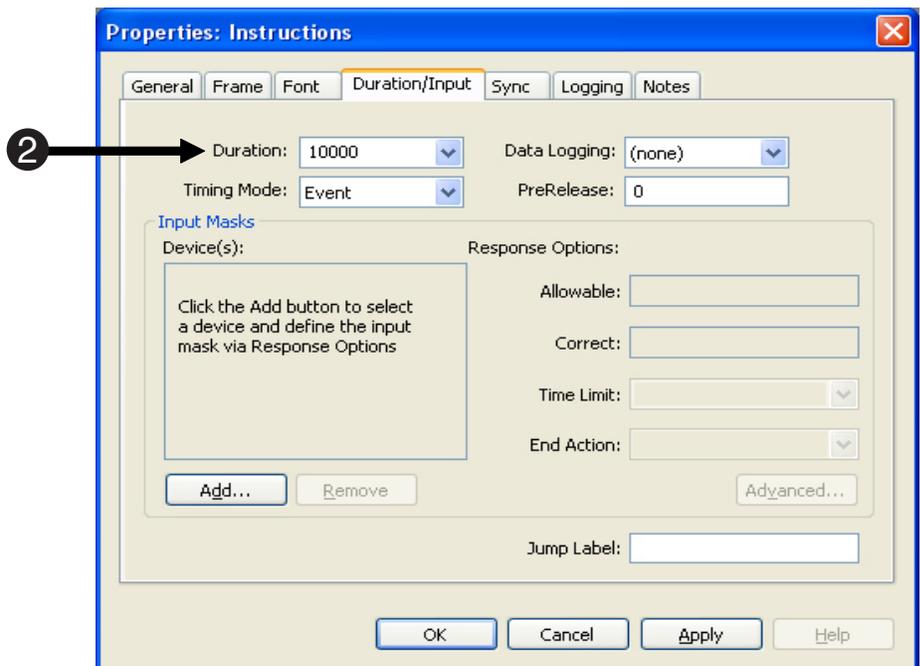
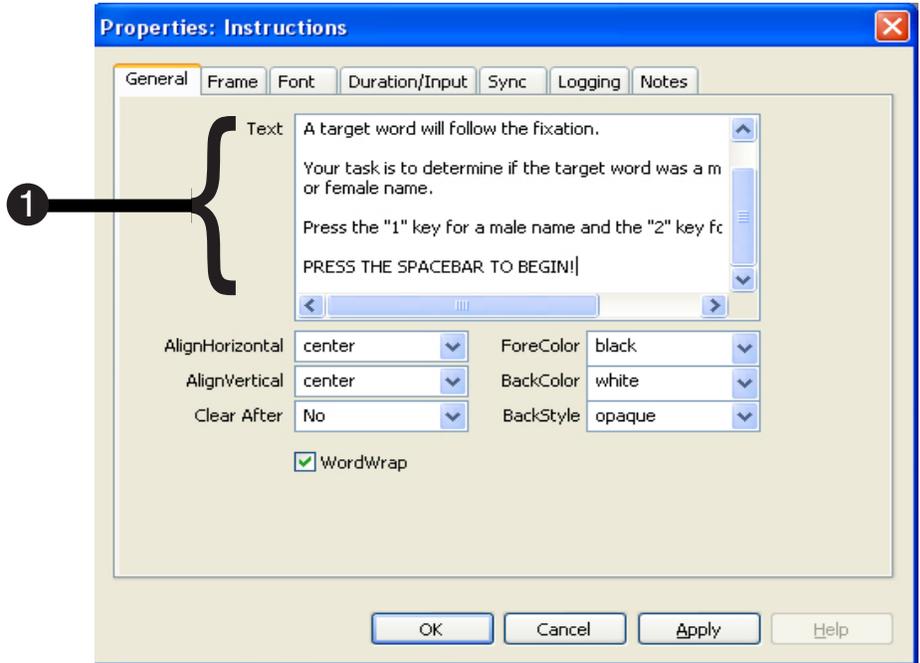
The goal of this task is to specify the properties for the TextDisplay object named "Instructions." This object's purpose is to display a set of instructions in black text on a white background. The display should remain on the screen until a response is collected.

- 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 **(infinite)**.

The (infinite) setting results in the object running until some condition is met (e.g., a keypress).





Task 7: Enable the keyboard as an input device

The goal of this task is to enable input via the keyboard as an input device so that keyboard responses can be collected.

- 1) Still on the Duration/Input tab, **click** the **Add** button under the Device(s) window.

The Add Input Device dialog will be displayed.

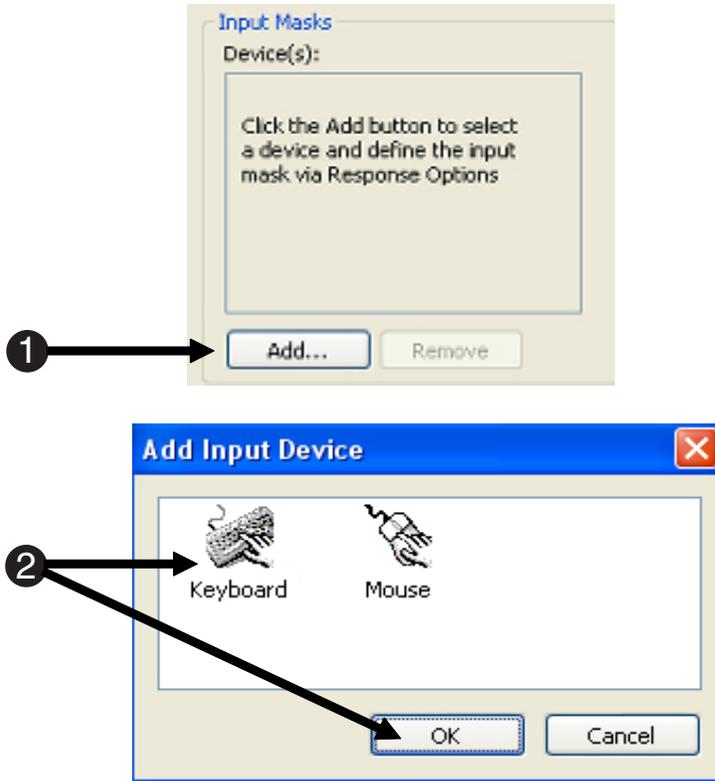
Note: By default, only the keyboard and mouse are enabled as possible input devices. If you have an external device with which you want to collect a response (e.g., PST Serial Response Box, joystick, etc.) you will need to add it to the list of input devices at the experiment level before you can enable it on the Duration/Input tab.

To add an input device at the experiment level, double click the Experiment object and select the Devices tab from the Property Pages. Click the Add button to see a list of devices you can add to your experiment. Once you have selected and added the new device, you can then enable it as an input device on the Duration/Input tab of any object collecting a response.

For more information on adding an input device at the experiment level, please refer to the Duration/Input topic in the E-Prime Reference Guide.

- 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.





Task 8: Set the response options for the keyboard device

The goal of this task is to specify the acceptable input from the keyboard.

- 1) On the Duration/Input tab, **specify** the Allowable response to be the spacebar.

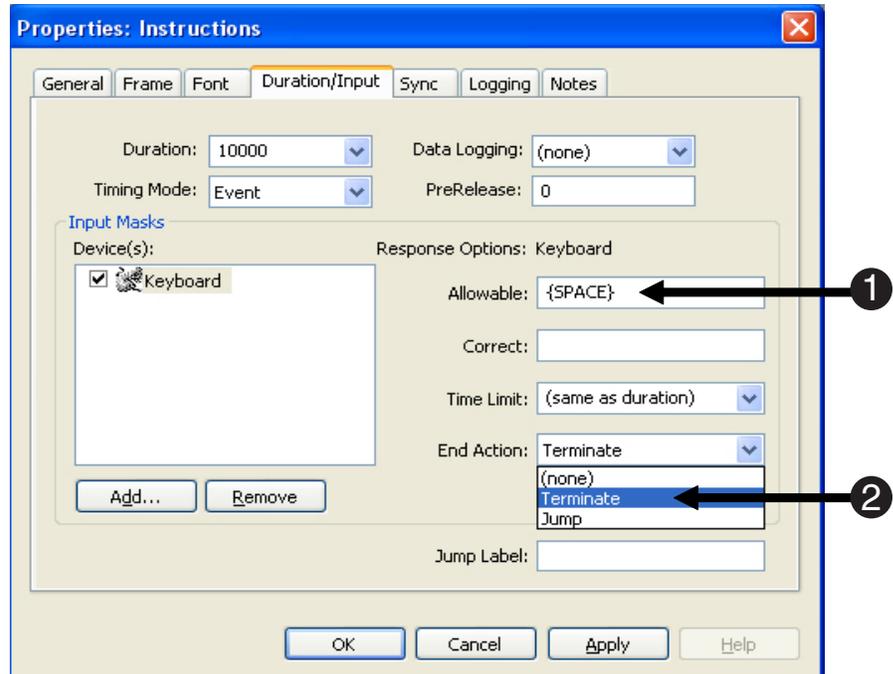
To specify a spacebar press, enclose the word "SPACE" in curly brackets ({ }). Curly brackets tell E-Prime that the word "SPACE" refers to a special character.

Note: The word "SPACE" must be typed in capital letters.

Only those keys specified in the Allowable field will be considered valid responses.

- 2) **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.

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



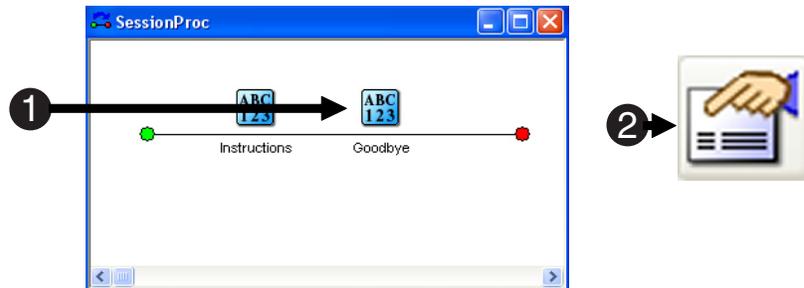


Task 9: Create the Goodbye object

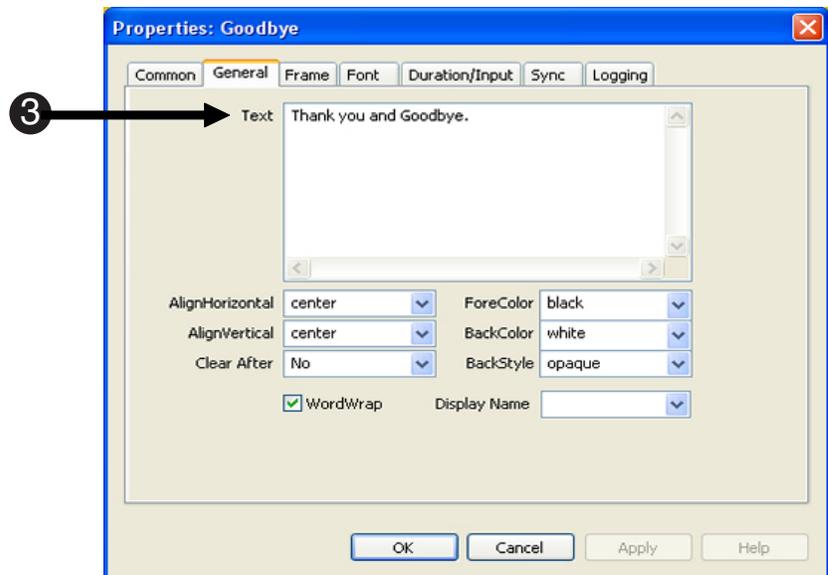
The goal of this task is to create and specify the properties for the TextDisplay object that will dismiss the subject at the end of the experiment. The subject should see a dismissal text, and it should appear for 5 seconds before the experiment terminates.

- 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.

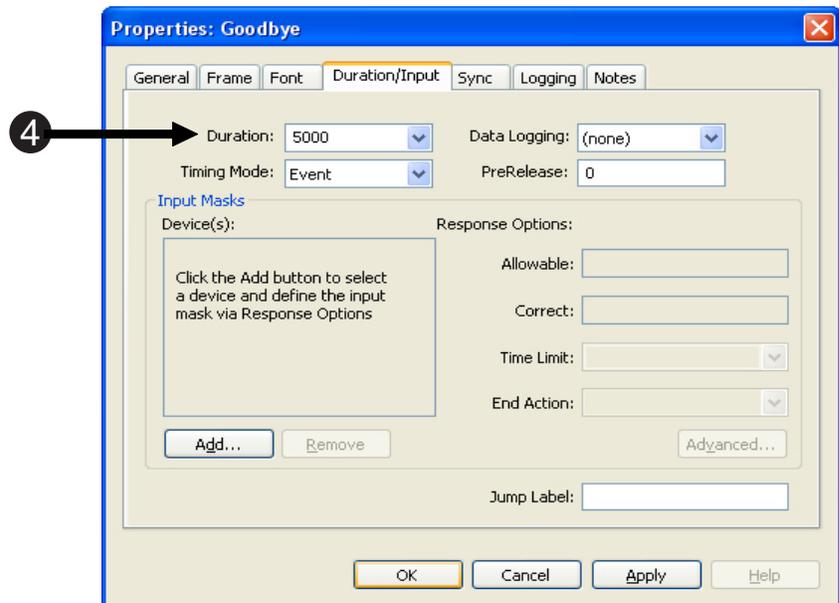


- 3) On the General tab, locate** the Text field and **type, “Thank you and Goodbye.”**

This will be the text displayed to the subject.

- 4) On the Duration/Input tab, specify** the Duration of the display to be **5000**. Do not add an Input Device.

No responses will be registered by the Goodbye object. Instead, the display will terminate when the specified duration has expired. Durations are specified milliseconds.



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



Task 10: Create the BlockList object

The goal of this task is to create the *BlockList* object to run a block of trials. It is helpful to think of your experiment in a hierarchical manner. 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.

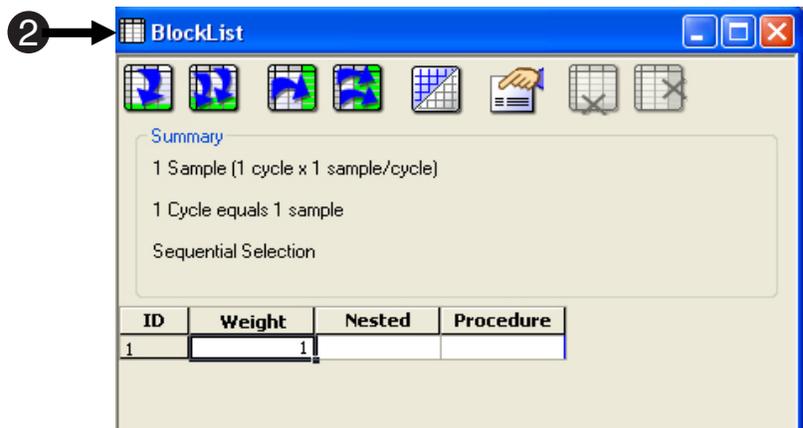
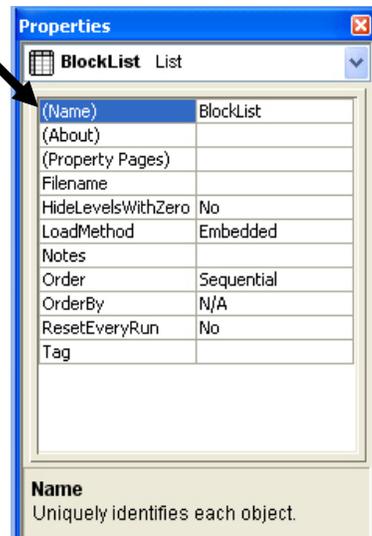
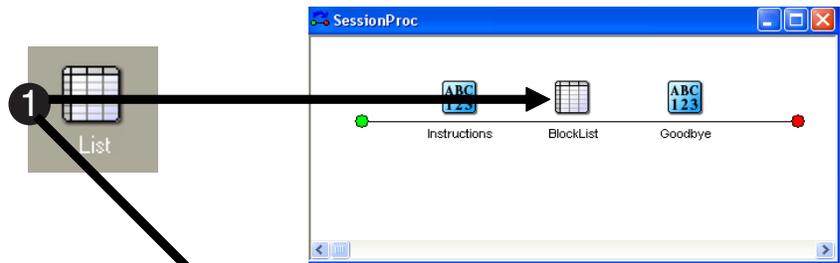
- 1) Drag** the List object in the Toolbox to the SessionProc timeline and **change** its name to **BlockList**.

Change the name by highlighting the List object and locating the (Name) property in the Properties window. Position the BlockList between the Instructions and Goodbye objects on the timeline.

- 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.

- 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 11: 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 block-level attributes/variables.

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

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

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

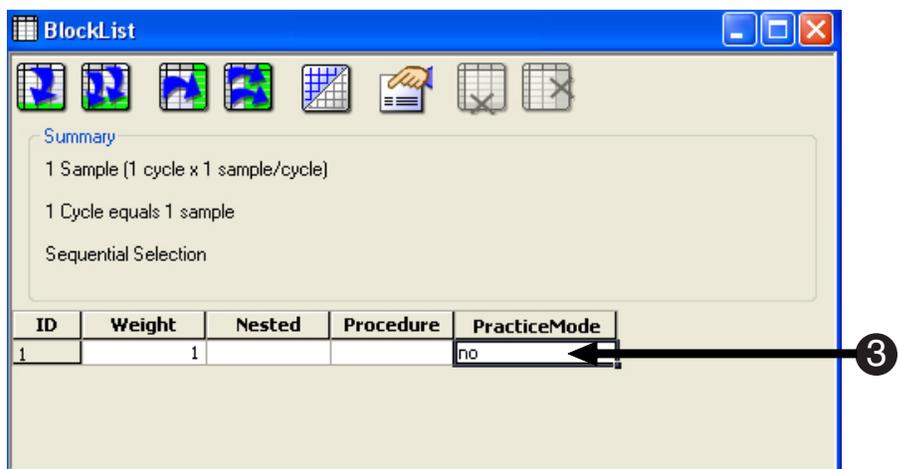
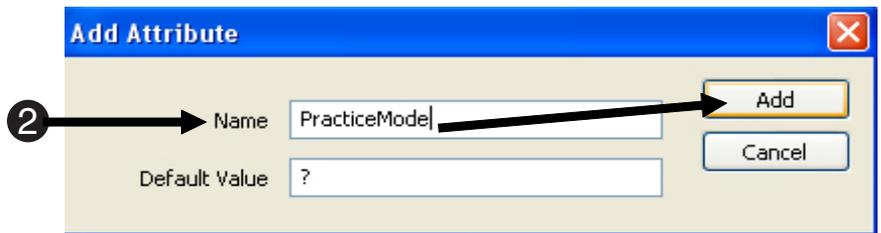
This will create a new attribute called PracticeMode. The Default Value (if specified) is used to automatically enter a value when the new levels are added.

Note: Spaces are not permitted in attribute names. An attribute name can contain only letters, numbers, the underscore (_), and the period(.).

For more information on attribute naming, please refer to the Keywords (topic) and Dim (statement) Help Topics in the E-Basic Help. You can access this via the Help menu in E-Studio or via the Start menu.

- 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”, identifying the block of trials as non-practice.





Task 12: Create and define the Block Procedure

The goal of this task is to create a new Procedure object called BlockProc in order to define the Block Procedure.

1) In the BlockList, type “**BlockProc**” in the first cell of the Procedure column and **press Enter**.

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) Another dialog is displayed asking if you would like to make the BlockProc Procedure the default value for newly created levels. **Click No**.

It is likely that the Procedure will change at the block level.

4) **Close** the SessionProc and BlockList windows in the Workspace.

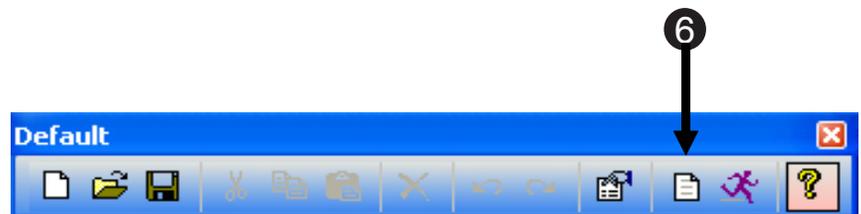
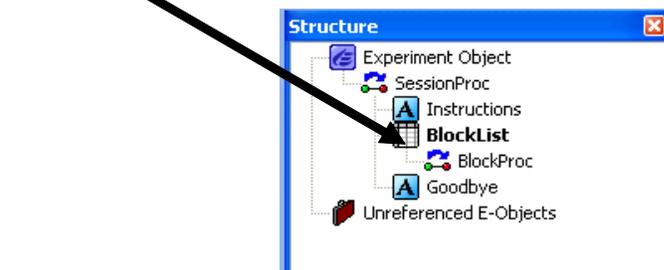
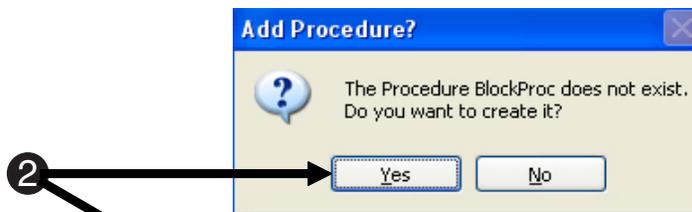
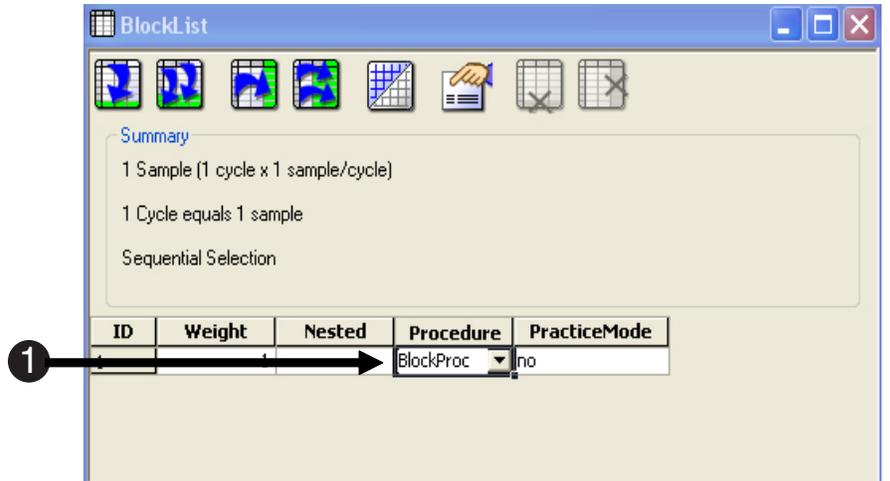
Note: Each window may be closed separately, or you can use the Close All option via the Window Menu.

5) **Save** your experiment!

Press Ctrl-S or click Save in the File menu.

6) **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 13: 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.

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

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

TrialList will be used to organize your trial-level attributes/variables and their values.

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

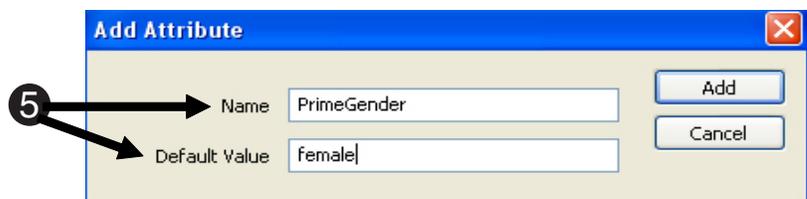
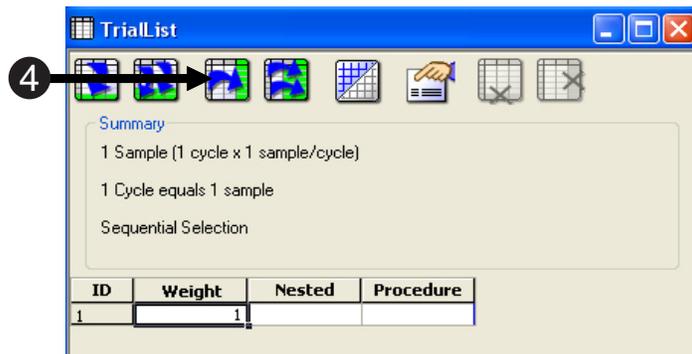
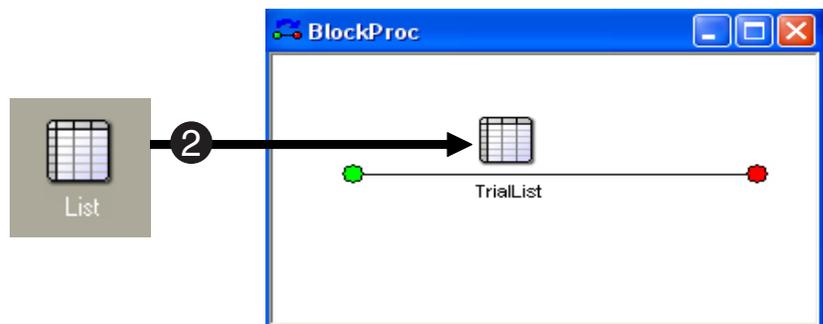
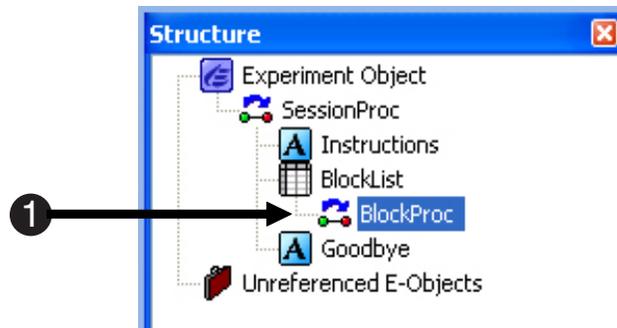
This will open the TrialList spreadsheet-like window in the Workspace. Resize the window as needed.

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

This will open the Add Attribute dialog box.

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 14: Specify attributes in the TrialList

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**.

Five new attributes, Attribute 1-Attribute 5 will be added to the TrialList.

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

Attribute 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.

The screenshots illustrate the following steps:

- Add Multiple Attributes:** A dialog box prompts the user to enter the number of attributes to add. The number '5' is entered, and 'OK' is clicked.
- TrialList Window:** The main window shows a table with columns for Attribute1 through Attribute5. The 'Attribute1' column is selected.
- Edit Attribute:** A dialog box allows editing the selected attribute. The name is changed to 'PrimeType' and the default value is set to 'positive'.
- Final TrialList:** The table is updated with the new attribute names and default values: PrimeType, NameGender, CorrectAnswer, Prime, and Target.



Task 15: Specify levels in the TrialList

The goal of this task is to specify all of the levels of the TrialList. Each level contains info used at that trial level.

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.

When asked if you would like to make the TrialProc Procedure the default value for newly created levels, **click Yes**. It is likely that the Procedure will not change at the trial level.

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

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

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

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

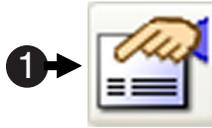


Task 16: Specify the TrialList object properties and create the Trial procedure

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.

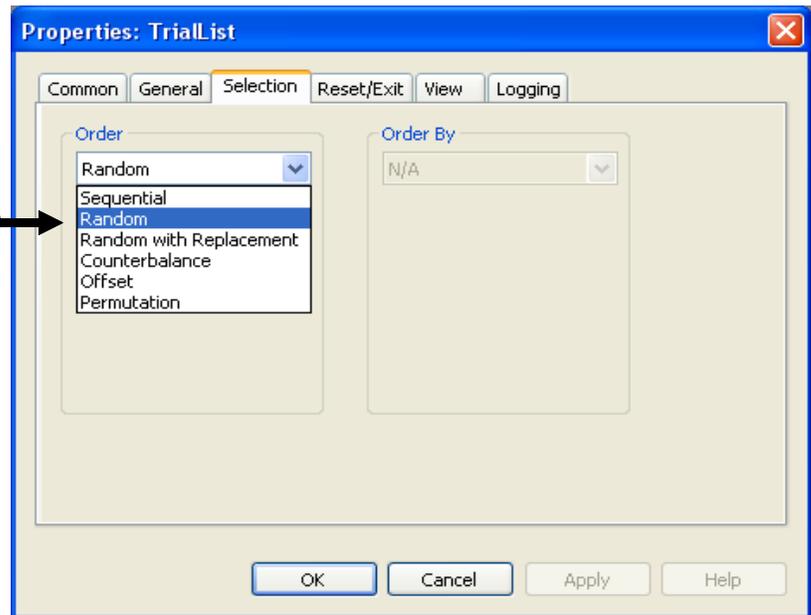


- 3) Select** the **Reset/Exit** Tab and verify that the option to reset after **“All samples (8)”** is selected.

The levels of the List will be replaced and reshuffled if necessary for additional trials.

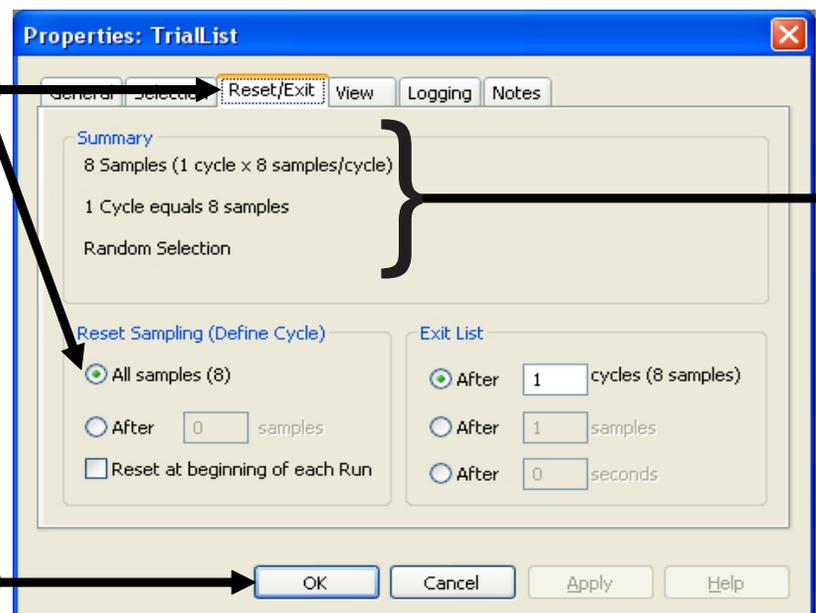
- 4) Review** the **Summary** and close the window by **clicking OK**.

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.





Task 17: 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.

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

2) **Drag** a TextDisplay object from the Toolbox to the TrialProc. **Rename** this object **Prime**.

3) **Drag** another TextDisplay object from the Toolbox and to the TrialProc. **Rename** this object **Fixation**.

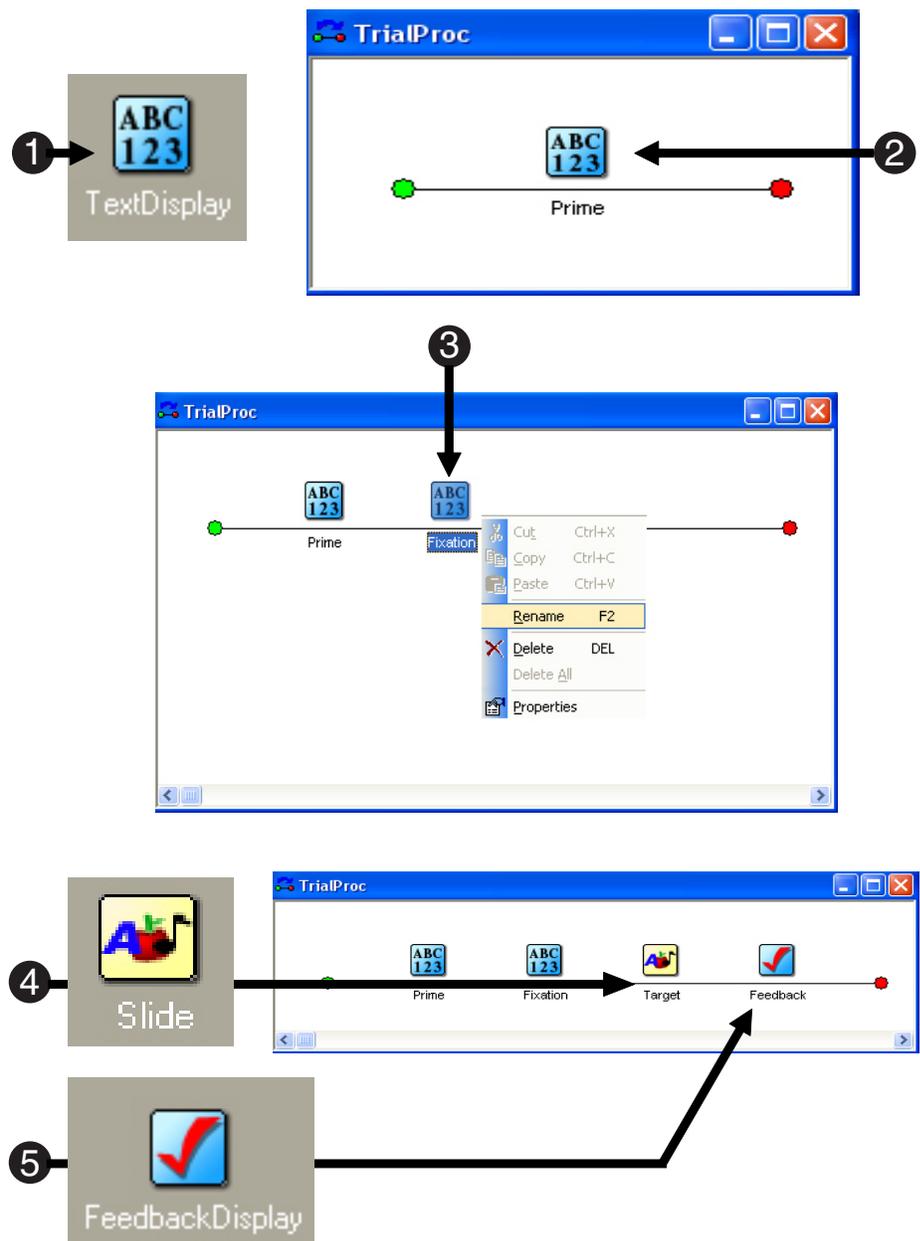
You can also rename objects from a context menu. Access the Context Menu by right clicking the object.

4) **Drag** a Slide object from the Toolbox to the TrialProc. **Rename** this object **Target**.

A Slide object allows presentation of text, sound, images and movies concurrently.

5) **Drag** a Feedback Display object from the Toolbox to the TrialProc. **Rename** this object **Feedback**.

Feedback is the last of the events of the events of the trial procedure.





Task 18: Specify the properties for Prime object

This step will define the properties of the first object on the TrialProc timeline: The presentation of the Prime.

1) Click the **Prime** object in the Structure window to select it.

2) Use the Properties window to specify **Duration** to be **1000** milliseconds.

3) From the View menu, **select Attributes**.

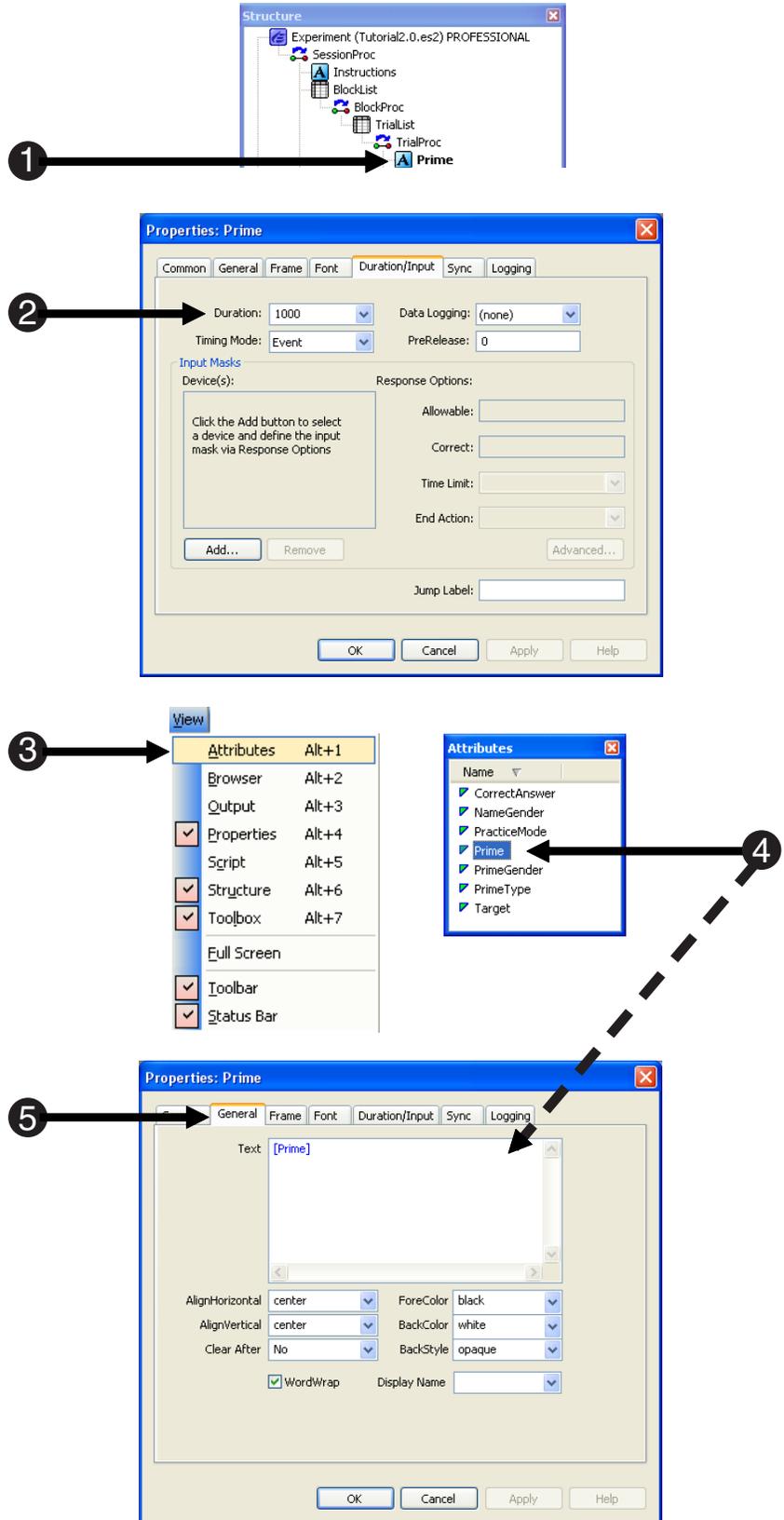
The Attributes window will appear on the right side of the Workspace, listing all attributes declared in List objects created thus far.

4) Click the Prime attribute in the Attributes window and **drag** it to the **Text** property field in the Properties window.

Notice "Prime" is inserted (enclosed in square brackets) as the value of the Text property. On each trial, this notation will be resolved to the current value of the Prime attribute as defined in the TrialList (e.g., sports, bald, etc.).

5) In the Properties window, notice that the Prime text will be centered by default. (AlignHorizontal and AlignVertical are set to Center).

6) Close the Attributes window.

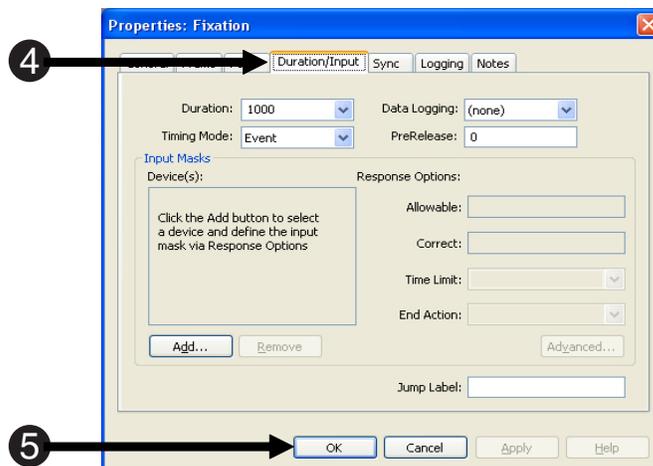
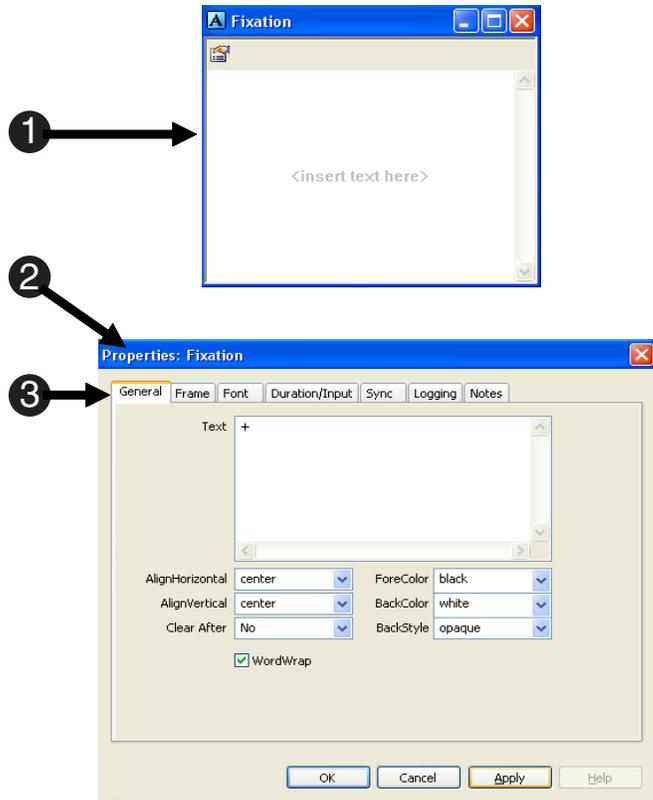




Task 19: Specify the properties for the Fixation object

This step will define the properties of the second object on the TrialProc timeline: the presentation of the Fixation.

- 1) **Double click** the Fixation object to open it in the Workspace.
- 2) Try using the **Property pages** instead of the Properties window to set the properties for the Fixation.
Either of these methods can be used effectively to specify properties.
- 3) On the General tab of the Property pages, **specify** the **Text** to be a **+** and the **AlignVertical** and **AlignHorizontal** properties to be set to center (default).
- 4) On the Duration/Input tab, set the **Duration** to be **1000** milliseconds.
- 5) **Click OK** to accept the settings.
The Fixation window should then look as it does below right.
- 6) **Close** the Fixation window, and **save** the experiment.

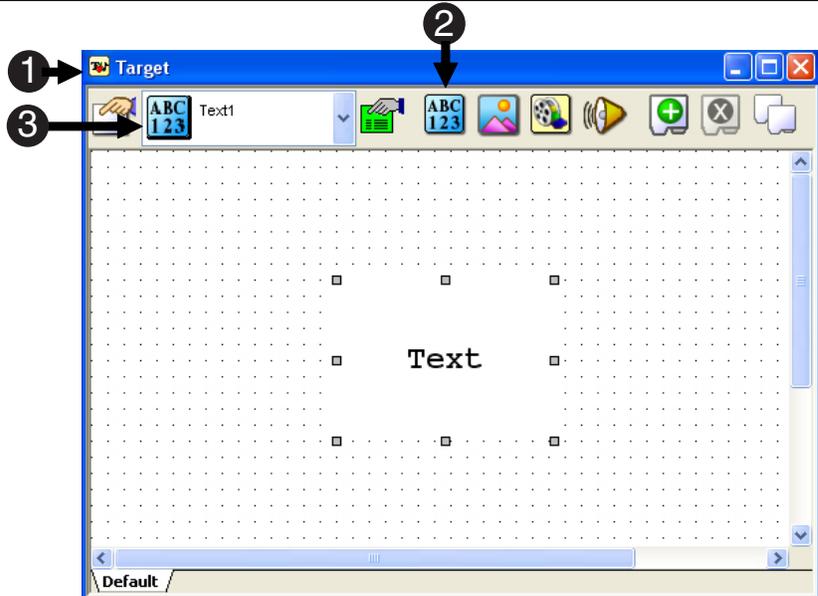




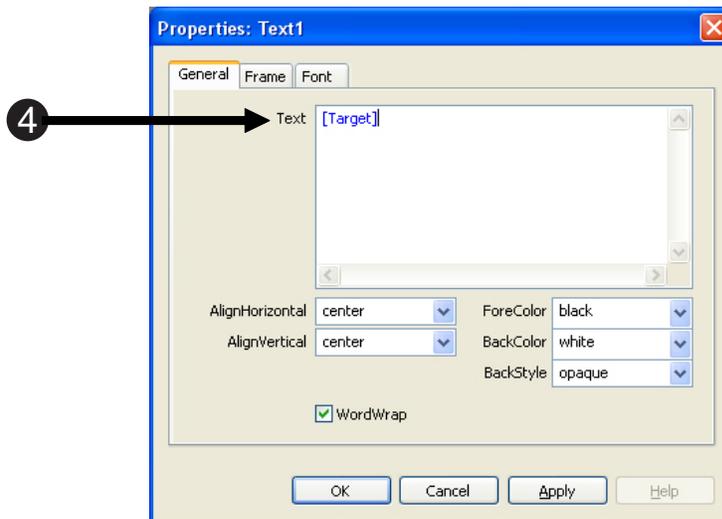
Task 20: Add text to the Target object

Slide objects may be used to present text, sound, images, and movies concurrently. Sub-objects define the type and location of the stimuli composing the Slide. This step will add a text sub-object to the Slide object so that the Target can present text stimuli.

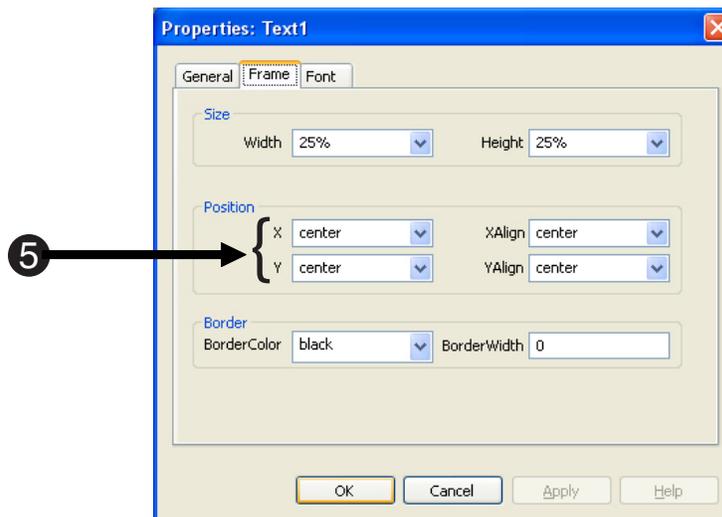
- 1) **Open** the Target object in the Workspace.
- 2) **Click** the SlideText button on the Slide toolbar, then click anywhere within the active Slide window.
A standard text sub-object will appear in the Slide window.
- 3) Use the drop-down menu on the Slide toolbar to select the text sub-object. Then **click** the green **Sub-Object Property Pages** button on the Slide toolbar.
There may be many sub-objects composing a Slide. Select the desired sub-object to set the appropriate properties.



- 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.
This will center the text in the display.



- 6) **Click OK** to accept the settings.





Task 21: Enable Input

The goal of this step is to enable a subject response to the Target object.

- 1) Click on the Target object to refresh the screen then in the Properties window, 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**.

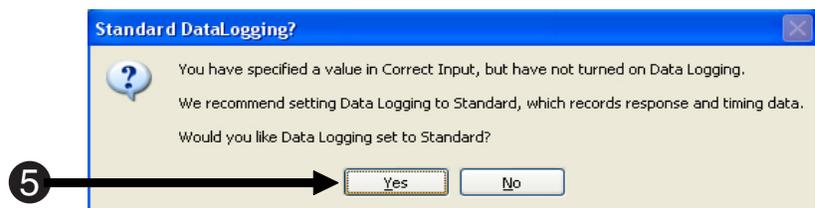
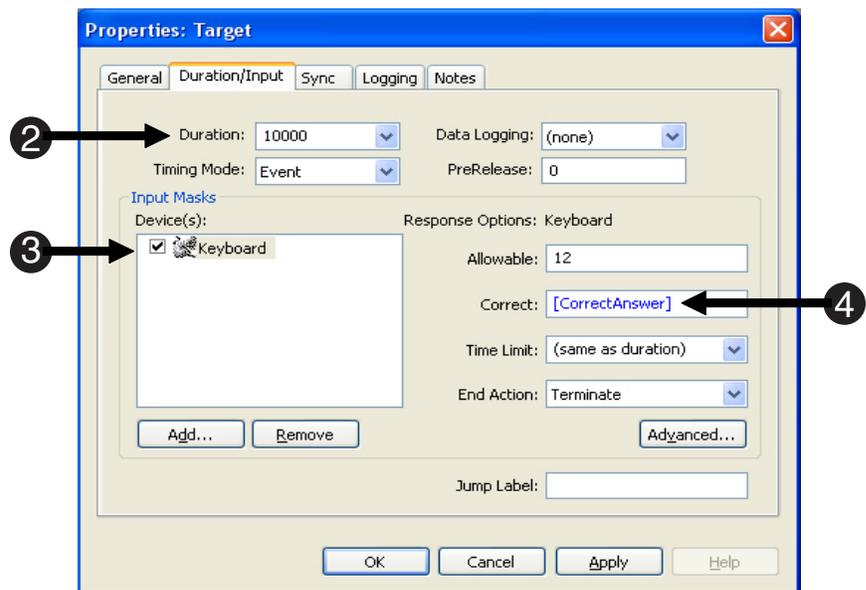
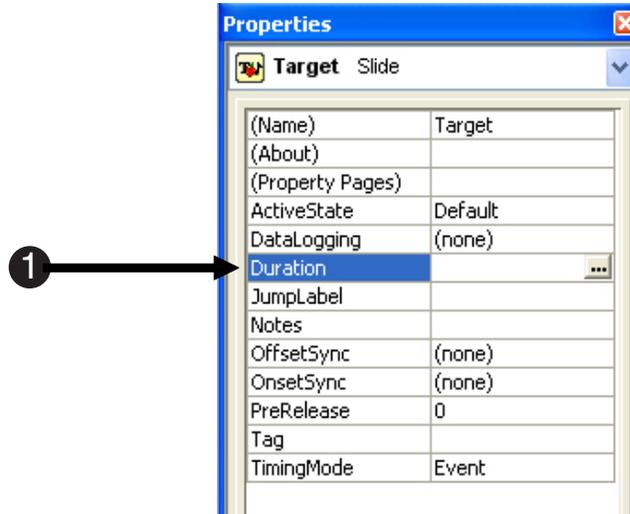
The CorrectAnswer attribute is defined in the TrialList.

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

CorrectAnswer will be used to score the accuracy of the response.

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

- 7) Close the Target object.

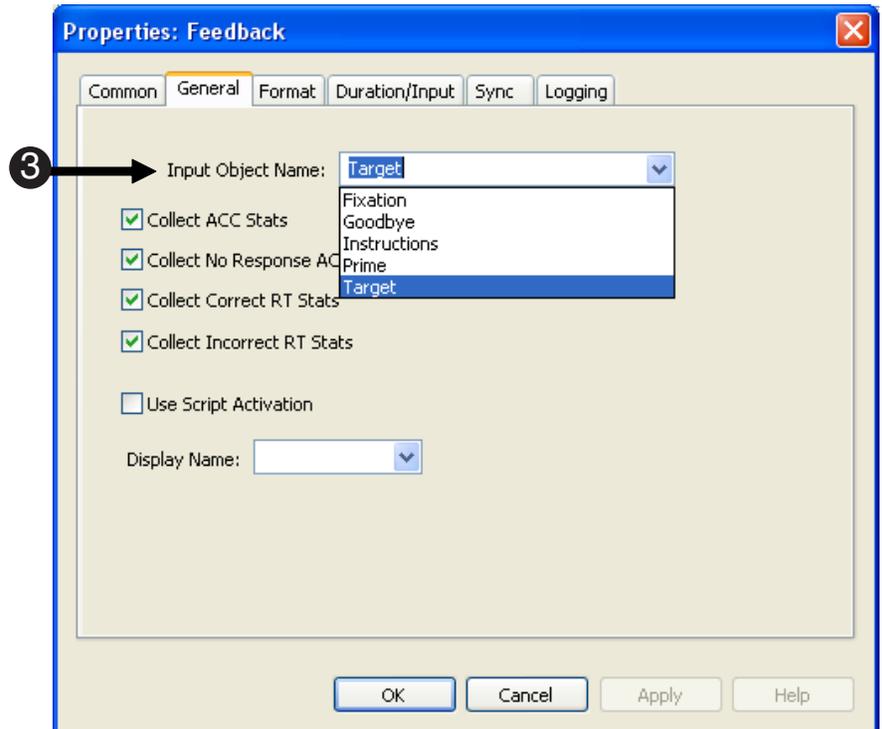
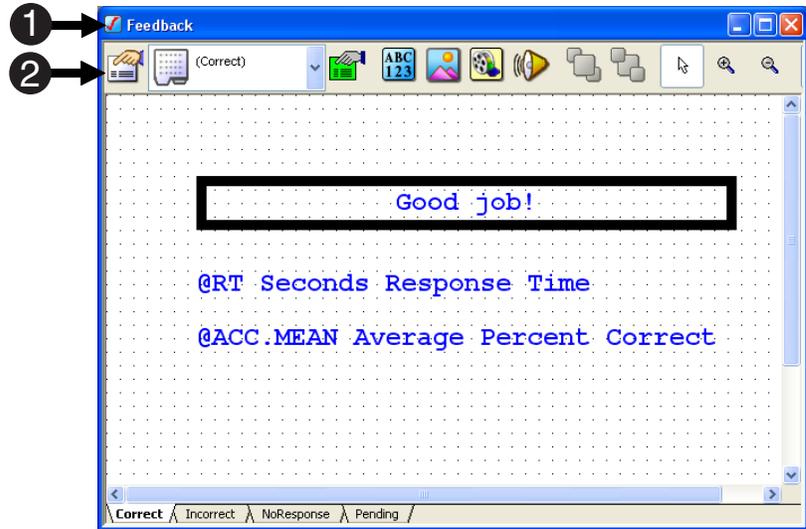




Task 22: Link the Feedback object to the input object

This step will link the Feedback object with the input collected by the Target object.

- 1) **Double click** the Feedback object to open it in the Workspace.
- 2) **Click** the Property Pages button to view the Slide properties.
- 3) On the General tab, **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 Slide object named Target.
- 4) **Click OK** when you are finished.
- 5) **Save** the experiment.





Task 23: 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) **Click** each of the tabs at the bottom of the Slide to view the various SlideStates included in the Feedback object.

Each tab is a separate SlideState object that defines a different type of feedback.

TextDisplay sub-objects on the SlideState use FeedbackDisplay macros to display the reaction time, accuracy, etc.

For more information, refer to the FeedbackDisplay topic in the E-Prime Reference Guide.

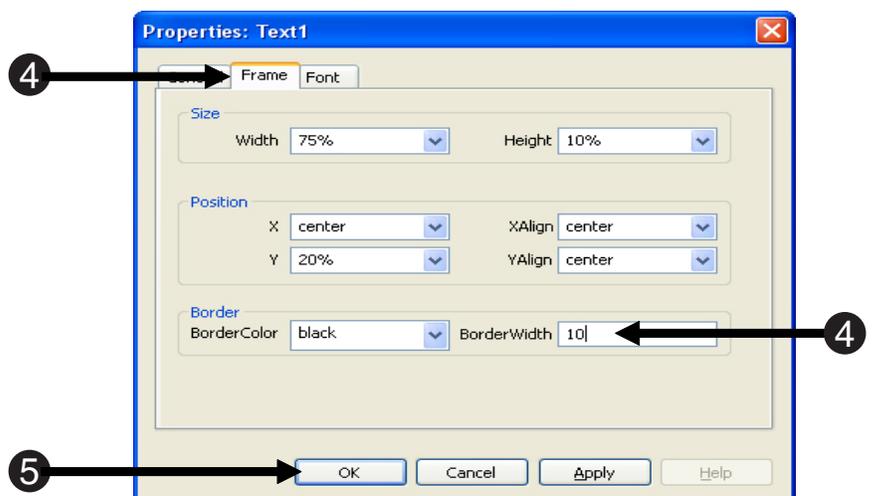
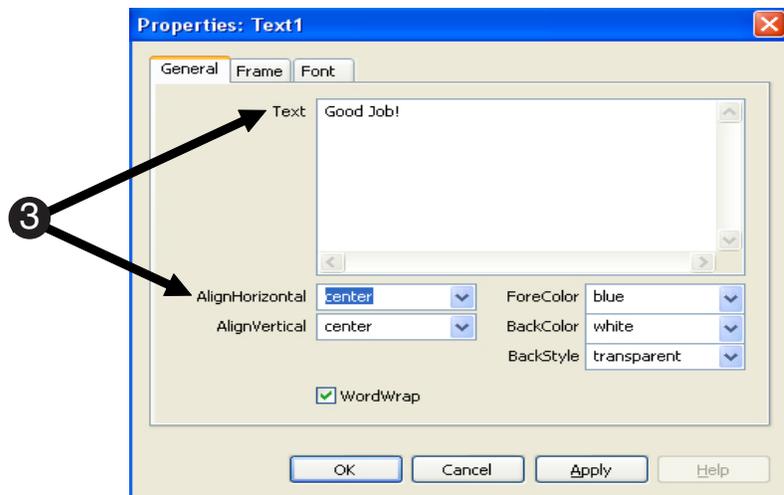
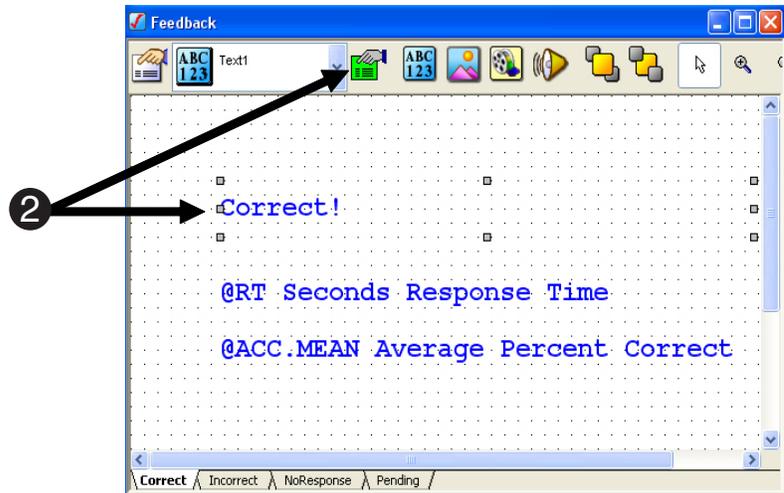
- 2) On the “Correct” SlideState, **click** on the text box containing the “**Correct!**” message, and **click** the green **Sub-Object Property Pages** button to display the Property pages for the sub-object.

- 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.

- 6) **Close** the Feedback object.

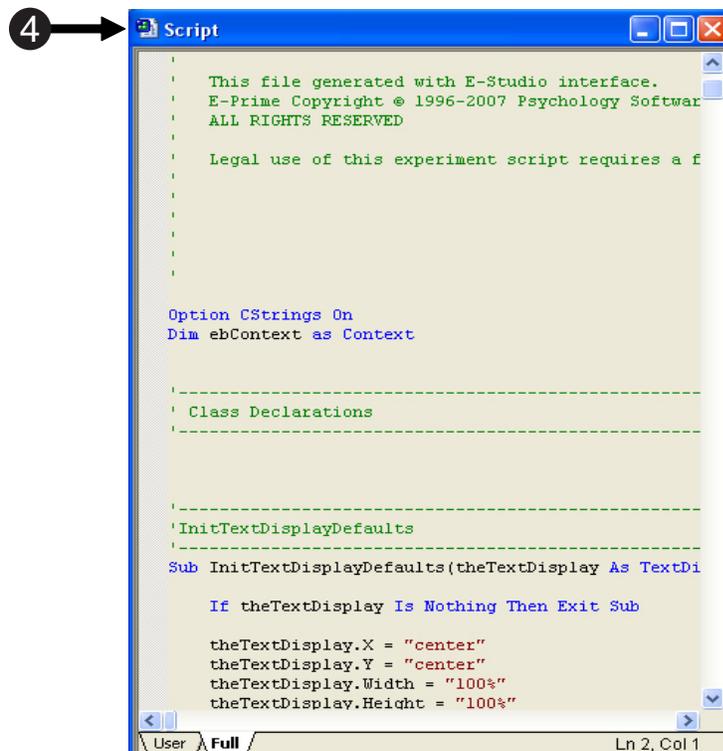
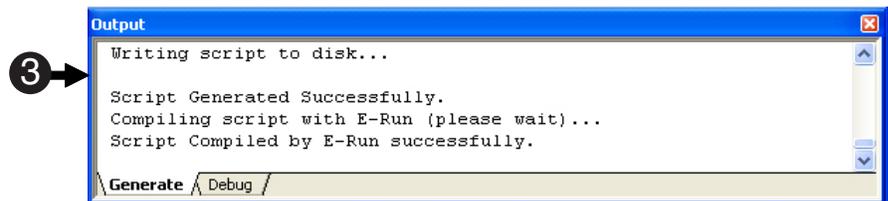
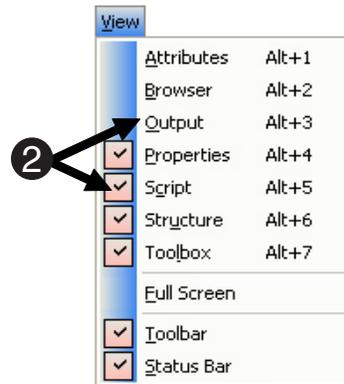




Task 24: Generate the Script!

The experiment specification file is complete! Now 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.
Note: You must select each window individually. When a window is currently in view on the desktop, there is a checkmark next to it in the View menu.
- 3) **Click** the Generate button and **notice** the Output window in the lower left corner of the interface. When you generate the script, E-Studio provides a report of the progress in the Output window.
- 4) In the Script window, you can see the script that E-Studio generates for you. You could have spent days or weeks writing all that code, but you did it with E-Studio in about an hour or less!



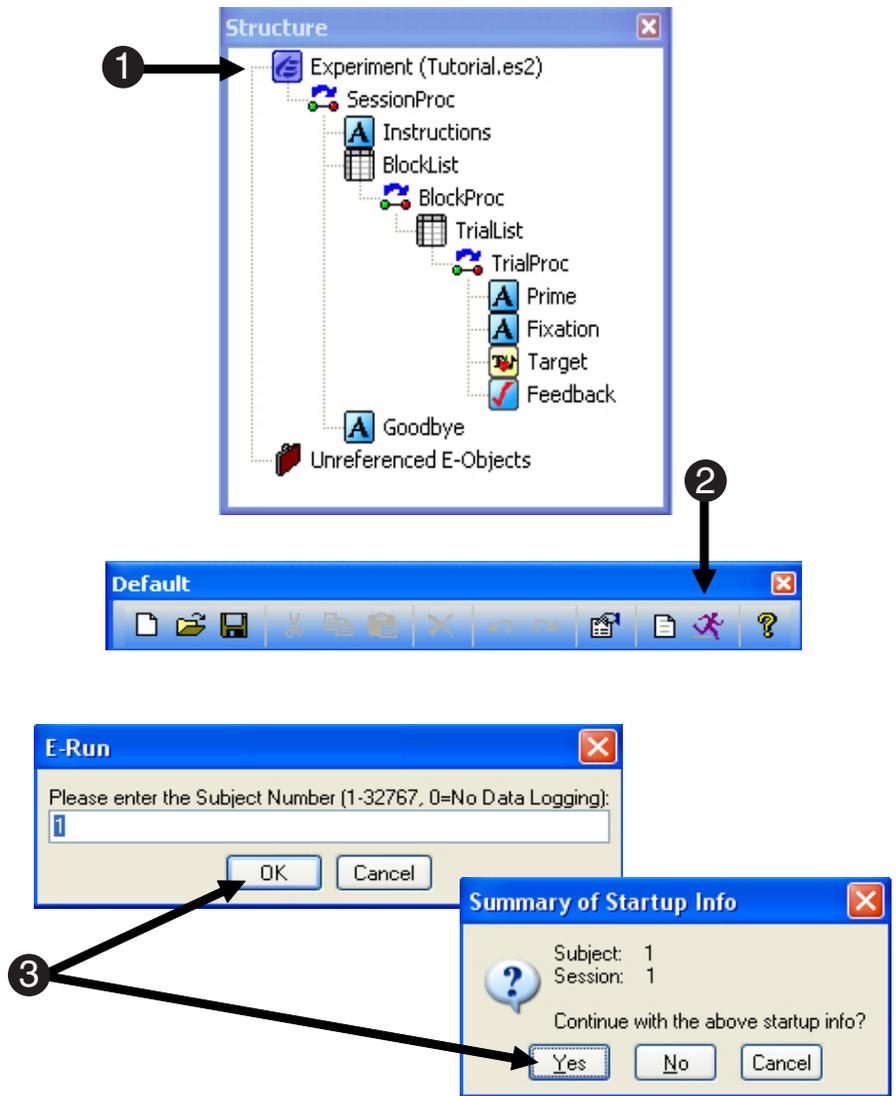


Task 25: Run your experiment!

Congratulations! You have completed 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 at the beginning of this 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!





Merging Data Files

Task 1: Open E-Merge

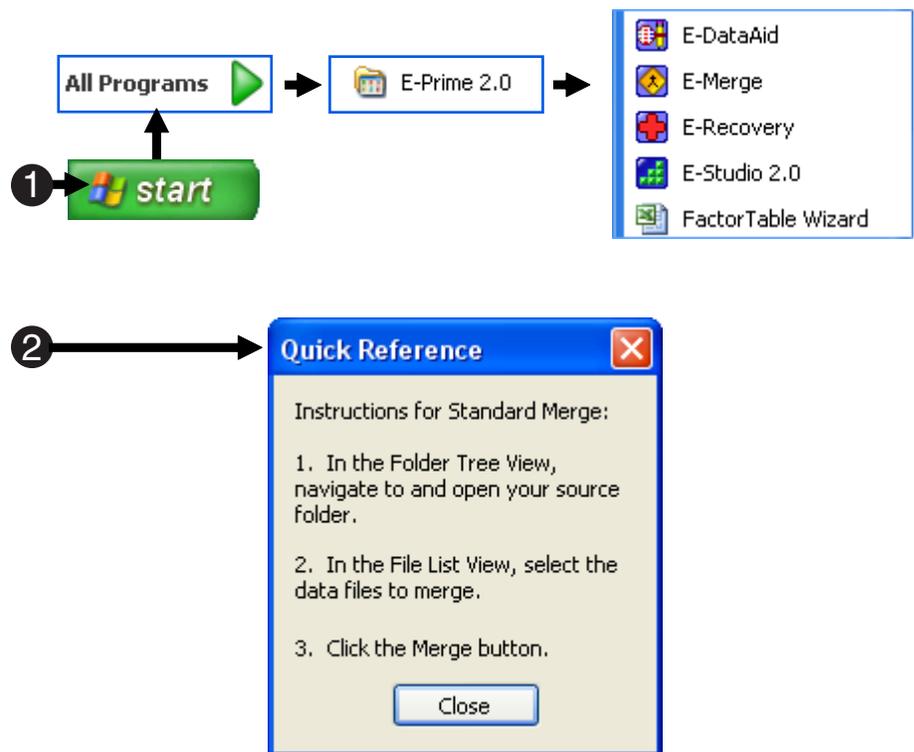
E-Run collects all data as single subject data files. The E-Merge application is used to merge single subject data files into a master file for analysis. This step guides you through the opening of the E-Merge application.

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

A Quick Reference dialog is displayed, indicating the basic steps necessary to merge 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.

E-Merge is expected to be used infrequently (after collection of a set of data files), and the Quick Reference is presented as a brief reminder of the steps to merge files. The Quick Reference dialog may be redisplayed at any time using the View menu.





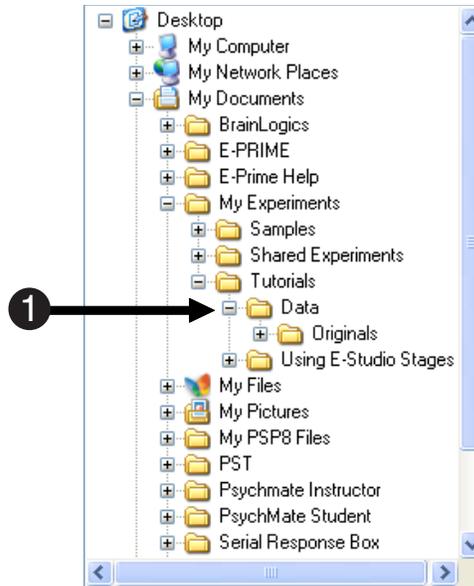
Task 2: Locate your experiment files

The Folder Tree window on the left side of the E-Merge display allows you to navigate to the folder containing your data files.

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

2) After selecting a folder in the Folder Tree, the File List window (on the right side of the display) will display available data files located in that folder.

Located within the Data folder are 5 subject data files collected using the Tutorial experiment.



The screenshot shows a File List window with a table of files. An arrow with a white circle containing the number '2' points to the first row of the table.

File Name	Experiment	Status	Subject	Session
Exported Tutorial Data Test.txt				
Table of Means Test.txt				
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



Task 3: Select files to merge

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

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

Individual files may be selected by clicking on the filename, or hold the CTRL button down and click individual files to select several files at once.

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

The screenshot shows the E-Prime software interface. On the left, a toolbar contains two buttons: 'Select Unmerged' (a square button with a checkmark and a list icon) and 'Merge...' (a yellow diamond button with a person icon). A circled '1' with an arrow points to the 'Select Unmerged' button, and a circled '2' with an arrow points to the 'Merge...' button. To the right, a table displays a list of files with columns for File Name, Experiment, Status, Subject, and Session. The files 'Tutorial-1-1.edat' through 'Tutorial-5-1.edat' are selected, indicated by blue highlights. The 'Merged TEST.emrg' file is also visible in the table.

File Name	Experiment	Status	Subject	Session
Exported Tutorial Data Test.txt				
Merged TEST.emrg	---	Merged data	---	---
Table of Means Test.txt				
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



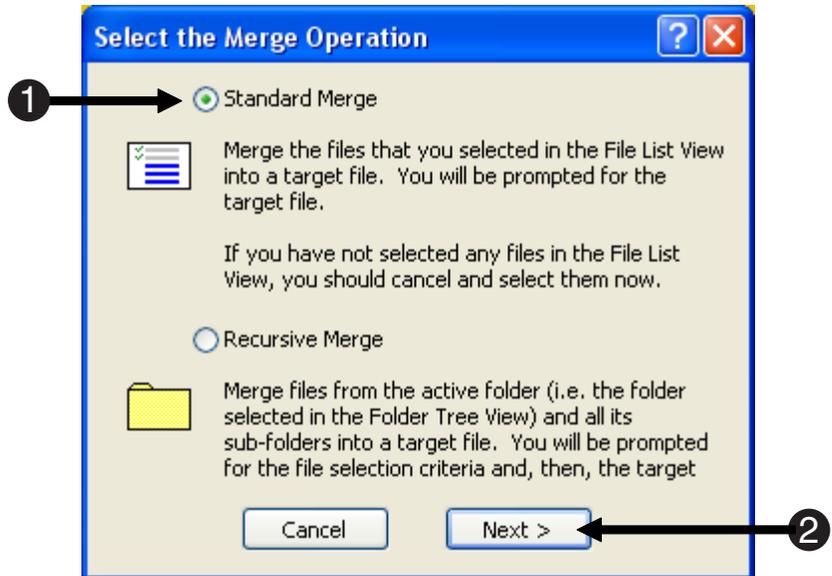
Task 4: Select a merge operation

This step guides you through selection of the type of merge operation to perform.

- 1) A dialog will be displayed requesting the type of merge operation to perform.

Standard Merge is the typical merge operation when files exist within a single folder. Recursive Merge is used when data exists within sub-folders.

- 2) Click **Next** to continue with a **Standard Merge** operation.





Task 5: Set the Target File

This step guides you through specification of a target file into which the single session data files will be merged.

- 1) In the Set Target File dialog, **navigate** to the C:\My Documents\My Experiments\Tutorials\Data folder and **set** the File name to Merged Tutorial Data.

The single session data files selected will be merged into this target file.

- 2) **Click OK** to launch the merge operation.

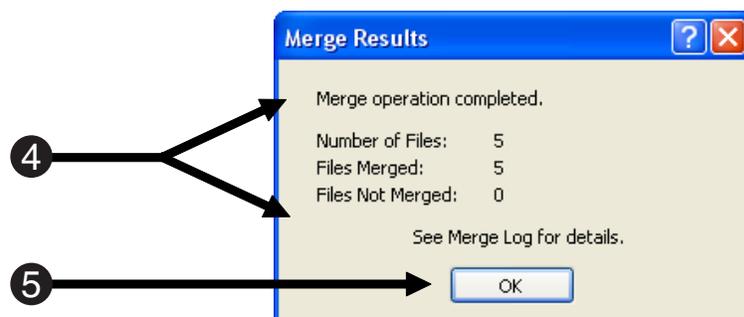
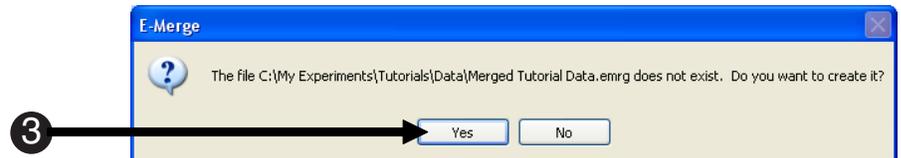
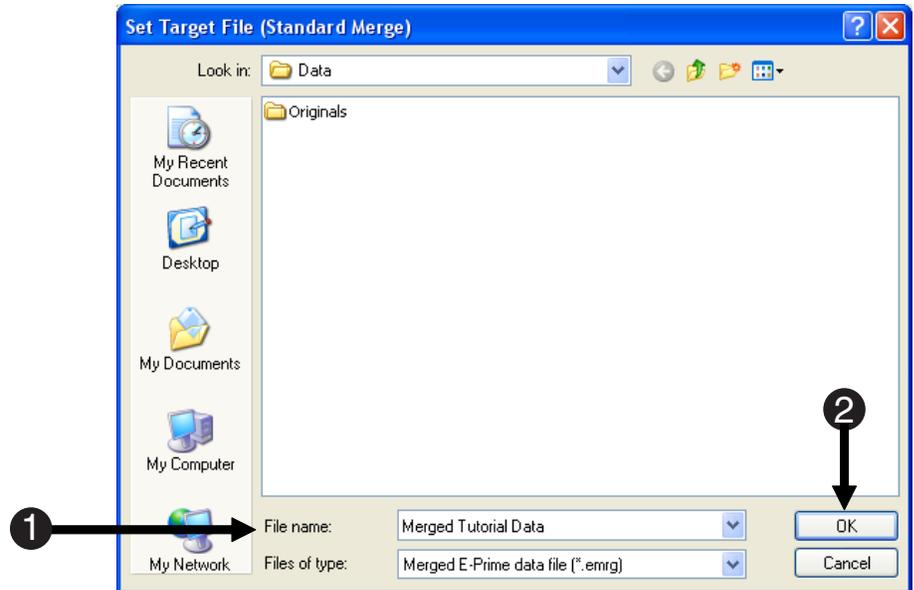
- 3) Since the Merged Tutorial Data target file does not already exist, a dialog is displayed asking if you would like to create it. **Click Yes** to create this file.

It is also possible to select existing emrg files as target files (e.g., to merge new data files with previously merged files).

- 4) **Review** the Merge Results dialog displayed after the merge operation is complete.

This dialog summarizes the number of files involved in the merge operation, as well as the numbers merged or not merged. Additional details are provided in the Merge Log, which will be examined in the next step.

- 5) **Click OK** to dismiss the Merge Results dialog.





Task 6: Examine merge results in the File List

This step guides you through selection of the type of merge operation to perform.

1) Notice the icons to the left of the data file names in the File List window.

A green checkmark indicates a data file that has been merged into another file. A target symbol indicates a data file that is selected as a target file. Refer to the E-Merge chapter in the E-Prime Reference Guide for a complete listing of E-Merge icons, and their meanings.

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

An emrg, or merged, file that is not currently set as the target will be listed as “Merged Data” for its status.

3) The Last Merged column for each of the single subject (edat) files lists the date that the file was merged into a merged data file.

4) The Last Modified column for the **TARGET** file (**Merged Tutorial Data.emrg**) lists the date of the merge operation.

Notice that Merge Tutorial Data is the only file that has been modified.

File Name	Experiment	Status	Subject	Session	Last Merged
Merged Tutorial Data.emrg	---	TARGET	---	---	
Tutorial-1-1.edat	Tutorial	Single Session	1	1	7/25/2007 10:19:42 A
Tutorial-2-1.edat	Tutorial	Single Session	2	1	7/25/2007 10:19:42 A
Tutorial-3-1.edat	Tutorial	Single Session	3	1	7/25/2007 10:19:42 A
Tutorial-4-1.edat	Tutorial	Single Session	4	1	7/25/2007 10:19:42 A
Tutorial-5-1.edat	Tutorial	Single Session	5	1	7/25/2007 10:19:42 A

Legend:



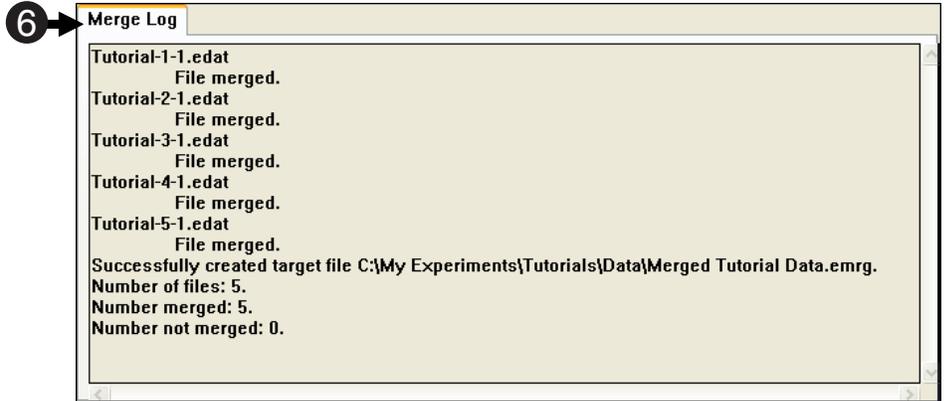
Task 7: Examine Merge Log

This step guides you through selection of the type of merge operation to perform.

- 1) **Review** the **Merge Log** window displayed at the bottom of the application.

The Merge Log displays the details of the merge operation, including the name of each file included, whether each file was merged or not merged, and explanations of any conflicts that may have occurred.

- 2) **Exit** the application



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



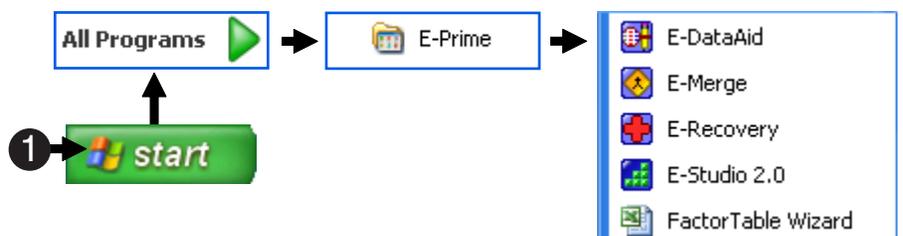
Preparing Data for Analysis

Task 1: Open E-DataAid

The E-DataAid application may be used to edit or examine your data, perform basic analysis, and prepare it for export to another application (such as Excel®). This step guides you through the opening of the E-DataAid application.

- 1) Click the Start button and **select All Programs**. From the **E-Prime** menu, **select 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 the location and opening of a data file within E-DataAid.

Note: This tutorial assumes completion of the previous tutorial, *E-Merge-Merging Data Files*, to generate the merged data file to be used in this task.

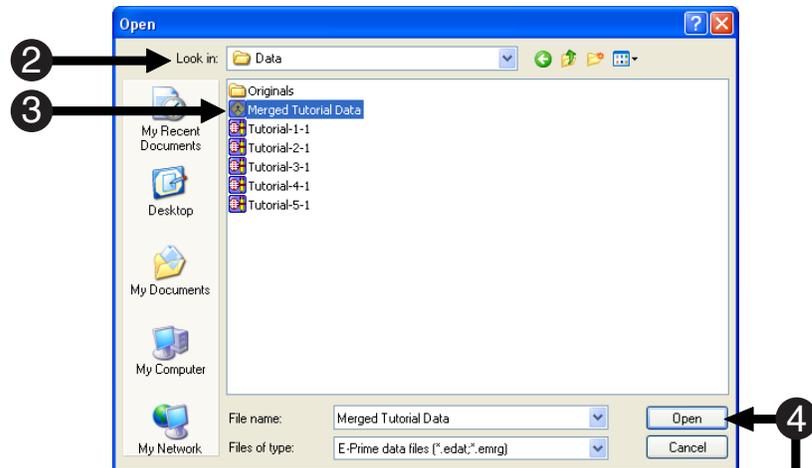
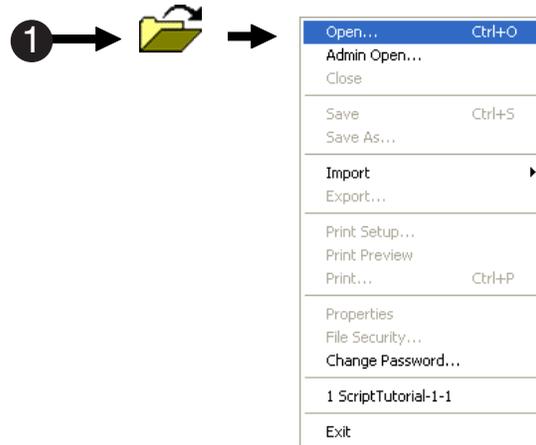
1) In E-DataAid, **click the Open** tool button, or **select the Open** command from the File menu.
There is also an Admin Open command available from the File menu, allowing the user to set security options for the data file (see Opening As Administrator in the E-DataAid chapter of the E-Prime Reference Guide for more information.).

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

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** to open the merged data file within **E-DataAid**.



Merged Tutorial Data - E-DataAid

ExperimentName	Subject	Session	Date	Group	RandomSeed	Time	Block	BlockList	BlockList.Cycle	BlockList.Sample	PracticeMode
1	Tutorial	1	09-14	1	-747118593	13:37	1	1	1	1	no
2	Tutorial	1	09-14	1	-747118593	13:37	1	1	1	1	no
3	Tutorial	1	09-14	1	-747118593	13:37	1	1	1	1	no
4	Tutorial	1	09-14	1	-747118593	13:37	1	1	1	1	no
5	Tutorial	1	09-14	1	-747118593	13:37	1	1	1	1	no
6	Tutorial	1	09-14	1	-747118593	13:37	1	1	1	1	no
7	Tutorial	1	09-14	1	-747118593	13:37	1	1	1	1	no
8	Tutorial	1	09-14	1	-747118593	13:37	1	1	1	1	no
9	Tutorial	2	09-14	1	-684735322	13:37	1	1	1	1	no
10	Tutorial	2	09-14	1	-684735322	13:37	1	1	1	1	no
11	Tutorial	2	09-14	1	-684735322	13:37	1	1	1	1	no
12	Tutorial	2	09-14	1	-684735322	13:37	1	1	1	1	no
13	Tutorial	2	09-14	1	-684735322	13:37	1	1	1	1	no
14	Tutorial	2	09-14	1	-684735322	13:37	1	1	1	1	no
15	Tutorial	2	09-14	1	-684735322	13:37	1	1	1	1	no
16	Tutorial	2	09-14	1	-684735322	13:37	1	1	1	1	no
17	Tutorial	3	09-14	1	-621879512	13:38	1	1	1	1	no
18	Tutorial	3	09-14	1	-621879512	13:38	1	1	1	1	no
19	Tutorial	3	09-14	1	-621879512	13:38	1	1	1	1	no
20	Tutorial	3	09-14	1	-621879512	13:38	1	1	1	1	no
21	Tutorial	3	09-14	1	-621879512	13:38	1	1	1	1	no
22	Tutorial	3	09-14	1	-621879512	13:38	1	1	1	1	no
23	Tutorial	3	09-14	1	-621879512	13:38	1	1	1	1	no
24	Tutorial	3	09-14	1	-621879512	13:38	1	1	1	1	no

Done. Rows Displayed: 40



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) On the Toolbar, **click the Filter tool button to display the Filter dialog.**

The Filter command is also available through the Tools menu, or by right-clicking a column header.

2) Select **Target.ACC in the Column name field.**

Target.ACC contains the accuracy data for the subject's response on each trial (0=incorrect, 1=correct).

3) Click the Checklist button and **click the checkbox next to "1".**

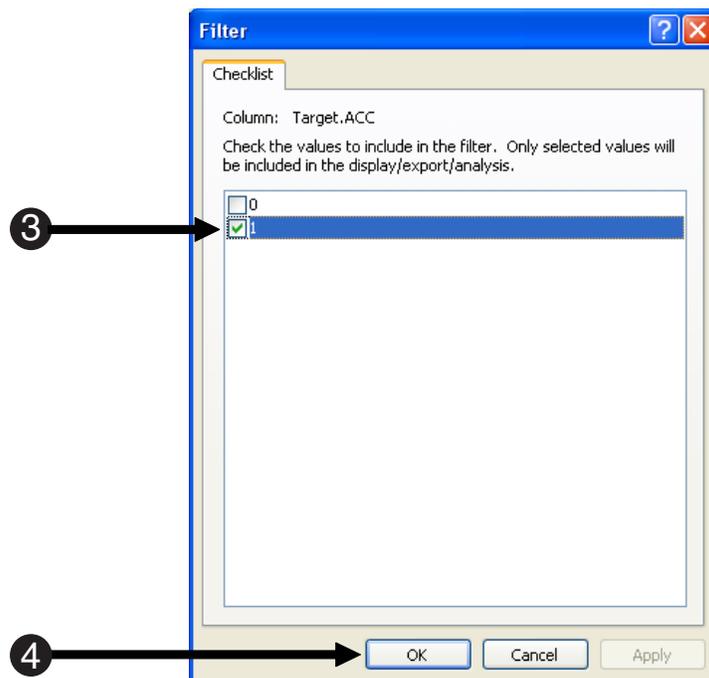
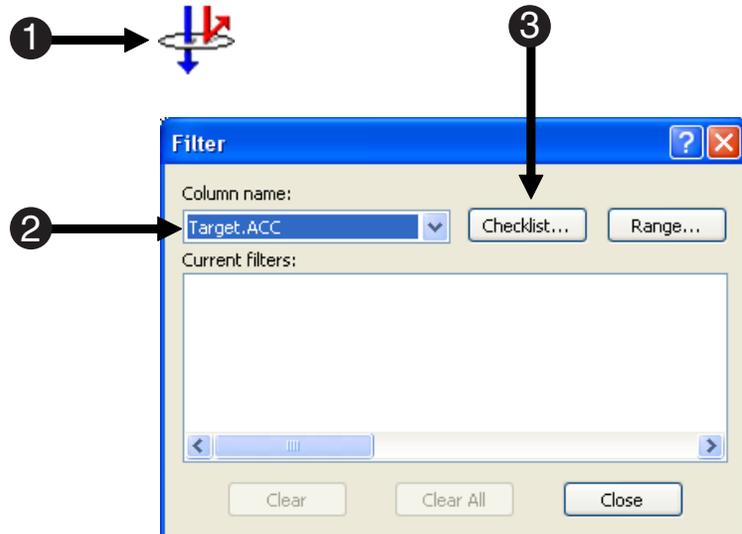
The Checklist filter displays all unique values contained with a variable (Target.ACC), and allows selection of individual values for inclusion in the filter. Selection of the "1" will include only those trials on which the subject responded correctly.

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

The display will be refreshed to show only correct-response trials (i.e., incorrect trials will be filtered out), and "Target.ACC=1" is now listed under Current filters.

5) Close the Filter dialog.

Notice that the Filters window at the bottom of the application indicates Target.ACC=1 as an active filter, and the Target.ACC column header has turned white to indicate that a filter is in now in place (you may need to scroll to the right in the spreadsheet to see this column).





Task 4: Edit cells

This step illustrates how to edit values within the spreadsheet, and how data modifications are displayed within E-DataAid.

- 1) Click the first cell in the **Subject** column to select it.

By default, the spreadsheet displays the ExperimentName, Subject, and Session variables in the first three columns, with other variables being arranged alphabetically within levels (e.g., Session, Block, Trial, etc.).

- 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 modifications in red. In addition, all cells in the Subject column associated with this session of data have automatically been modified.

The screenshot shows the E-DataAid interface with a spreadsheet titled "Merged Tutorial Data". The spreadsheet has columns: ExperimentName, Subject, Session, Date, Group, RandomSeed, Time, Block, and BlockList. The first row (row 1) has values: Tutorial, 1, 1, 09-14, 1, -747118593, 13:37, 1, 1. An arrow labeled "1" points to the first cell in the Subject column (row 1, column 2).

	ExperimentName	Subject	Session	Date	Group	RandomSeed	Time	Block	BlockList
1	Tutorial	1	1	09-14	1	-747118593	13:37	1	1
2	Tutorial	1	1	09-14	1	-747118593	13:37	1	1
3	Tutorial	1	1	09-14	1	-747118593	13:37	1	1
4	Tutorial	1	1	09-14	1	-747118593	13:37	1	1
7	Tutorial	1	1	09-14	1	-747118593	13:37	1	1
10	Tutorial	2	1	09-14	1	-684735322	13:37	1	1
11	Tutorial	2	1	09-14	1	-684735322	13:37	1	1
14	Tutorial	2	1	09-14	1	-684735322	13:37	1	1
15	Tutorial	2	1	09-14	1	-684735322	13:37	1	1

The screenshot shows the E-DataAid interface with the same spreadsheet. The Subject column now contains the value "11" in red text for rows 1, 2, 3, 4, 7, and 10. An arrow labeled "3" points to the first cell in the Subject column (row 1, column 2), which is circled in red.

	ExperimentName	Subject	Session	Date	Group	RandomSeed	Time	Block	BlockList
1	Tutorial	11	1	09-14	1	-747118593	13:37	1	1
2	Tutorial	11	1	09-14	1	-747118593	13:37	1	1
3	Tutorial	11	1	09-14	1	-747118593	13:37	1	1
4	Tutorial	11	1	09-14	1	-747118593	13:37	1	1
7	Tutorial	11	1	09-14	1	-747118593	13:37	1	1
10	Tutorial	11	1	09-14	1	-684735322	13:37	1	1



Task 5: Analyze data

This step illustrates using the Analyze command to create a table of means showing average reaction time by condition.

- 1) Click the **Analyze** tool button, or select the **Analyze** command from the Tools menu.

The Analyze dialog lists the variables available in the experiment. The tutorial experiment has three independent variables (NameGender, PrimeGender, PrimeType).

- 2) In the Variables list, click **NameGender** and drag it to the **Columns** field. Add **PrimeGender** and **PrimeType** as columns.

- 3) In the Variables list, click **Target.RT** and drag it to the **Data** field.

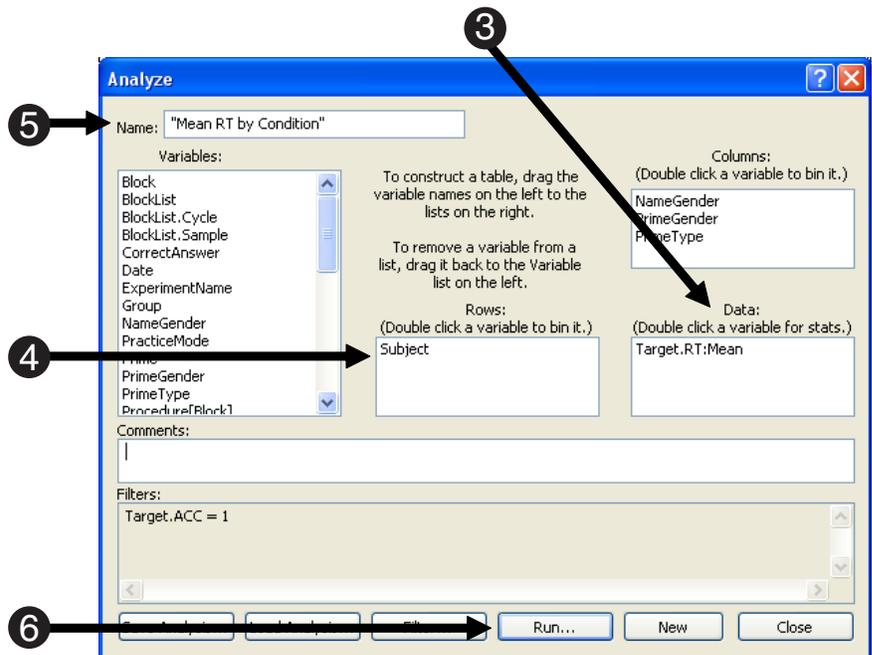
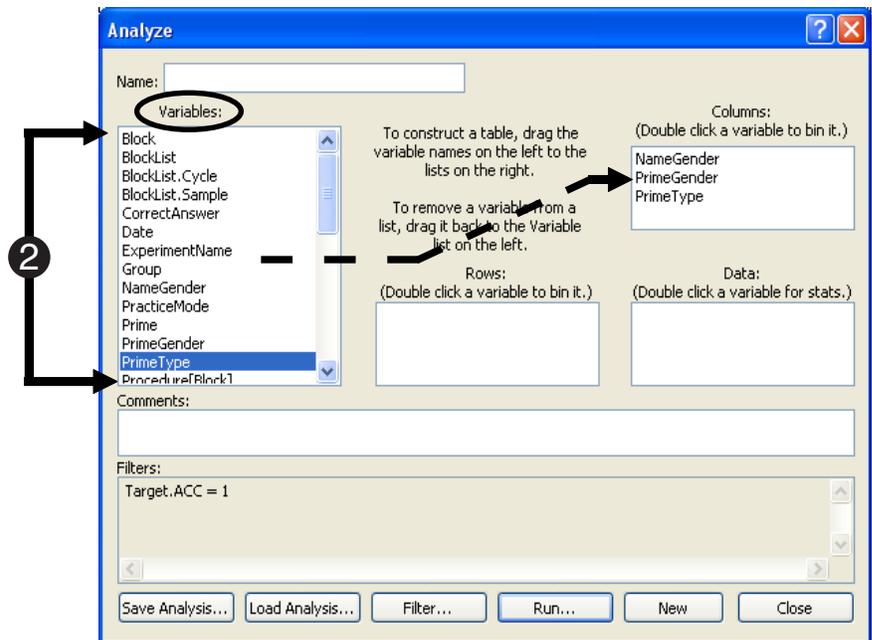
Target.RT, reaction time collected by the Target object, is the dependent measure, and will be summarized as a mean. The summary statistic may be changed by double clicking the variable in the Data field.

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

The analysis will be performed by *Subject*.

- 5) Enter "Mean RT by Condition" in the Name field as the title of the analysis.

- 6) Click **Run** to display the analysis in table format.





Task 6: Create an Excel® plot

This step illustrates how to create a plot in Excel® from the analysis table.

- 1) In the analysis table, select the Plot option under Display Mode.

This will enable the Excel® Plot button.

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

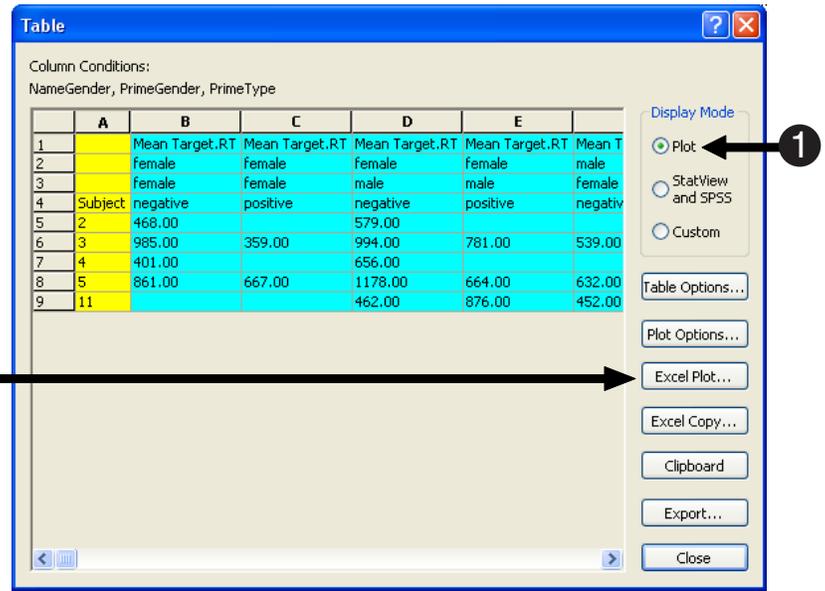
E-DataAid will launch Excel®, copy the analysis table to a worksheet and plot the data.

- 3) **Examine** the table and plot created in Excel® showing mean reaction time by condition for each subject.

- 4) **Exit** the Excel® workbook without saving.

- 5) Within E-DataAid, close the Table and Analyze dialogs.

If desired, analyses may be saved to be reloaded at a later time.





Task 7: Export data

This step will guide you through the export of the spreadsheet to a tab-delimited text file.

- 1) From the File menu in E-DataAid, select the Export command.

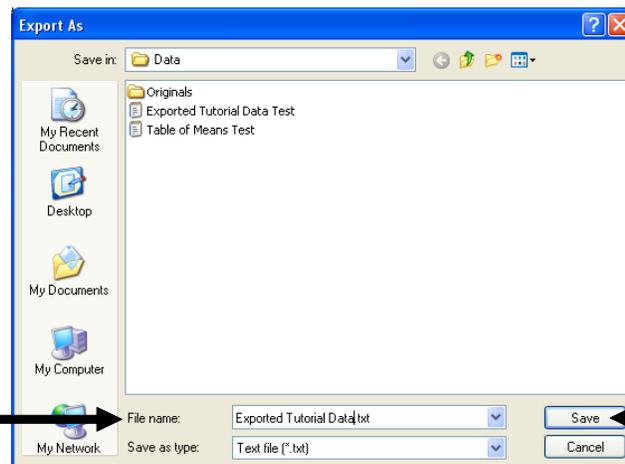
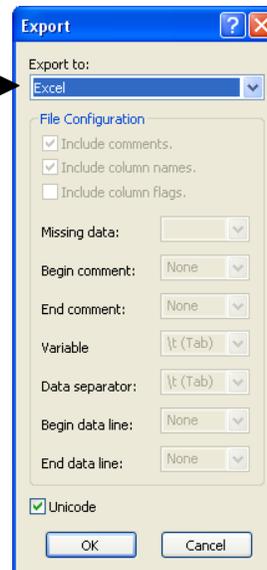
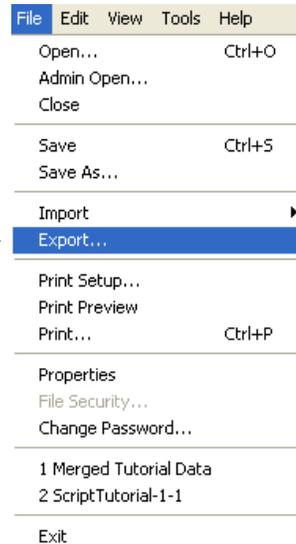
The Export dialog is displayed offering various options for export. Note that only the displayed (i.e., filtered) data will be exported.

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

- 3) In the Export As dialog, enter the filename to be “Exported Tutorial Data”, and click the Save button.

The data will be exported to a tab-delimited text file. In the next step, we will import this file into another application.

- 4) Exit E-DataAid.





Task 8: Import text file into Excel® or other application

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

1) Open Excel®.

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

3) In the Open dialog, **navigate** to the folder containing your tab-delimited text file (e.g., My Documents\My Experiments\Tutorials\Data).

Be sure to set the “Files of type” field to view text files.

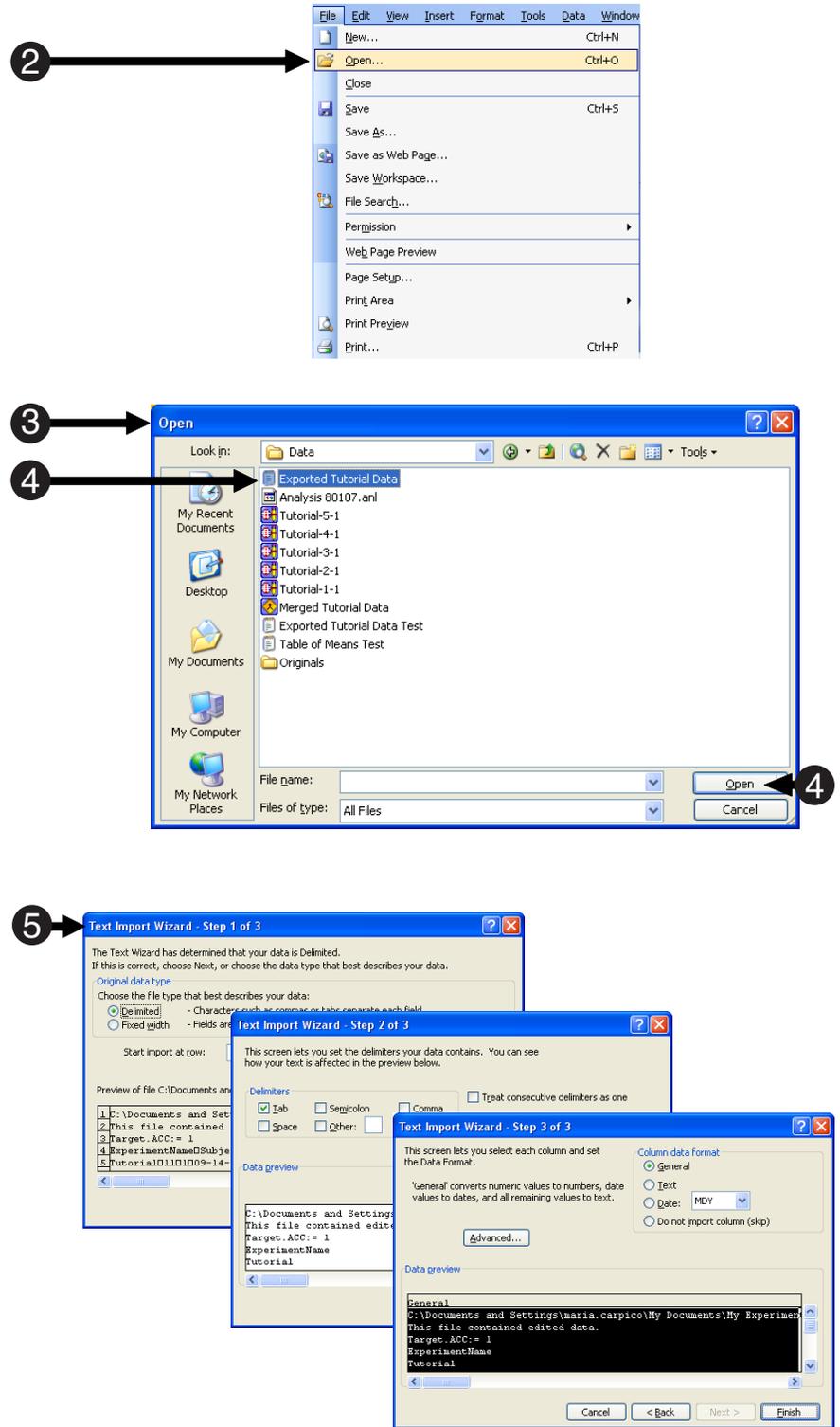
4) Select Exported Tutorial data.txt and click the Open button.

This will bring up the Text Import Wizard. The defaults in the wizard are set for delimited text separated by tabs.

5) Step through the Text Import Wizard, accepting the default settings, or simply click Finish.

Exported Tutorial Data.txt will be opened in an Excel® spreadsheet, with header information indicating the location of the source file, a notice that the file contains edited data, and a list of any active filters at the time the data was exported (Target.ACC=1).

6) Exit Excel®.



Advanced Tutorials

The advanced tutorial exercises will guide you through modification of the experiment created in the E-Studio tutorial in order to introduce some commonly used features of E-Prime. It is recommended that you work through the E-Studio tutorial, as well as all of the advanced tutorials, in order to generate the required experiment files and most effectively learn how to use E-Prime. The pre-created experiment files resulting from each tutorial are also included as part of the E-Prime installation in the My Documents\My Experiments\Tutorials\Data\Originals folder.

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 present a movie in conjunction with text and sound.



- Add user-written script to an existing experiment.





Advanced Tutorial 1: Modify Tutorial.es2 to present pictures

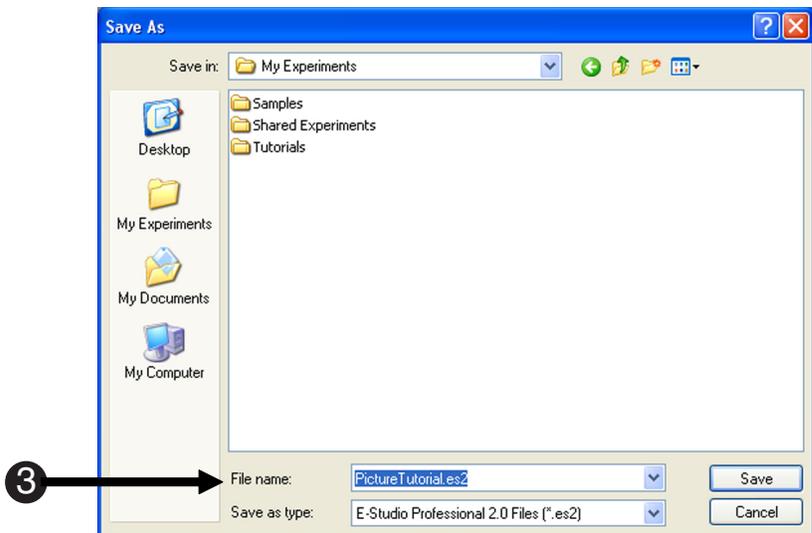
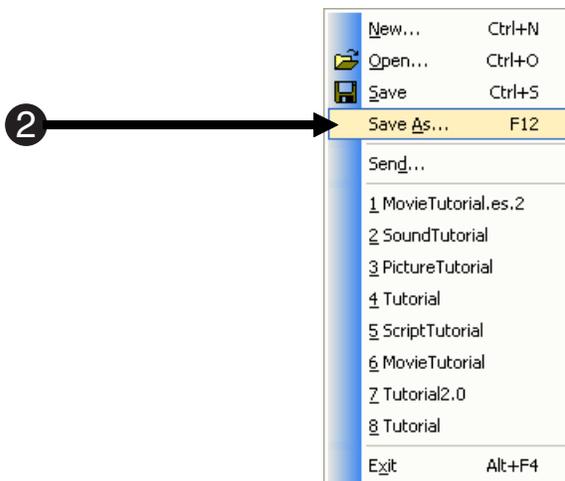
The E-Studio tutorial is designed to introduce various features and capabilities available in E-Studio that will allow you to more effectively use it as an experimental design tool. The Advanced Tutorials build upon the introduction of those basic skills.

Task 1.1: Open Tutorial.es2 and save as PictureTutorial.es2

This task will save a copy of the Tutorial.es2 experiment under a new name in order to make some modifications.

- 1) Within the E-Studio application, **open Tutorial.es2**.
- 2) In the File menu, **select the Save As** command.
- 3) In the Save As dialog, **change the File name field to “PictureTutorial”** and then **click Save**.

PictureTutorial will automatically be opened in E-Studio.





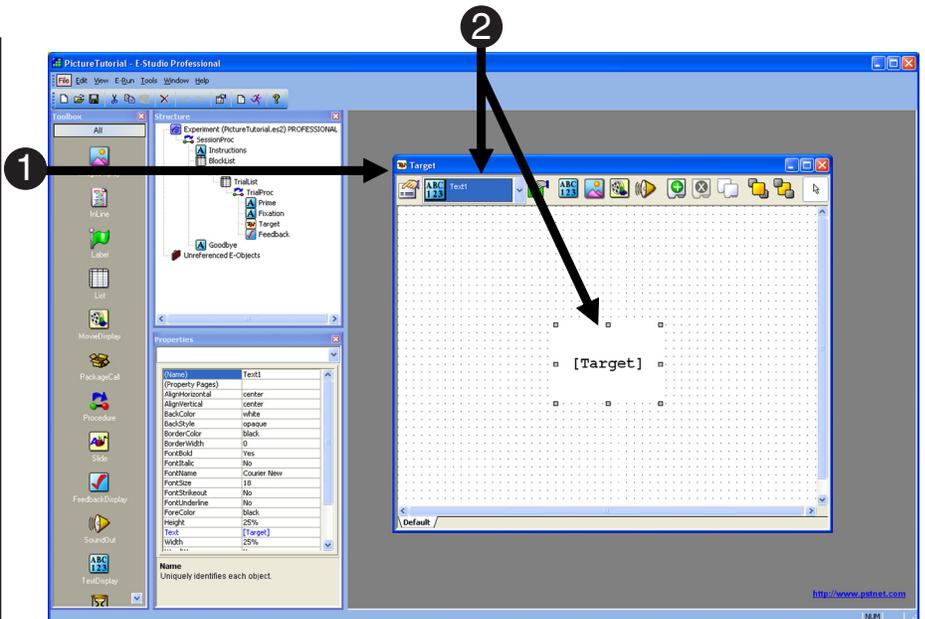
Task 1.2: Replace SlideText with a SlidedImage

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

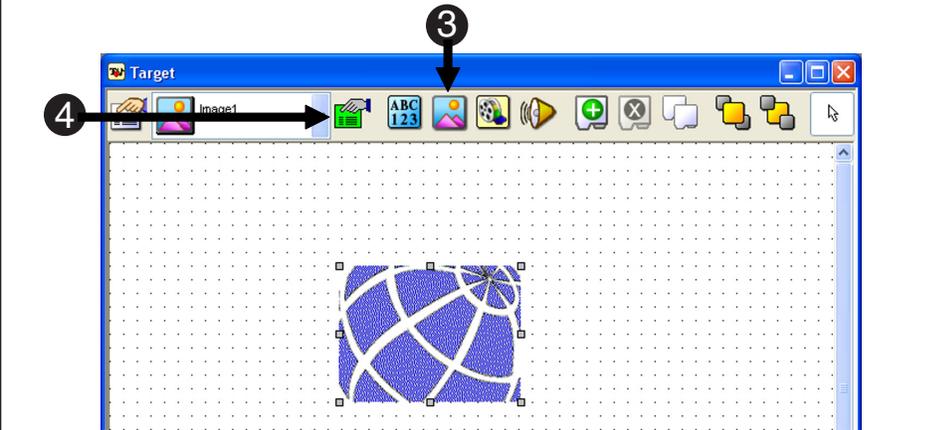
- 1) **Open** the Target object in the Workspace.
- 2) Use the drop-down menu on the Slide toolbar to select the text sub-object. **Delete** the text sub-object from the Slide.

Press the Delete key, or right click on the sub-object after selecting it and choose the Delete command from the context menu.
- 3) **Click** the SlidedImage button on the toolbar, then click anywhere within the active SlideState window.

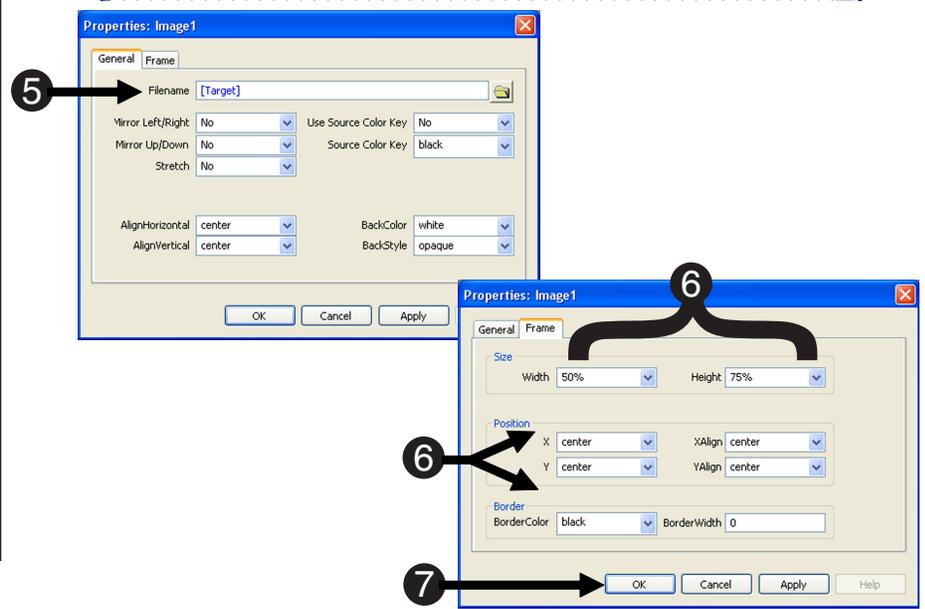
A standard image sub-object will appear in the Slide window.



- 4) **Click** the green Sub-Object Property Pages button.
- 5) 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 (in the TrialList).



- 6) On the Frame tab for the image, **set** the X- and Y- Position properties to **center**. **Set** the Width to 50% and the Height to 75%.



- 7) **Click OK** to accept the settings.



Task 1.3: Specify the properties of Target

This task will verify the properties of the Target object.

- 1) Click the **Property Pages** button to view the properties of the Target object.

You are now viewing the properties of the Slide.

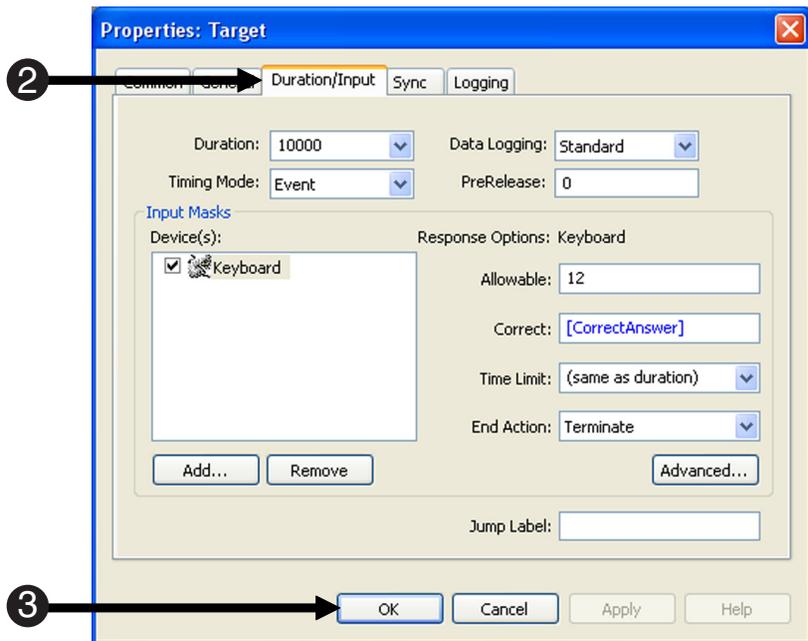
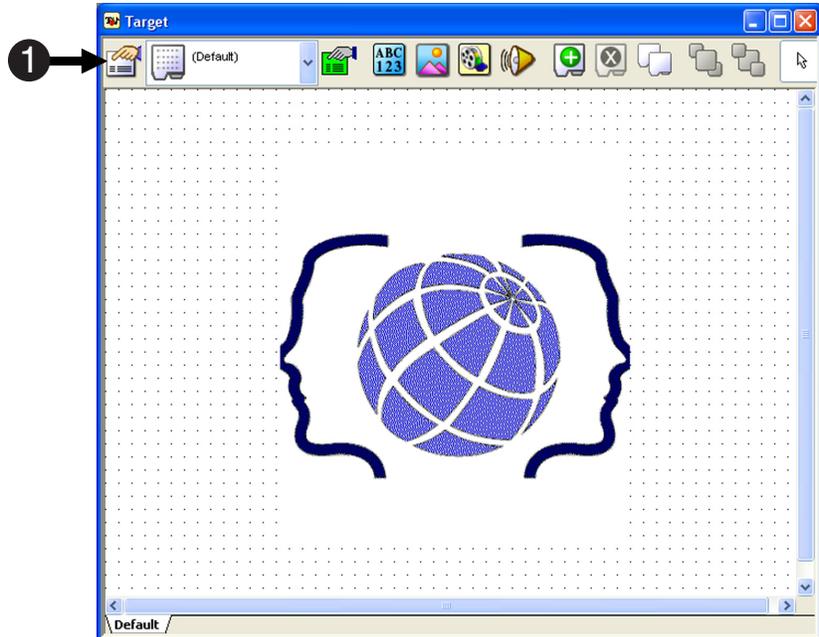
Note: The Property Pages button is used to set the properties of the entire object (e.g., duration, input masks, etc.) while the Sub-Object Property Pages button is used to set the properties of individual sub-objects.

- 2) On the Duration/Input tab, **verify** the following:

- Duration is set to **10000** milliseconds
- Data Logging is set to **Standard**
- The keyboard is enabled as the input Device
- The Allowable response field is set to "**12**"
- The Correct field references **[CorrectAnswer]**
- End Action is set to **Terminate**

- 3) Click the OK button to **close** the Property Pages.

- 4) **Close** the Target object.





Task 1.4: Modify the List object

This task will guide you through the modification of the TrialList to specify the names of the images to display rather than text.

- 1) Open** the TrialList in the Workspace.

The Target attribute, containing male or female names, will now be modified to reference male or female images.

- 2) In** the Target attribute column, modify the values to match those in the TrialList to the right.

This tutorial use images named female.jpg and male.jpg.

Female.jpg and male.jpg

are included in the \My Experiments\Tutorials folder as part of the E-Prime installation.

These files must be copied to the current directory.

E-Prime is capable of presenting additional image formats as well (e.g., JPEG, PNG, BMP).

For more information please refer to the SlidelImage sub-object topic in the E-Prime Reference Guide.

- 3) Close** the TrialList.

The screenshot shows the TrialList workspace with a table of 8 trials. The Target column is being edited to use image file names. Arrows labeled 1 and 2 indicate the steps: 1 points to the table, and 2 points to the Target column.

ID	Weight	Procedure	PrimeGender	PrimeType	NameGender	CorrectAnswer	Prime	Target
1	1	TrialProc	male	positive	male	1	sports	male.jpg
2	1	TrialProc	male	positive	female	2	sports	female.jpg
3	1	TrialProc	male	negative	male	1	cigars	male.jpg
4	1	TrialProc	male	negative	female	2	cigars	female.jpg
5	1	TrialProc	female	positive	male	1	flowers	male.jpg
6	1	TrialProc	female	positive	female	2	flowers	female.jpg
7	1	TrialProc	female	negative	male	1	laundry	male.jpg
8	1	TrialProc	female	negative	female	2	laundry	female.jpg



Task 1.5: Edit the Instructions

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

1) Open the Instructions object in the Workspace.

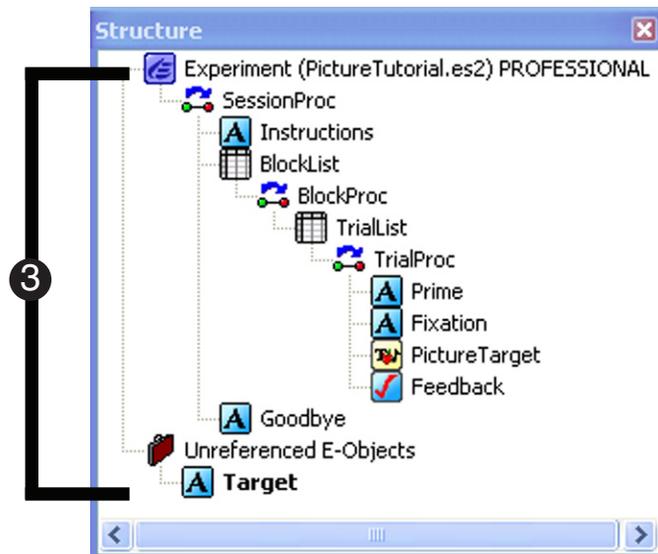
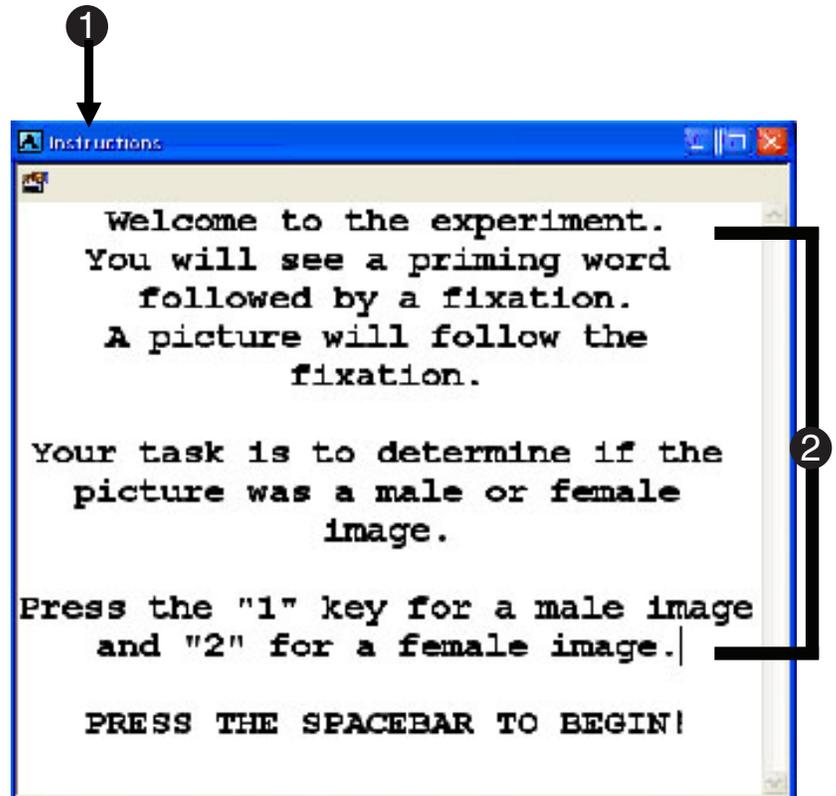
2) Edit the Instructions to be relevant to the modified program.

Replace the text “target word” with “picture”
Change the word “name” to “image.”

3) Verify that your experiment structure matches 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 figures of either a male or a female.

Note: The images necessary are supplied within the \My Experiments\Tutorials folder. It is important that the images are saved in the same folder as PictureTutorial.es2.





Advanced Tutorial 2: Modify PictureTutorial.es2 to present sound

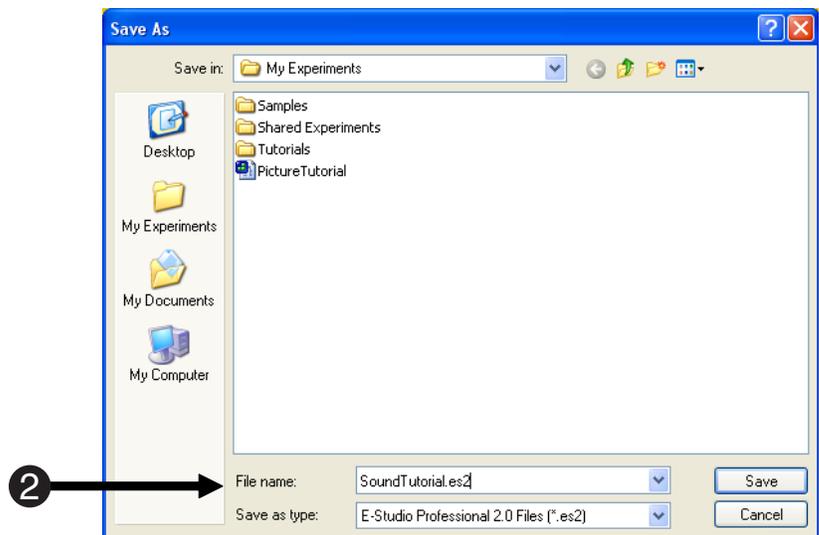
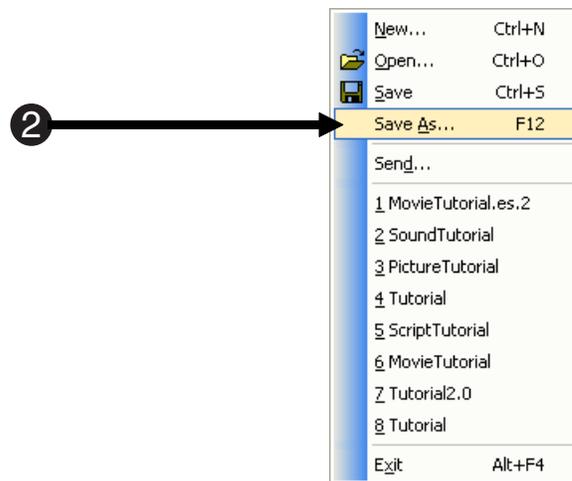
The E-Studio tutorial is designed to introduce various features and capabilities available in E-Studio that will allow you to more effectively use it as an experimental design tool. The Advanced Tutorials build upon skills taught in previous tutorials.

Task 2.1: Open PictureTutorial.es2 and save as SoundTutorial.es2

1) **Open** PictureTutorial.es2 in E-Studio.

2) In the File menu, **select** the **Save As** command and save PictureTutorial as **SoundTutorial.es2**.

SoundTutorial will automatically be opened in E-Studio.





Task 2.2: Create a Slide object

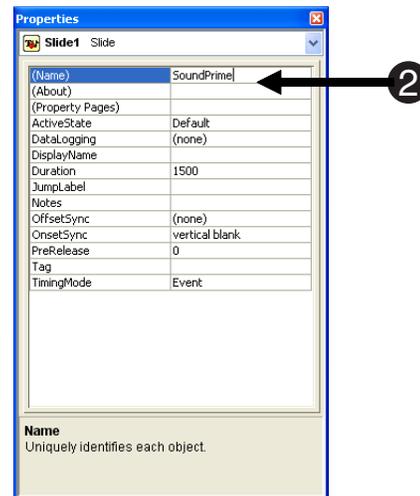
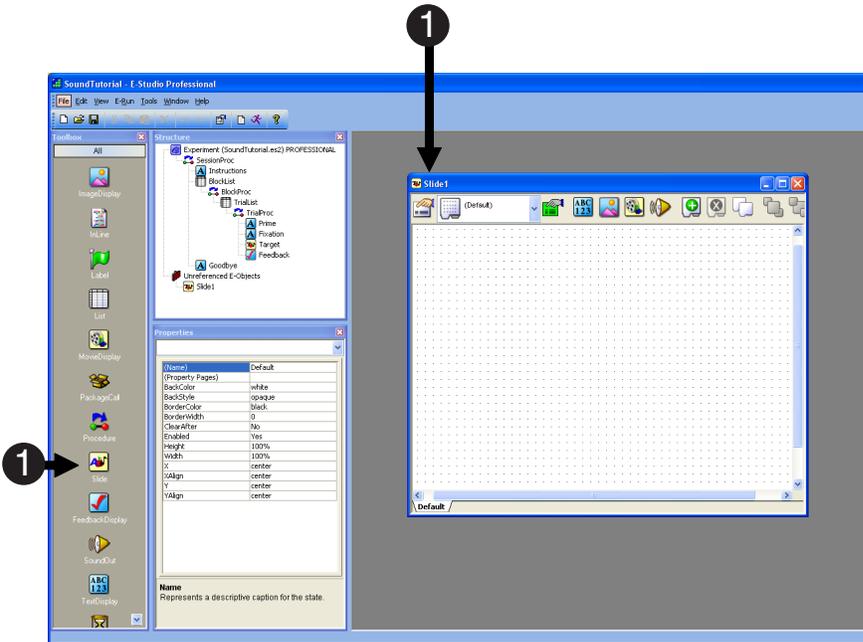
This task will create a Slide object in the trial procedure which will be used to present the Prime as both text and sound.

- 1) Click 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) Rename the Slide object as **SoundPrime**.

SoundPrime will replace the Prime object. The next few steps will set up the SoundPrime.





Task 2.3: Add text to the Slide object

This task will add a text sub-object block to the SoundPrime to present text.

- 1) **Click** the SlideText button on the tool bar, then click anywhere within the active SlideState window.

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

- 2) **Notice** that the text sub-object is selected. **Click** the green **Sub-Object Property Pages** button on the Slide toolbar to display its properties.

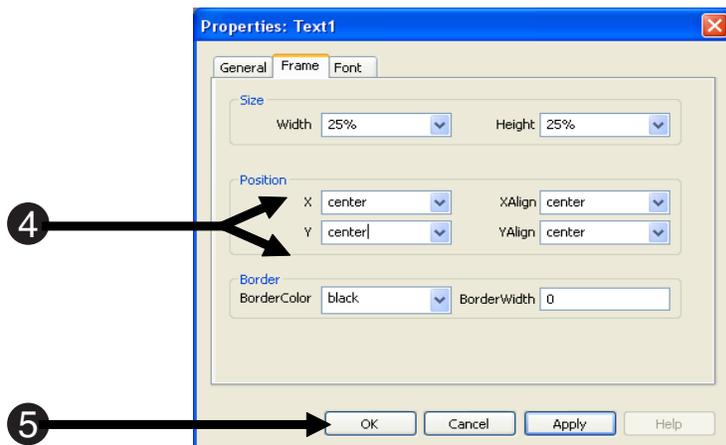
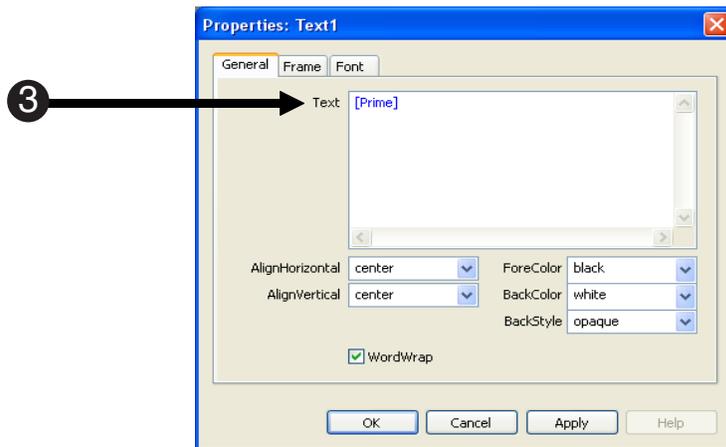
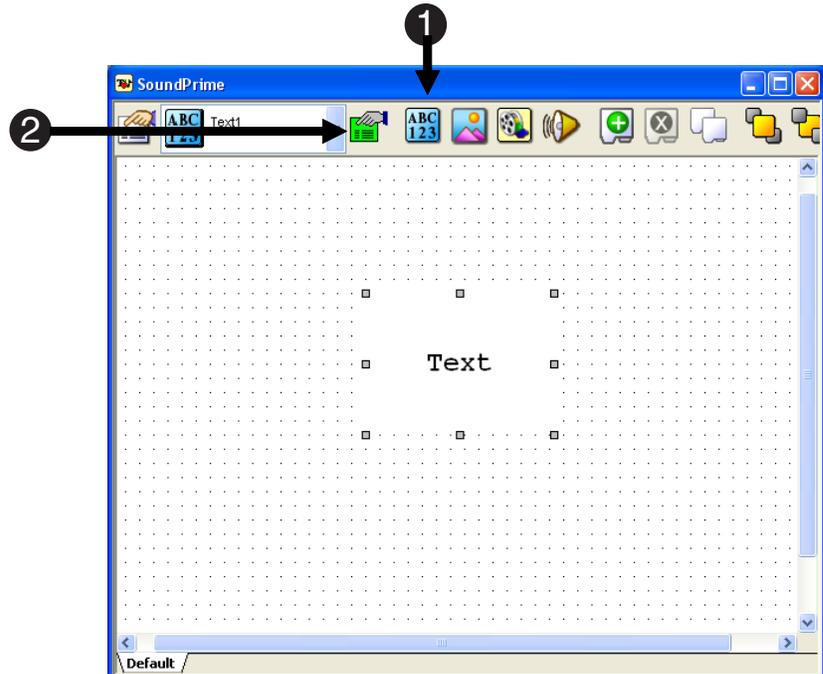
There may be many sub-objects composing a Slide. Select the desired sub-object to set the appropriate properties.

- 3) On the General tab, enter **[Prime]** in the Text field to indicate that the text to be displayed will vary according to the Prime attribute (from the TrialList).

For more information on attribute references, refer to the Attributes topic in the E-Prime Reference Guide.

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

- 5) **Click OK** to accept the settings.





Task 2.4: Add sound to the Slide object

This task will create a sound sub-object to the Slide object, to present sound stimuli simultaneously with the text with text.

- 1) Click the SlideSoundOut button on the toolbar, then click anywhere within the active SlideState window.

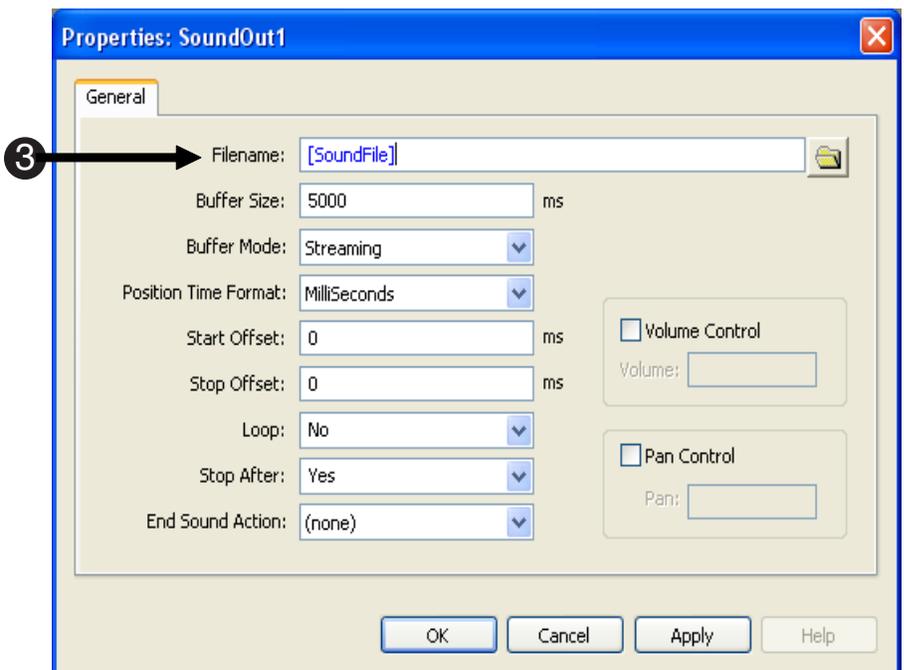
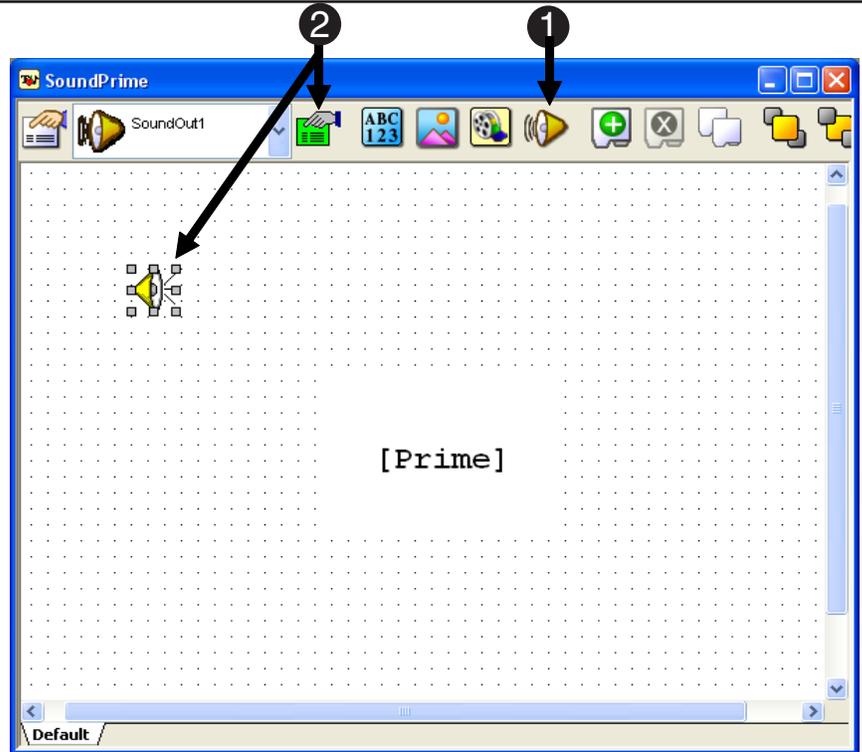
*A standard sound sub-object will appear in the Slide window.
The sound sub-object will not be visible at run-time, and can be placed anywhere on the Slide itself.*

- 2) Make sure the sound sub-object is selected, and click the green **Sub-Object Property Pages** button on the Slide toolbar.

- 3) On the General tab, set the File name 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: Specify the properties of SoundPrime

This task will set the properties of the SoundPrime object.

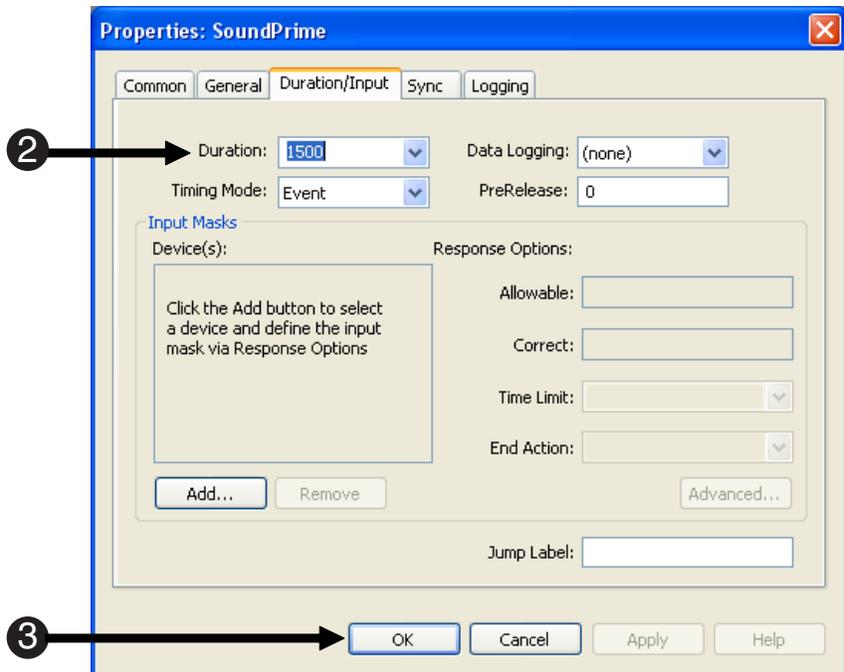
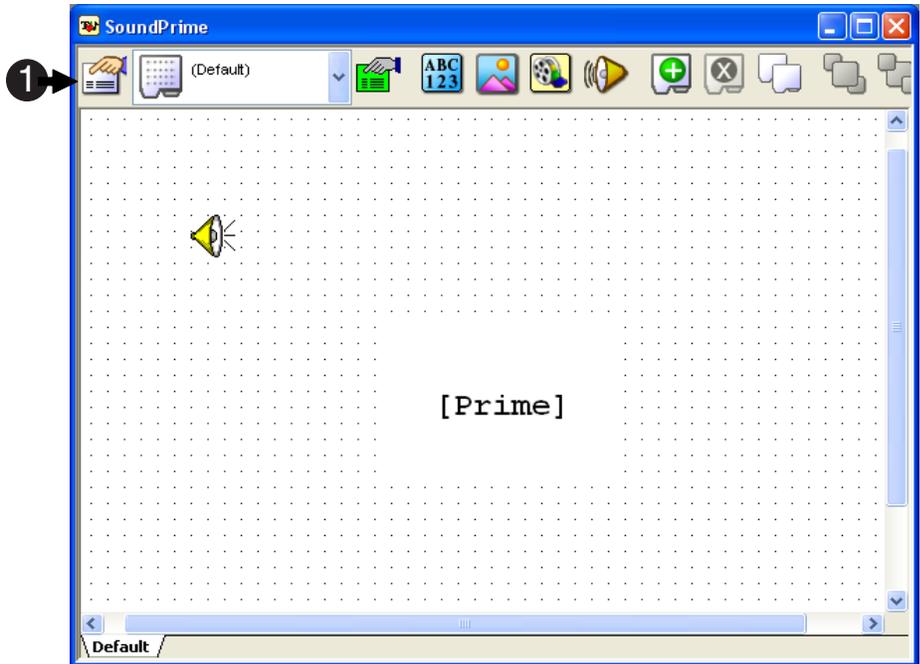
- 1) Click the **Property Pages** button to set the properties of the SoundPrime object.

Note: The Property Pages button is used to set the properties of the entire object (e.g., duration, input masks, etc.) while the green Sub-Object Property Pages button is used to set the properties of individual sub-objects.

- 2) On the Duration/Input tab, **set** the Duration to **1500** milliseconds.

- 3) When you are finished, **close** the Property Pages by clicking the **OK** button.

- 4) **Close** the SoundPrime object.





Task 2.6: Add SoundPrime 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.

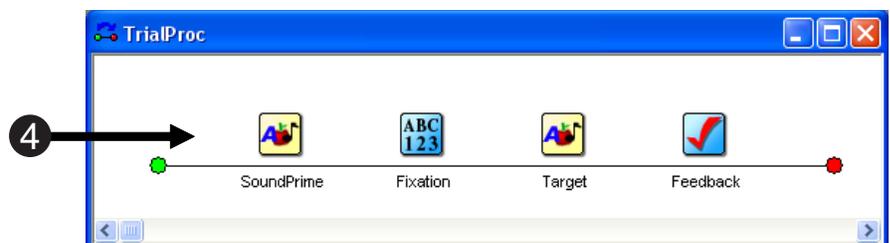
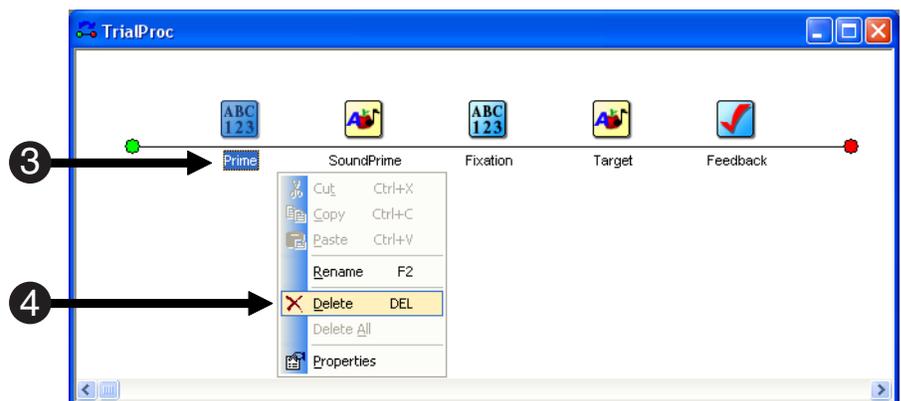
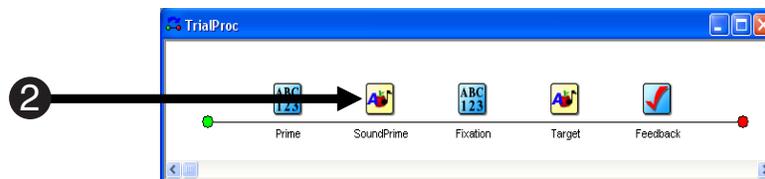
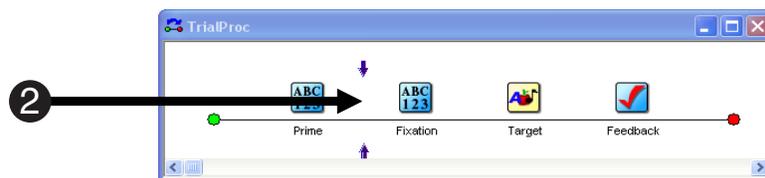
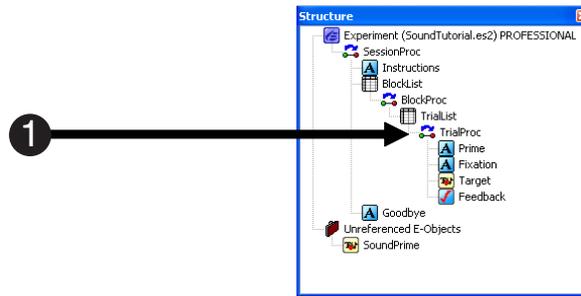
2) From the Unreferenced E-Objects folder in the Structure window, drag the **SoundPrime** object to the right of the Prime object.

When dragging an object, arrows will indicate where the object will be placed when it is dropped.

3) On the TrialProc click the Prime object to select it.

4) Delete the Prime object from the TrialProc.

Press the Delete key, or right click on the object after selecting it and choose the Delete command from the context menu that appears.





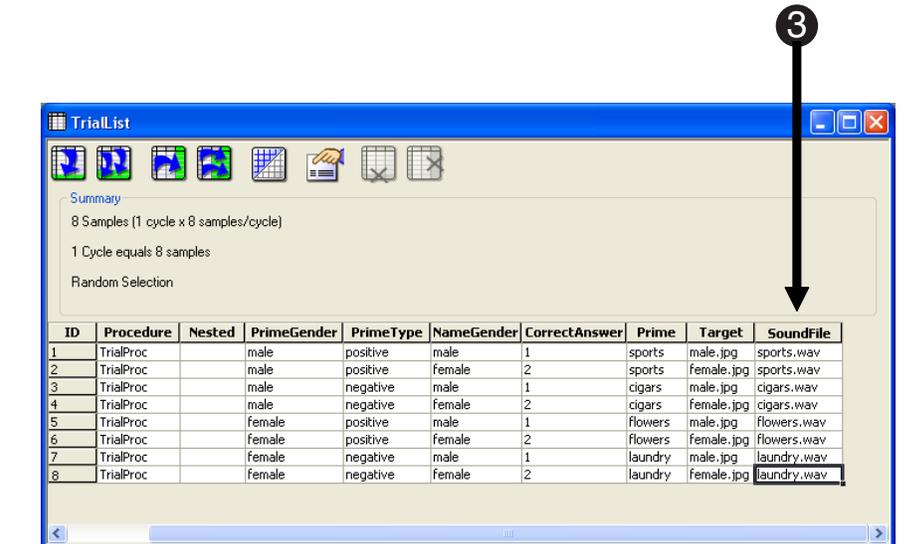
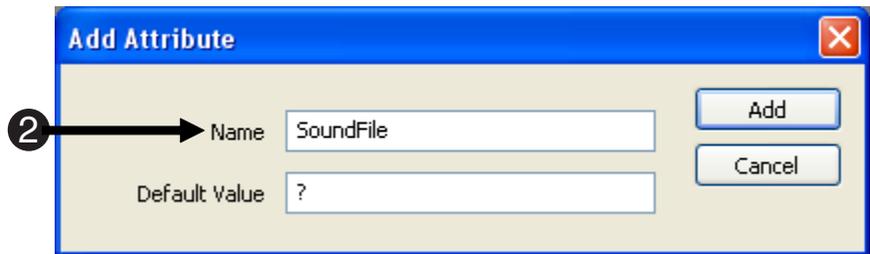
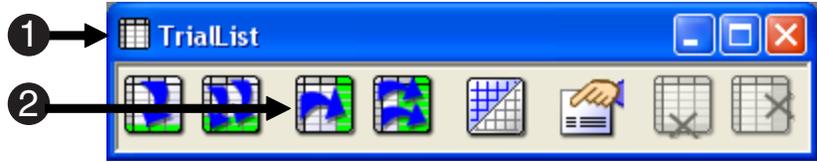
Task 2.7: Modify the List object

This task will add the SoundFile attribute to the TrialList to list the audio files 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 as shown in the TrialList to the right.

The audio files used in this tutorial are included in the \My Experiments\Tutorials folder as part of the E-Prime installation. Copy these files to your current directory.

- 4) Remember to **Save** periodically.





Task 2.8: Edit the Experiment object

This task will edit 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 checkbox next to the Sound device to enable the sound device in the experiment.

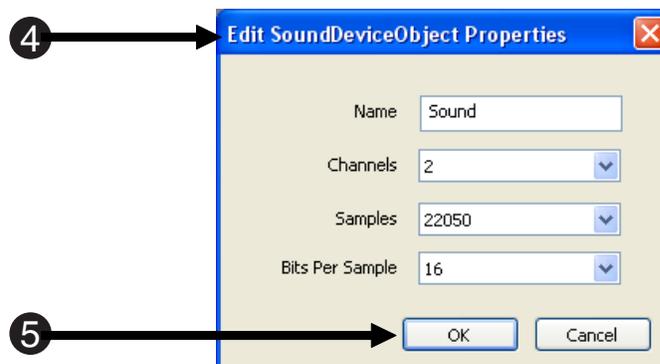
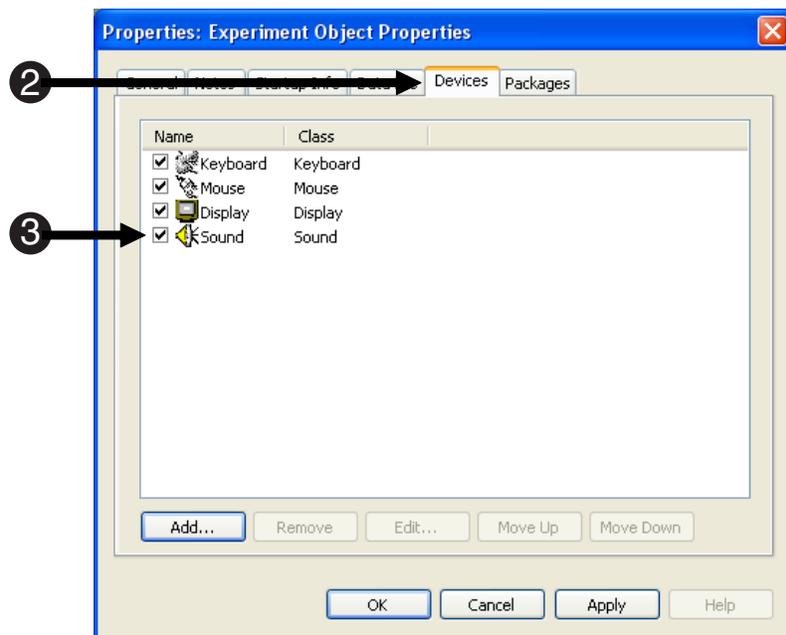
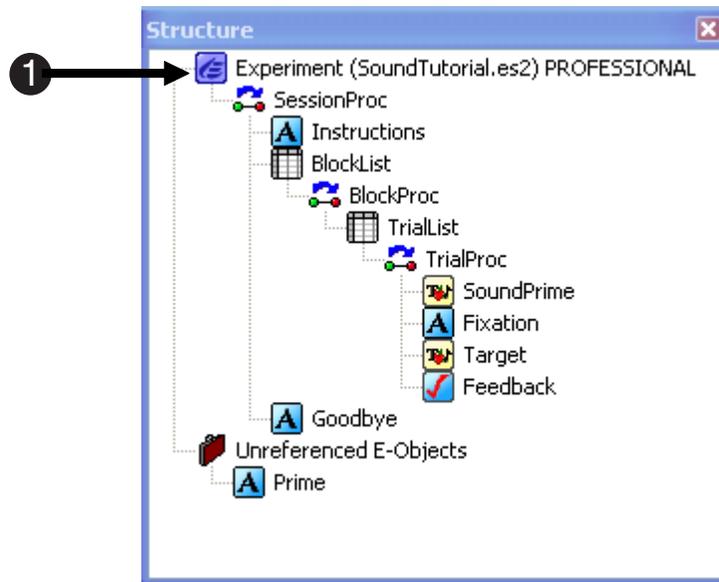
3) Click **Sound** to select the sound device and **click** the **Edit** button.

The properties of the sound device will be set to match the properties of the audio files used in the experiment.

4) 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 **16** Bits Per Sample. **Click OK**.

E-Prime is capable of presenting additional image formats as well (e.g., MP3, WMA). For more information refer to the SoundOut Object topic in the E-Prime Reference Guide.

5) **Click OK** in the Experiment Object dialog to close it.





Task 2.9: Edit the Instructions

This task will edit the instructions for the experiment.

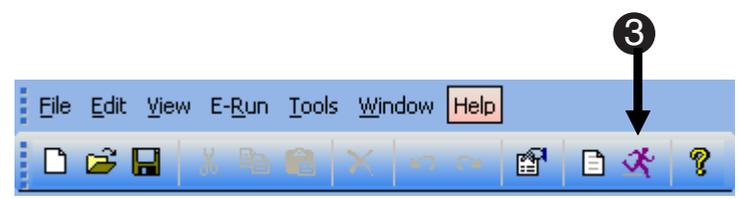
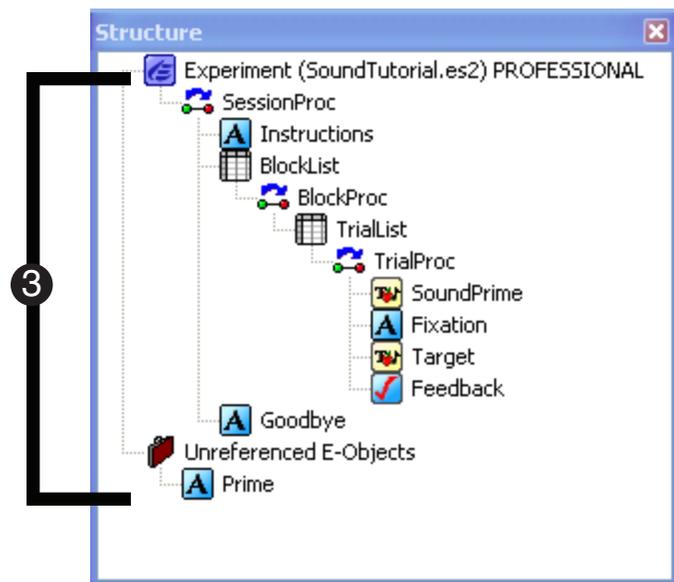
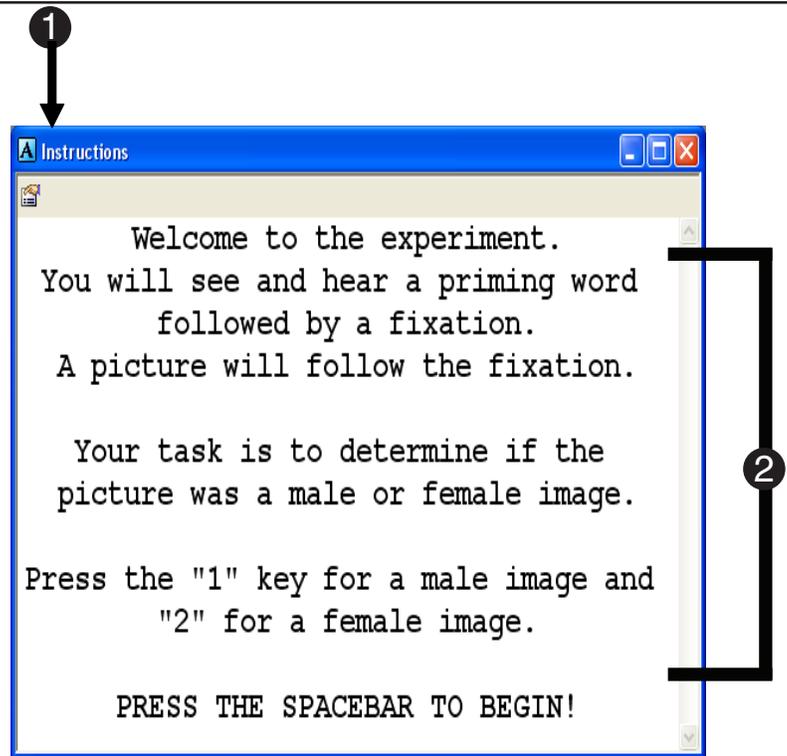
1) Open the Instructions object in the Workspace.

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

The instructions should be modified to reflect that a word will be spoken through the speakers at the same time that the prime word appears.

3) Verify that your experiment structure matches that to the right.

Save and **Run** the SoundTutorial experiment.





Advanced Tutorial 3: Modify SoundTutorial.es2 to present a movie

The E-Studio tutorial is designed to introduce various features and capabilities available in E-Studio that will allow you to more effectively use it as an experimental design tool. The Advanced Tutorials build upon skills taught in previous tutorials.

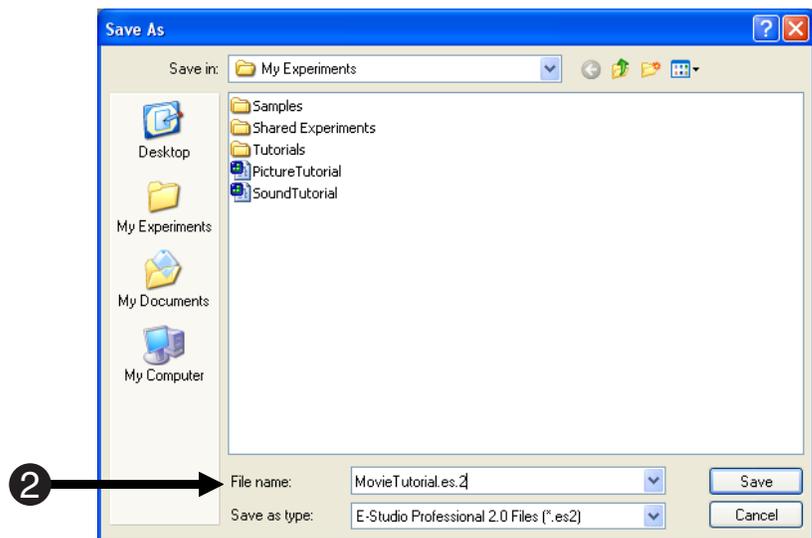
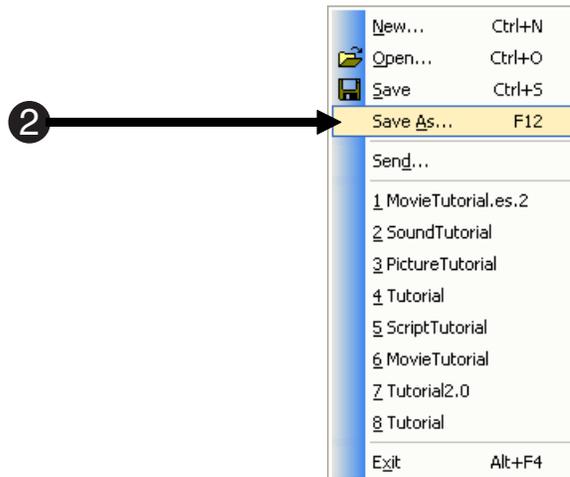
Task 3.1: Open SoundTutorial.es2 and save as MovieTutorial.es2

- 1) In E-Studio, **open** SoundTutorial.es2 in E-Studio.

In this tutorial, a movie sub-object will be added to the Prime to present the prime as a movie in addition to text and audio.

- 2) In the File menu, **select** the **Save As** command and **save** SoundTutorial as **MovieTutorial.es2**.

Movie Tutorial will automatically be opened in E-Studio.

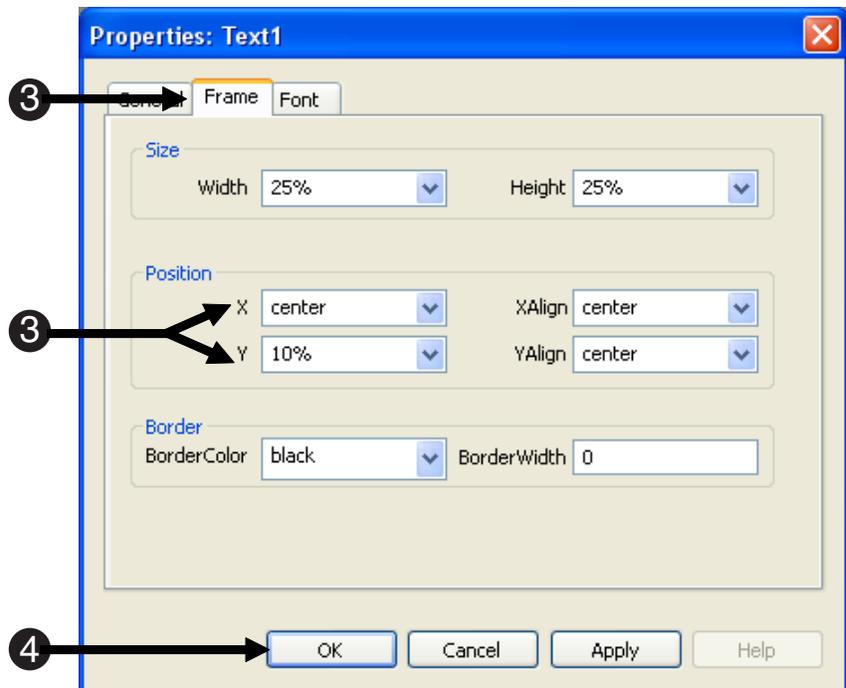
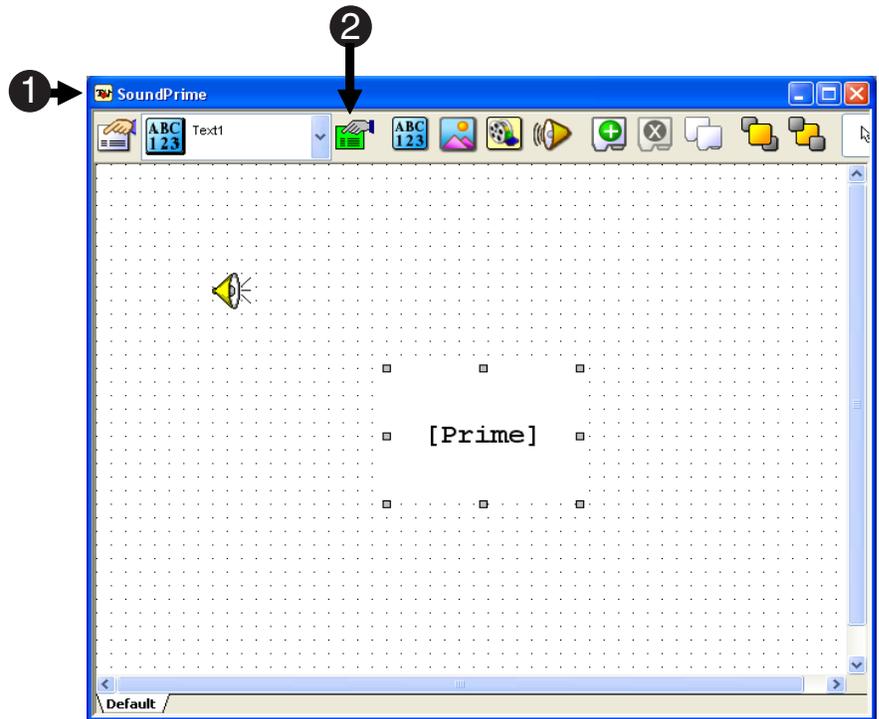




Task 3.2: Change the position of the text on the Slide object

This task will move the text sub-object so that it can be displayed above the movie sub-object added to the Slide in the next step.

- 1) **Open** the SoundPrime object in the Workspace.
- 2) **Select** the text sub-object and **click** the green **Sub-Object Property Pages** button on the Slide toolbar.
- 3) On the Frame tab for the text object, set the X- Position property to **center** and the Y-Position property to **10%**.
- 4) **Click OK** to accept the settings.





Task 3.3: Add a movie to the Slide object

This task will add a movie sub-object to the Slide object so that the prime can be presented as a movie along with text and sound.

1) Rename SoundPrime to MoviePrime.

The object is being renamed MoviePrime to reflect the fact that the prime will now be presented as a movie, along with text and sound. The properties will remain the same.

2) Click the SlideMovie button on the toolbar, then click anywhere within the active SlideState window.

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

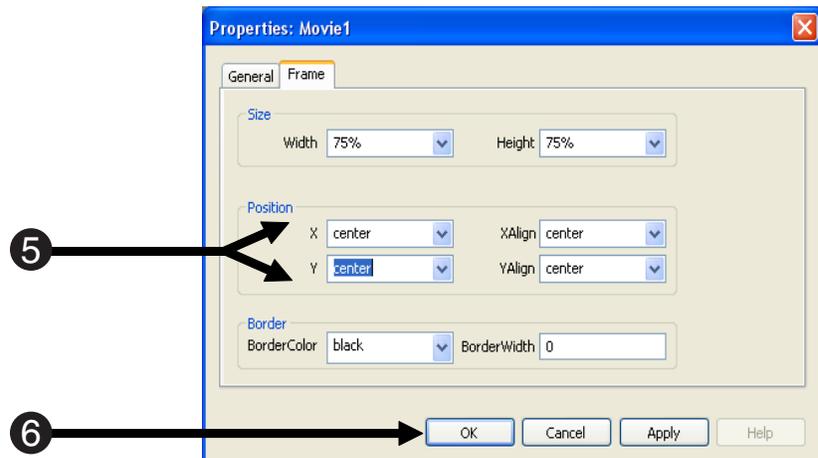
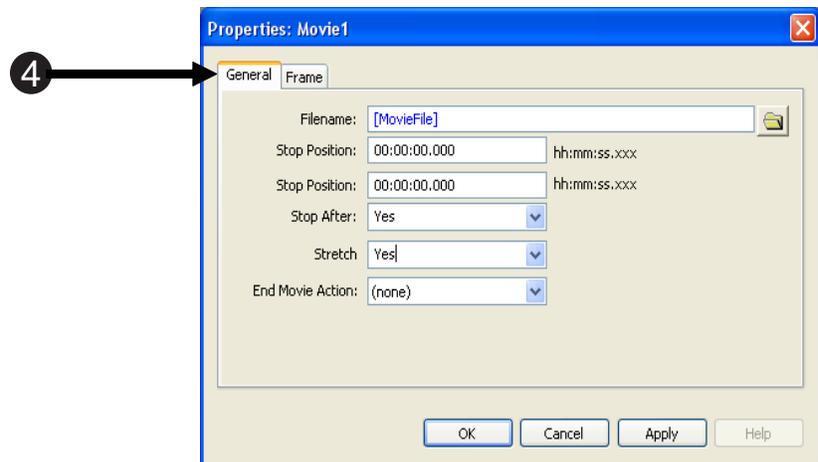
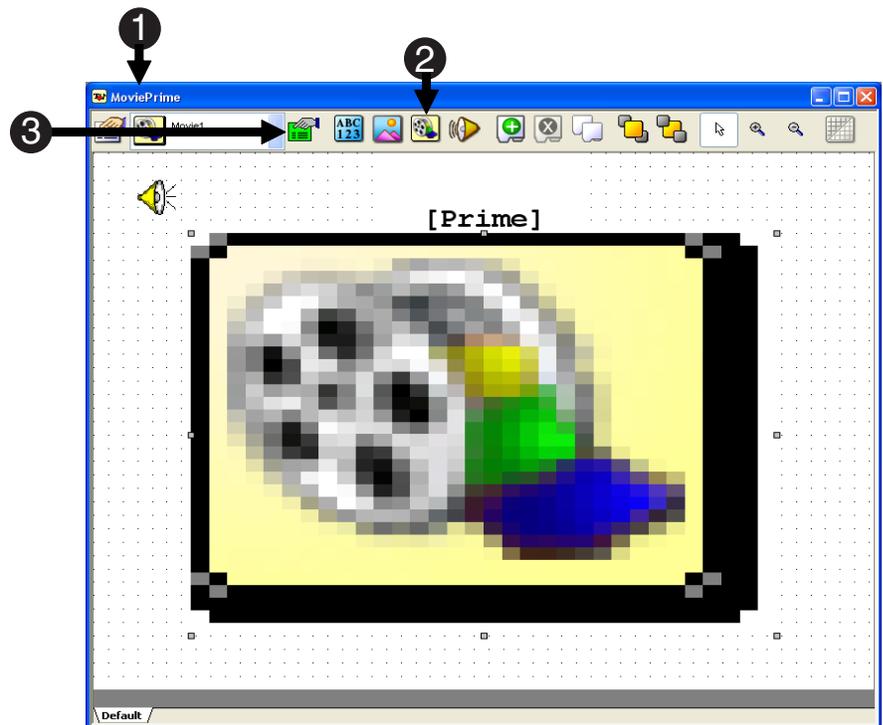
3) Select the movie sub-object and click the green Sub-Object Property Pages button on the Slide toolbar.

4) On the General tab, set the Filename field of the movie sub-object to refer to [MovieFile], and set the Stretch property to Yes.

The MovieFile attribute will be added to the TrialList in the next step. The filename for the movie sub-object will be determined at run-time.

5) On the Frame tab for the movie object, set the X- and Y- Position properties to center. Set the Width and Height to 75%.

6) Click OK to accept the settings.





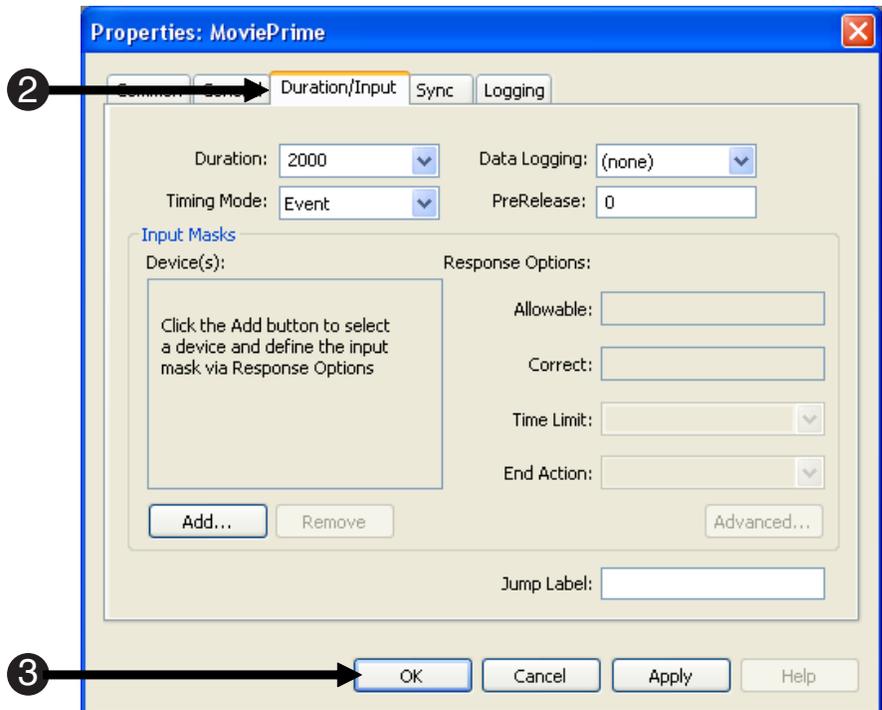
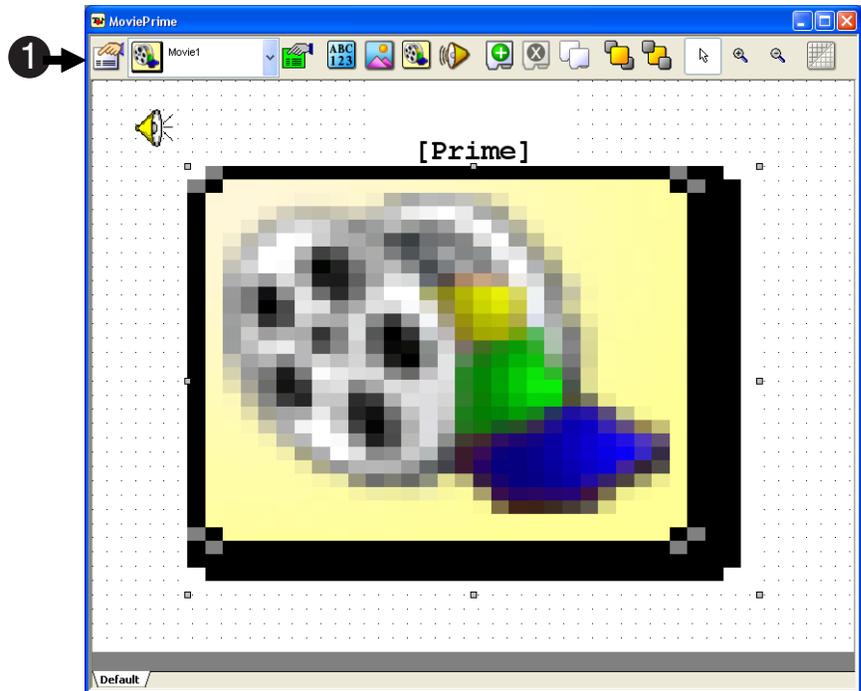
Task 3.4: Specify the properties of MoviePrime

This task will set the properties of the MoviePrime object.

- 1) Click the **Property Pages** button to set the properties of the MoviePrime object.

Note: The Property Pages button is used to set the properties of the entire object (e.g., duration, input masks, etc.) while the green Sub-Object Property Pages button is used to set the properties of individual sub-objects.

- 2) On the Duration/Input tab, set the Duration to **2000** milliseconds.
- 3) When you are finished, close the Property Pages by clicking the **OK** button.
- 4) Close the MoviePrime object.





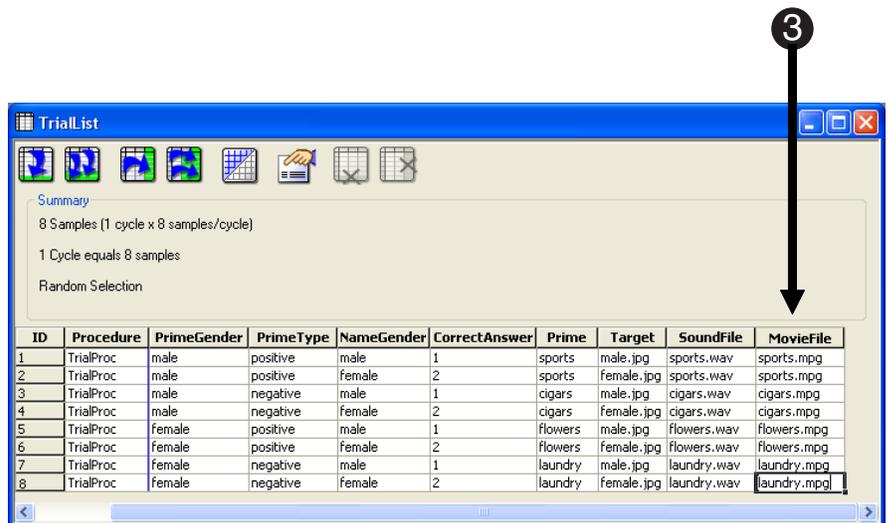
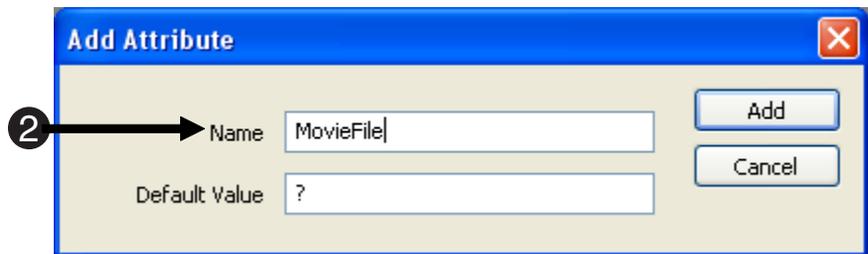
Task 3.5: Modify the List object

This task will add the MovieFile attribute to list the movie files to present.

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

The movie files used in this tutorial are included in the \My Experiments\Tutorials folder as part of the E-Prime installation. Copy these files to your current directory.

E-Prime is capable of presenting additional movie formats (e.g., WMV, MPEG-1, DIVX). For more information, please refer to the MovieDisplay object topic in the E-Prime Reference Guide.





Task 3.6: Edit the Instructions

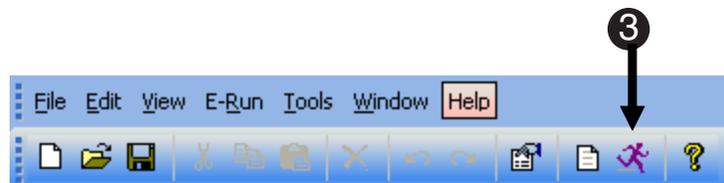
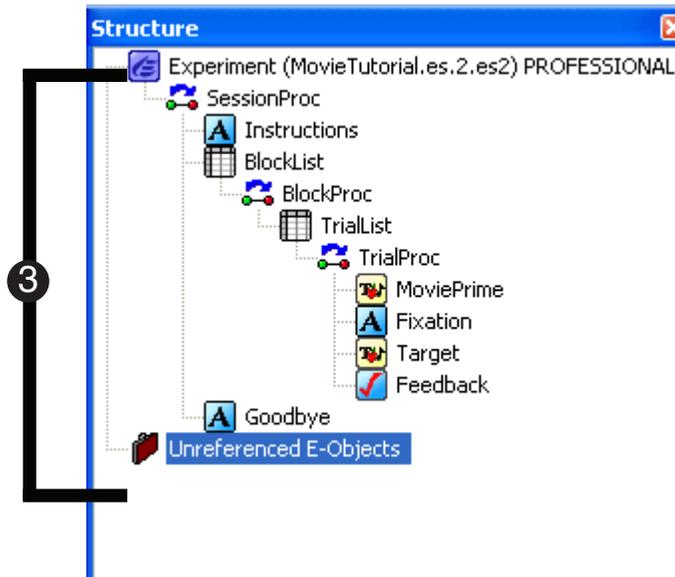
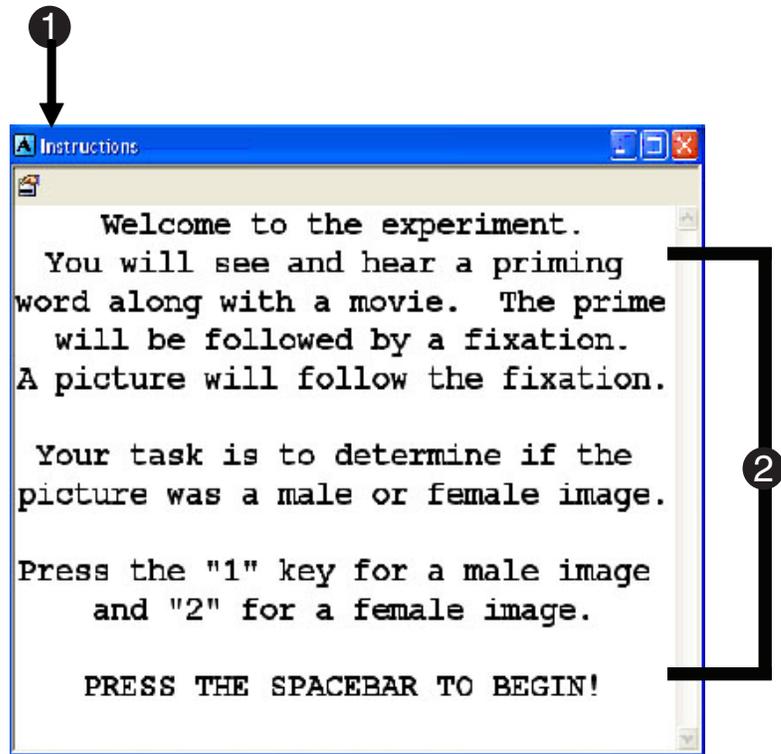
This task will guide you through editing the instructions for the experiment.

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

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

The instructions should be modified to reflect that a movie will play at the same time that the prime text and audio are presented.

3) **Verify** that your experiment structure matches that to the right. **Save** and **Run** the MovieTutorial experiment.





Advanced Tutorial 4: Modify MovieTutorial.es2 to use script

The E-Studio tutorial is designed to introduce various features and capabilities available in E-Studio that will allow you to more effectively use it as an experimental design tool. The Advanced Tutorials build upon skills taught in previous tutorials.

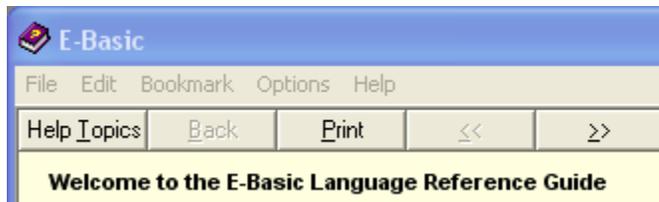
This tutorial will guide you through the process of adding your own script to an experiment. You will be asked to enter a number of lines of code into an InLine object in E-Studio. This is NOT a complete tutorial on how to write code. If you would like help with inserting your own script into an experiment, see the E-Basic Help or refer to Chapter 4 - Using E-Basic in the User's Guide.

Follow the steps below to access E-Basic Help directly from E-Studio.

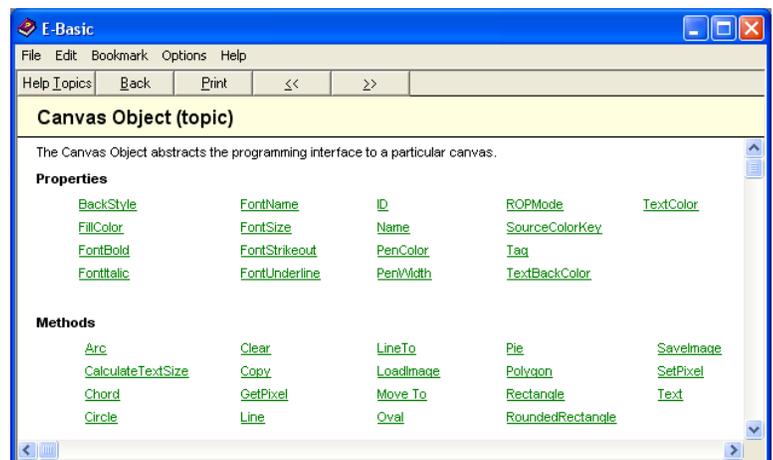
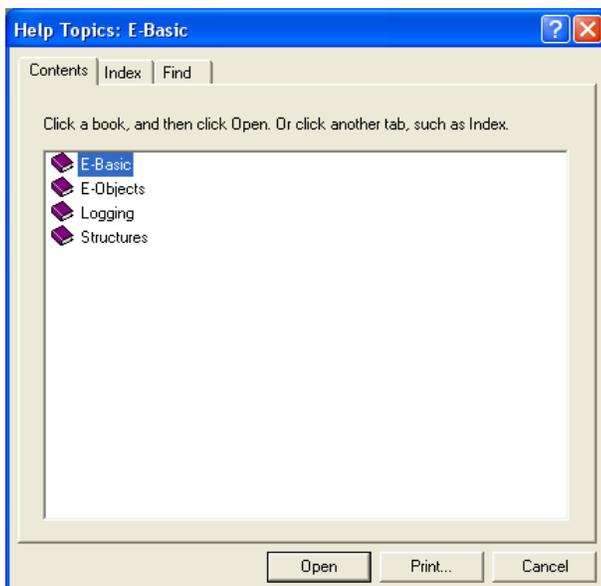
- Select E-Basic Help from the Help menu in E-Studio.



- 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.





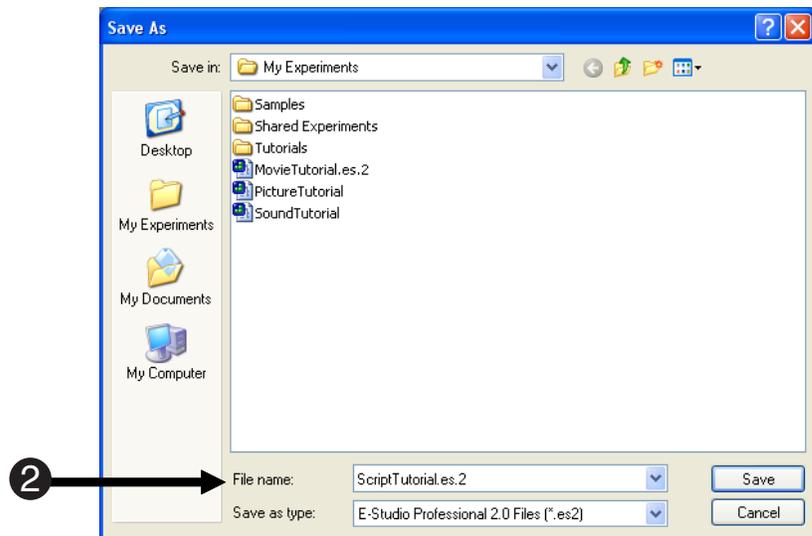
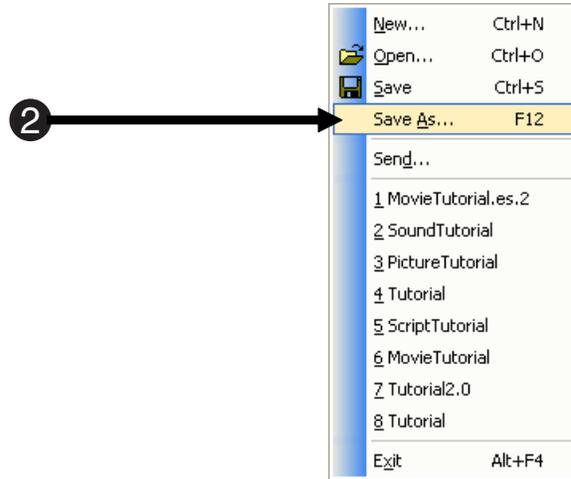
Task 4.1: Open MovieTutorial.es2 and save as ScriptTutorial.es2

1) Open MovieTutorial.es in E-Studio.

In this tutorial, you will enter script to present a delay between the prime and the target. The delay will appear as a circle that is gradually drawn in sections. The duration of the delay will be varied by manipulating the rate at which the sections are drawn.

2) In the File menu, **select** the **Save As** command and **save** MovieTutorial as **ScriptTutorial.es2**.

ScriptTutorial will automatically be opened in E-Studio.





Task 4.2: Modify the properties of MoviePrime

This task will modify the properties of the Default SlideState of the MoviePrime Slide to clear the priming word before drawing the circle.

1) **Open** the MoviePrime object.

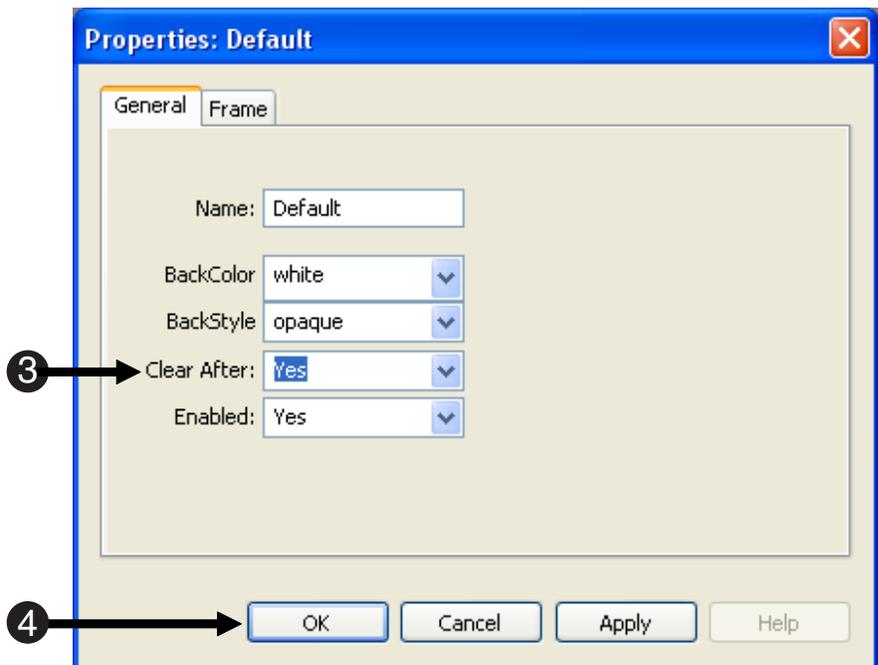
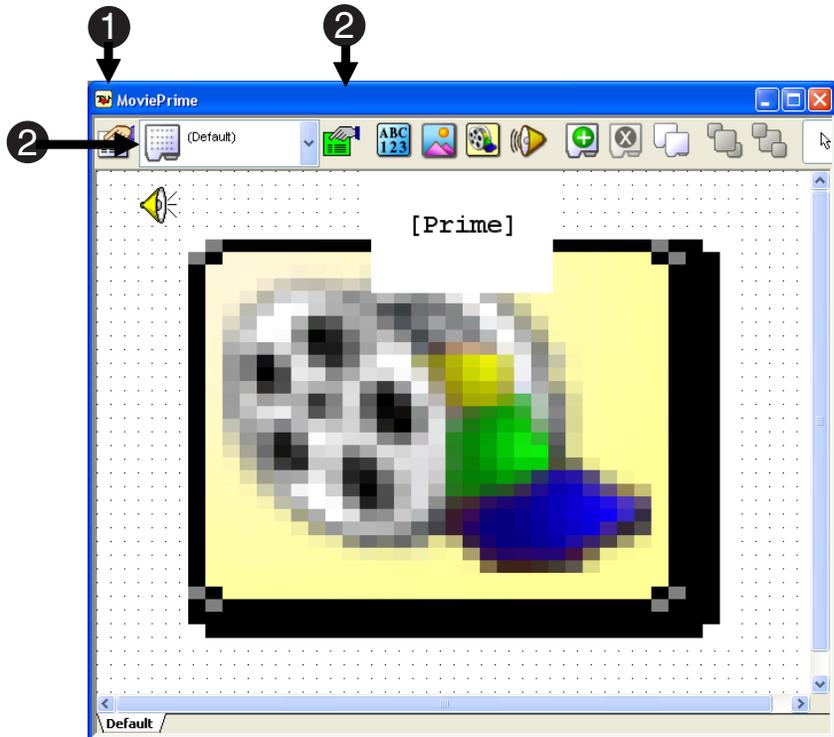
2) **Notice** the Default SlideState is the active object on the Slide. **Click** the green **Sub-Object Property Pages** button to view its properties.

3) On the General tab set the **Clear After** property to **Yes**.

The Clear After property controls the clearing of the display after the object terminates.

4) **Click OK** to accept the settings.

5) **Close** the MoviePrime object.





Task 4.3: Create an InLine object

This task will create an InLine object for the purpose of presenting a delay between the prime and the target.

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

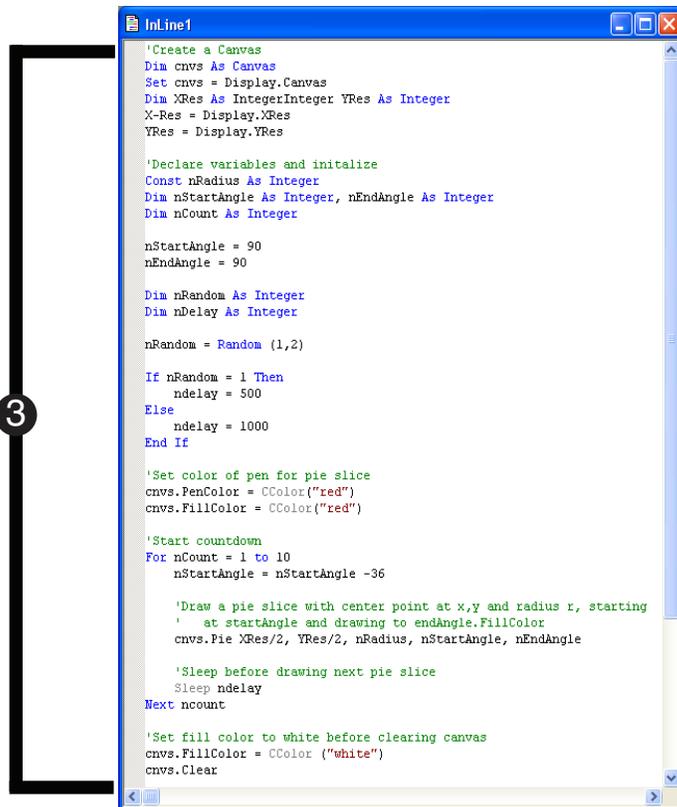
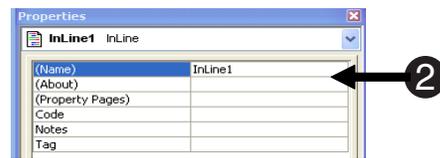
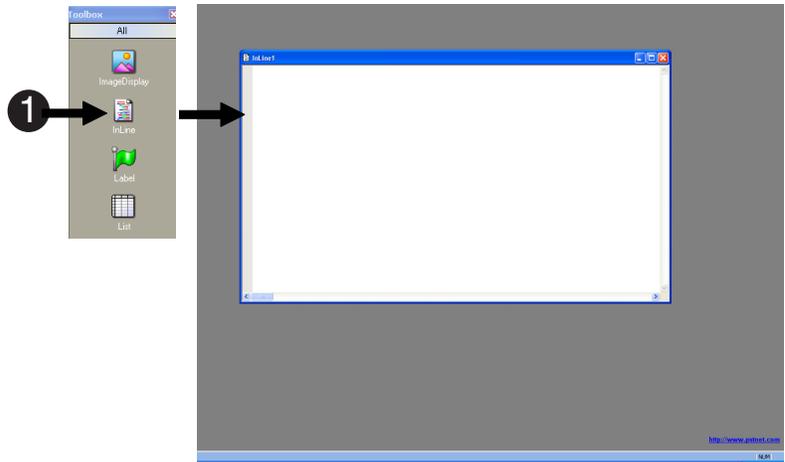
A new InLine object, InLine1, will be created in the Workspace and will appear in the Structure window (in the Unreferenced E-Objects folder)

- 2) Rename** InLine1 as **CountdownClock**.

The purpose of the InLine object is to create a delay using the Canvas object.

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

The Random function randomly selects a value from 1-2, representing a delay of either 500 or 1000. The delay is used to determine the number of milliseconds between the drawing of each section of the circle.

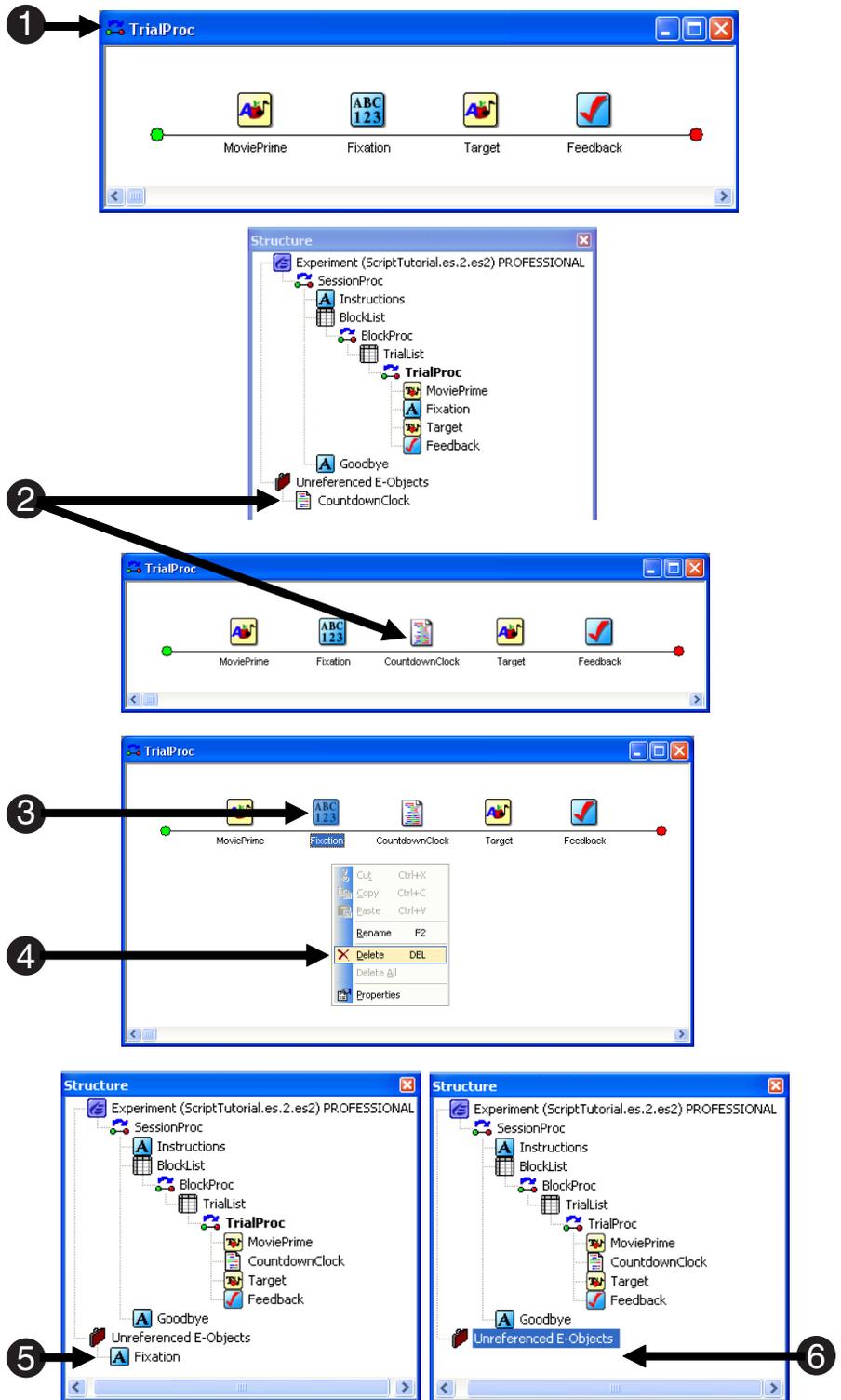




Task 4.4: Add CountdownClock to the trial procedure

This task will guide you through the replacement of the Fixation TextDisplay with the CountdownClock InLine object.

- 1) **Open** the TrialProc in the Workspace.
- 2) From the Unreferenced E-Objects folder, **drag** CountdownClock to the right of the fixation object.
- 3) **Click** the Fixation object to select it. *Select Fixation and press the Delete key, or right click and choose the Delete command from the context menu.*
- 4) **Delete** the Fixation object from the TrialProc. *Select Fixation and press the Delete key, or right click and choose the Delete command from the context menu.*
- 5) **Notice** that Fixation is listed in the Unreferenced E-Objects folder. *Fixation has been deleted from the TrialProc, but is still available within the experiment.*
- 6) **Delete** Fixation from the Unreferenced E-Objects folder.
- 7) **Save and run.** *The program will now present a countdown clock before the Target is presented.*





Task 4.5: Add script to log the random location, and send information to the Output window

This task will add script to the CountdownClock InLine object to log the value of the delay in the data file and send information to the Output window.

1) Add two lines of script to the InLine to match the image to the right.

The `c.SetAttrib` command is used to set the value of delay (i.e., the delay between each pie slice) as an attribute to be logged in the data file. Otherwise, delay 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 indicates the value of the delay on each trial. 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.

```
InLine1
'Create a Canvas
Dim cnvs As Canvas
Set cnvs = Display.Canvas
Dim XRes As Integer, YRes As Integer
XRes = Display.XRes
YRes = Display.YRes

'Declare variables and initialize
Const nRadius As Integer
Dim nStartAngle As Integer, nEndAngle As Integer
Dim nCount As Integer

nStartAngle = 90
nEndAngle = 90

Dim nRandom As Integer
Dim nDelay As Integer

nRandom = Random (1,2)

If nRandom = 1 Then
    nDelay = 500
Else
    nDelay = 1000
End If

'Set color of pen for pie slice
cnvs.PenColor = CColor("red")
cnvs.FillColor = CColor("red")

'Start countdown
For nCount = 1 to 10
    nStartAngle = nStartAngle -36

    'Draw a pie slice with center point at x,y and radius r, starting
    ' at startAngle and drawing to endAngle.FillColor
    cnvs.Pie XRes/2, YRes/2, nRadius, nStartAngle, nEndAngle

    'Sleep before drawing next pie slice
    Sleep nDelay
Next nCount

'Set fill color to white before clearing canvas
cnvs.FillColor = CColor ("white")
cnvs.Clear

c.SetAttrib "Delay", nDelay
Debug.Print "Delay=" & nDelay
```





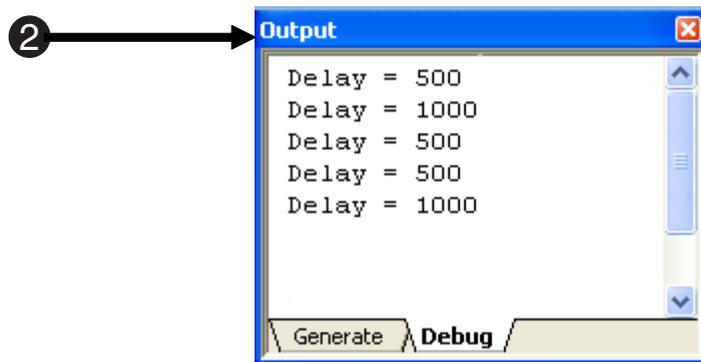
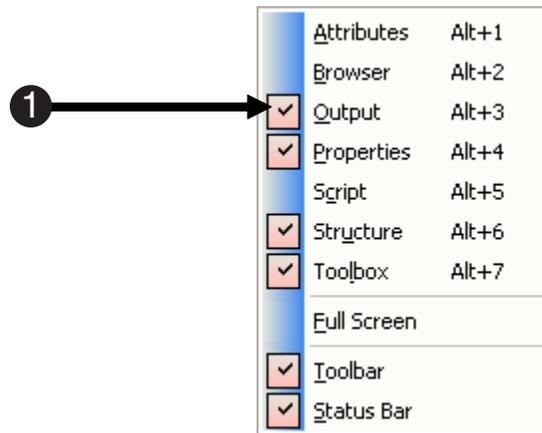
Task 4.6: View the results of the script in the Output window

- 1)** From the View menu, **select** the Output option to display the Output window (or press the **Alt** and **“3”** keys simultaneously as a shortcut).

By default, the Output window appears at the bottom of the application window, but may be moved by clicking and dragging the Output window title bar.

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

The Debug.Print command was used to print the value of delay to the Output window during each trial.





Task 4.7: Examine the logging of the Delay attribute in the data file

- 1) Select the **E-DataAid** command from the Tools menu.

This opens the E-DataAid application.

Refer to Tutorial 3: E-DataAid in this manual for more information.

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

- 3) In the Open dialog, navigate to the folder in which ES2 file is saved.

- 4) Select the ScriptTutorial-1-1 data file just collected from the running of ScriptTutorial.es, and click Open.

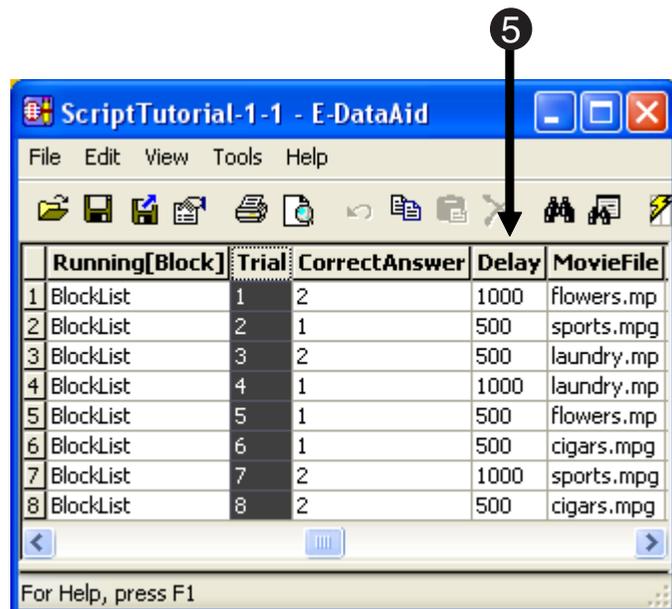
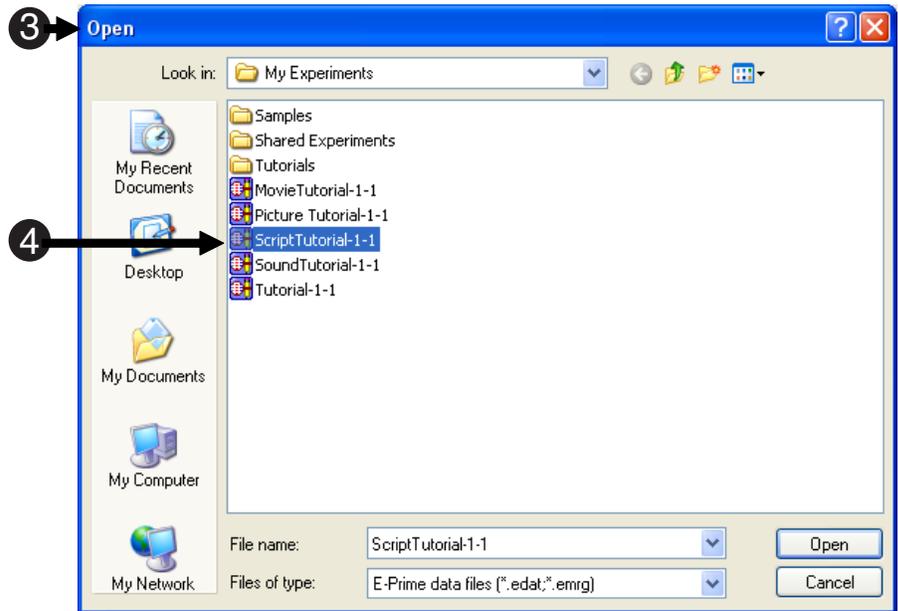
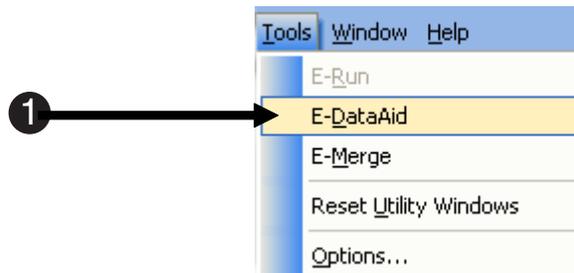
Assuming that the default subject and session number were selected, the data would have been collected in a file named ScriptTutorial 1-1.edat.

- 5) Scroll to the right in the spreadsheet to find the **Delay** 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).

- 6) Close E-DataAid.

- 7) Close E-Prime .





Good Practices, Testing, & Help

When implementing a new experiment, it is helpful to conceptualize an experiment before jumping into object creation and script writing. A bit of preparatory effort will result in quicker implementation and more efficient design, with fewer bugs and forgotten measures. The following are recommendations for good practices when implementing and testing an experiment in E-Prime. A list of available resources for help is also included.

Conceptualize the experiment

- Have a clear idea of the questions you wish to answer in your research.
- Determine what variables and procedures are necessary to answer these questions, what data must be collected, and how the data will be analyzed. This will save time and create better research.
- Prior to implementing anything in E-Studio, storyboard the events of the trial procedure that will be used to collect the data on paper.
- State the expected effect the independent variables might have on the dependent variables. It is useful to write an abstract for the experiment, particularly detailing the procedure.

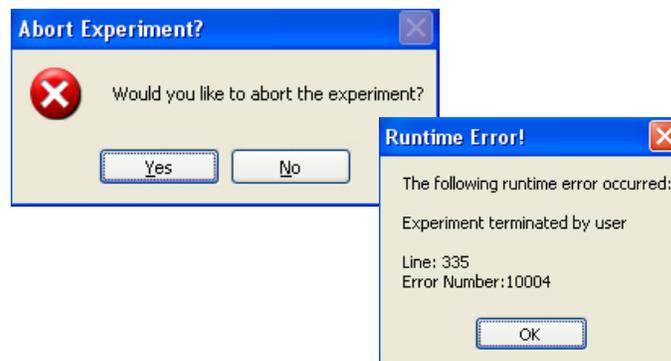
Design the experiment

- Be able to specify the design of the experiment and list all of the conditions, stimuli, and expected responses.
- Use the storyboard to translate each event into an object in E-Studio.
- Start with the basic design, implement it, and then elaborate on it.
- Design the experiment in small stages, each containing a few steps. Implement and test that stage before implementing the next stage.

Test the experiment

- Save often and test the experiment as you go.
- Begin by testing only a few trials before completing full stimulus lists and instructions.
- Once the basic trial is running and data are logged correctly, add additional variables, stimuli, instructions, and other details. Test again!
- While testing, it may be useful to be able to exit an experiment without having to complete all of the trials. 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.



Note: When an experiment is terminated early, no EDAT file is written. Early termination should only be used during testing, and when the logging of data is not being examined.

For more information on conceptualizing and designing an experiment, refer to **Appendix B: Considerations in Research** in the *E-Prime User's Guide*.



E-Prime Help & Resources

The E-Prime manuals and resources provide valuable information and exercises to learn and make use of the flexibility and power of E-Prime.

E-Prime Manuals

- The E-Prime Getting Started Guide, User's Guide, and Reference Guide are included in the E-Prime installation and are installed as PDF files.
- The PDF files may be accessed from the E-Prime menu from the Start menu. They are also available for download via the E-Prime Web Support site (see E-Prime Web Support site below).

E-Basic Help

- E-Basic Help topics describe the use of all E-Basic statements, functions, commands, and objects, and the syntax and parameters required for each. Each Help entry addresses any considerations specific to the topic, a working example, and a listing of direct links to related topics.
- The E-Basic Help may be accessed from the E-Prime menu via the Start menu or through the Help menu within E-Studio.

E-Prime web site

- The E-Prime product web site includes product information, as well as links to FAQs, E-Prime Web Support, and the E-Prime User's Forum.
- Please visit www.pstnet.com and navigate to the E-Prime page.

PST User Forum

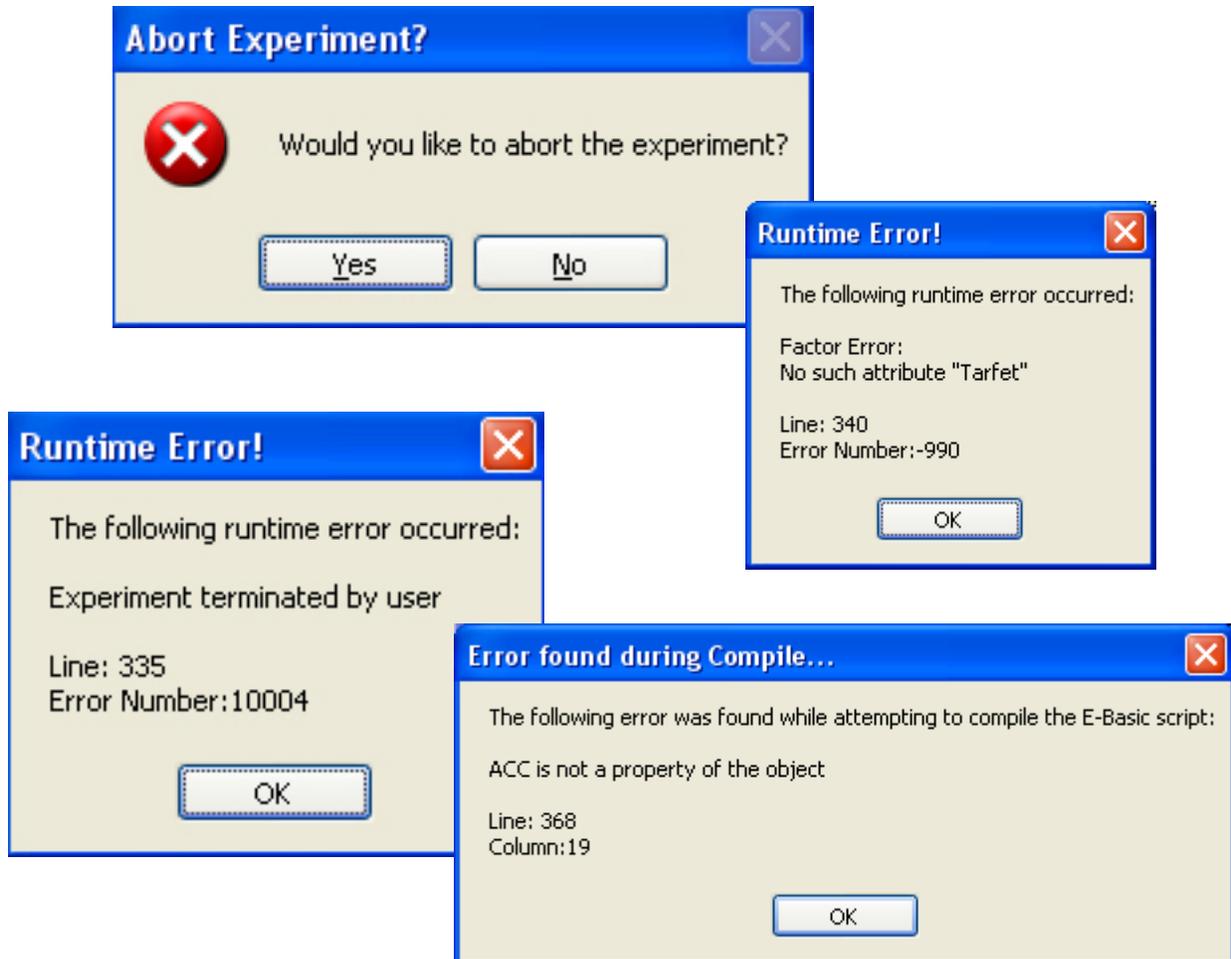
- The PST User Forum is set up to allow end users of PST products to ask questions and share information, tips, and samples with their peers.
- Please visit www.pstnet.com/support and follow the link to the PST User Forum.

E-Prime Web Support site

- The E-Prime Web Support site provides the latest updates, a Knowledge Base section, samples, downloads, and a personal support forum to communicate with PST support representatives.
- Support for E-Prime is handled via the web only. Please submit your questions as a request on the support site. Visit www.pstnet.com/support and follow the link to E-Prime Web Support.

Troubleshooting

This section serves as a tutorial for debugging and troubleshooting errors during the development and running of your E-Prime experiments. Technical assistance is available via the E-Prime web support and through the PST User Forum at www.pstnet.com.





Task 1: Generate 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.es2**.

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

3) Click the **SlideProperty Pages** button to display the properties for the Feedback object.

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

A List object does not collect accuracy (ACC) or reaction time (RT) stats. This step will cause an error to be generated.

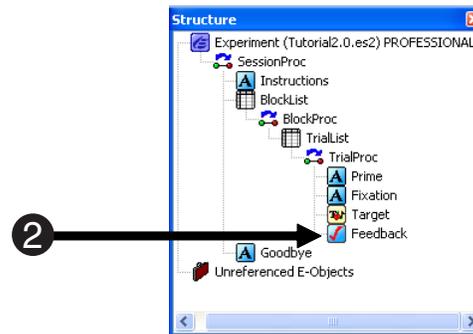
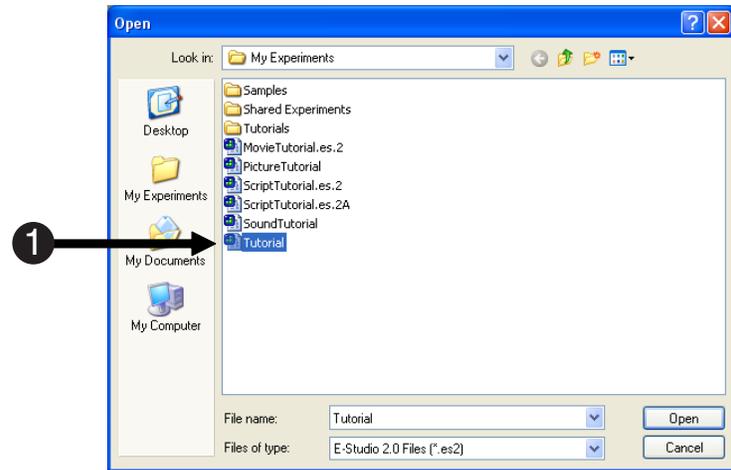
5) Click the **Generate** button to produce the compile error.

When a compile error is generated, an error dialog is displayed.

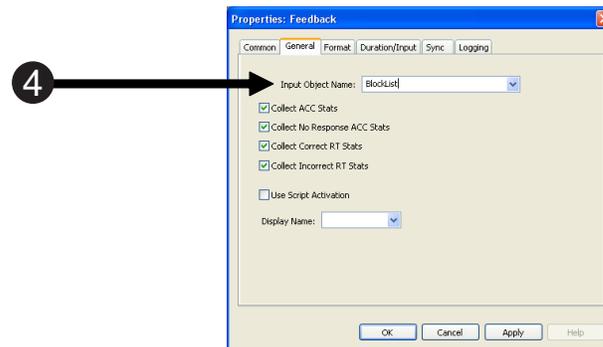
6) Examine the Compile Error dialog.

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 accuracy feedback cannot be provided.

7) Click **OK** to dismiss the dialog.



3





Task 2: View the compile error

This task will describe another method of viewing the compile error and locating the line of script that caused the error.

- 1) Notice that upon receipt of the compile error, both the **Output** and **Script** windows open automatically in E-Studio.

The Script window opens in the Workspace. The Output window open at the bottom of the display.

- 2) In the Output window, **view** the compile error on the **Debug** tab.

The Generate tab provides details concerning the status of the compile operation. The Debug tab shows information specific to errors as well as any Debug. Print message placed in the script by the user.

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

A Go To dialog will appear.

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

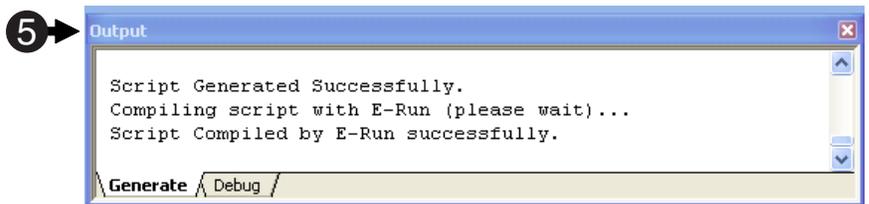
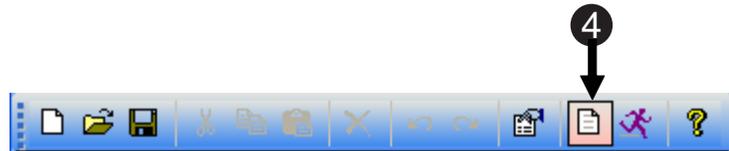
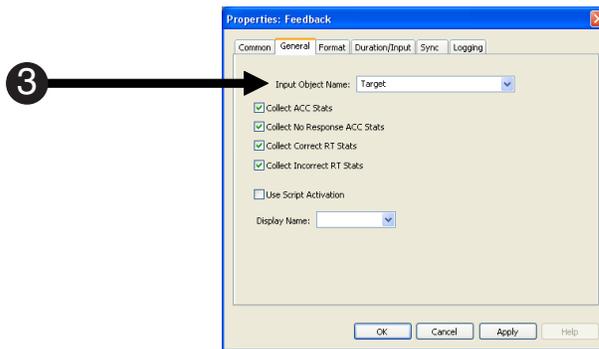
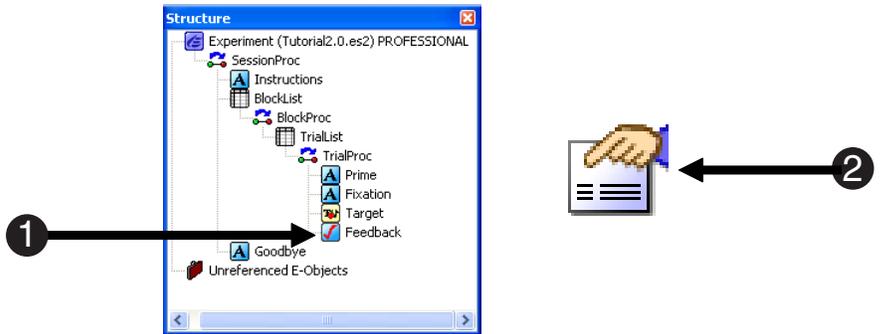
The cursor will be placed in the Script window, and will be blinking at the line at which the error occurred.



Task 3: Correct the compile error

This task will edit the properties of the Feedback object to correct the compile error.

- 1) Click the Feedback object that was opened previously in the Workspace.
- 2) Click the Property Pages button to view the properties of the Feedback object.
- 3) On the General tab, **reset** the Input Object Name field to **Target**, and **click OK**.
- 4) Click the **Generate** button to regenerate the script and ensure that the error has been eliminated.
A successful compile operation results in a “successful” message displayed on the Generate tab in the Output window.
- 5) Close the **Feedback** object and **Script** windows in the Workspace.





Task 4: Generate 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.

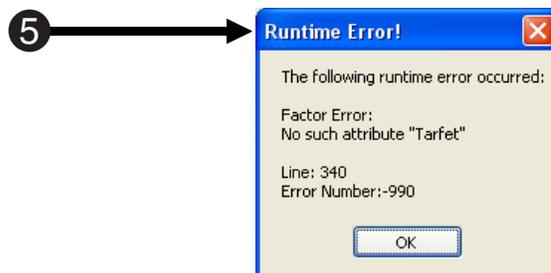
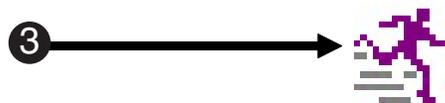
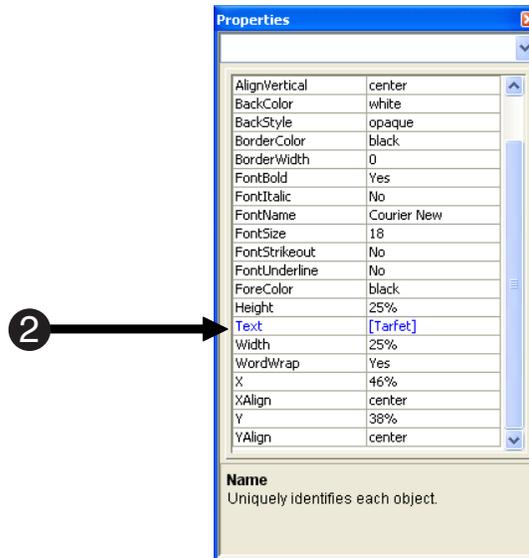
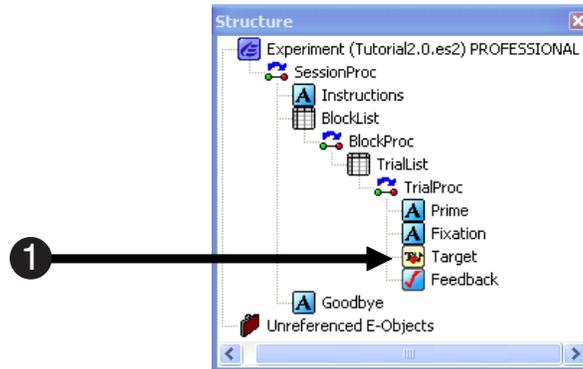
3) **Click the Run** button to generate and run the script.

4) Accept the default values in the subject initialization and startup dialogs to begin the experiment.
Note: *Unlike the compile error, a run-time error does not occur during generation. The run-time error will occur when the affected script is encountered at run-time.*

5) **Examine** the Run-time error.
The error occurred because the attribute [Tarfet] does not exist.

6) To eliminate the error, **correct** the spelling error.

7) **Save** and **rerun** the experiment to ensure the error has been corrected.



For more information on troubleshooting and debugging tips, refer to the Debugging E-Prime section in the *E-Prime User's Guide*.

Getting Started Guide



Welcome to the E-Prime community of researchers! E-Prime has become the worldwide leader in the field of software for research and education, with systems in use in over 50 countries. Throughout two decades of serving the research and teaching communities, Psychology Software Tools has acquired the experience and commitment to provide the best possible tools and highest quality support to our loyal users. We hope that E-Prime will benefit you in your research.

The E-Prime manuals include step-step tutorials to walk you through the basics of E-Prime and its applications, advanced tutorials to introduce more complex features, and a reference guide to enable specific feature look-up. Each volume in the collection contains valuable information to help you master the applications within E-Prime. The E-Prime software CD includes an E-Prime introduction slideshow, electronic copies of the documentation, and sample experiments. To most efficiently learn to use your E-Prime system, use these tools, as well as E-Prime Web Support, and the E-Prime User Forum, a medium through which E-Prime users can get help from the E-Prime community.

A stylized graphic of a human brain, rendered in a light blue color, is centered behind the contact information. The brain is depicted with a network of lines representing neural connections. The contact information is enclosed in a dark blue, wavy, bracket-like border.

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