E-Prime 2

Getting Started Guide

PSYCHOLOGY SOFTWARE TOOLS

E-Prime® 2.0
Getting Started Guide

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This manual describes the installation procedure for the E-Prime 2.0. Please review the manual completely and thoroughly before beginning the system installation.

The E-Prime 2.0 Getting Started Guide (PST-101337) is for research purposes only.

Table of Contents

Chapter 1: Getting Started Guide

1.1 Uninstalling Prior Versions

We recommend that you uninstall any prior version of E-Prime 2.0 before installing the new version. If you do not uninstall the software now, the installer will prompt you to do so before installation begins. We also recommend that you make a backup copy of any experiments or data you would like to save that use previous versions of E-Prime 2.0. The My Experiments folder will be refreshed when you open E-Studio for the first time after installation of the software. When this occurs, all of the Samples and Tutorials included in the E-Prime 2.0 installation are overwritten. If you have renamed any of the Samples and Tutorials, they will not be overwritten.

⚠ **NOTE:** *E-Prime 1.x versions can be installed on the same machine as E-Prime 2.0.*

For Windows XP
- Open the Control Panel from the Start menu or from My Computer.
- Open Add/Remove Programs.
- From the list of installed programs, select E-Prime 2.0, and click the Change/Remove button.
- In the InstallShield Wizard dialog, select Remove. Click Next to continue, and click the Change/Remove button.
- Click Yes to remove all components, and then click Finish.

For Windows Vista
- Open the Control Panel from the Start menu or from My Computer.
- Open Programs and Features.
- From the list of installed programs, select E-Prime 2.0, and click the Change button.
- Click Continue in the User Account Control dialog.
- In the InstallShield Wizard dialog, select Remove. Click Next to continue.
- Click Yes when prompted to remove the selected application, and then click Finish.

For Windows 7
- Open the Control Panel from the Start menu or from My Computer.
- Open Programs, then select Programs and Features.
- From the list of installed programs, select E-Prime 2.0, and click the Change button.
- Click Next in the InstallShield Wizard dialog.
- In the InstallShield Wizard dialog, select Remove. Click Next to continue.
- Click Yes when prompted to remove the selected application, and then click Finish.

1.2 Software Installation

Before continuing, be sure that you have administrative rights to install this software on the computer. If you do not have administrative rights, you will be unable to install E-Prime 2.0. If you are unsure of your administrative privileges, contact your System Administrator.

⚠ **NOTE:** *The current version of E-Prime 2.0 will uninstall any older versions prior to installing the new version. The version number on the following images may not correspond to the version number on your software.*

1) *Insert* the **E-Prime installation CD** into your **CD-ROM drive**. *Click* the **Install** button to continue installation.

   If the CD doesn't automatically launch, you can go to your CD drive and launch it from there.

   ⚠ **NOTE:** *Prerequisite system components may be installed at this point, which may require a system restart. After restarting your computer, reinsert the CD to restart the E-Prime 2.0 installation.*

2) *Click* the **Next** button to continue installation.

3) *Please read* the **License Agreement** and make sure you *agree completely* with the terms and conditions described in the **agreement** before accepting the terms. Once you have read the agreement, *click* **Next** to proceed with the installation.
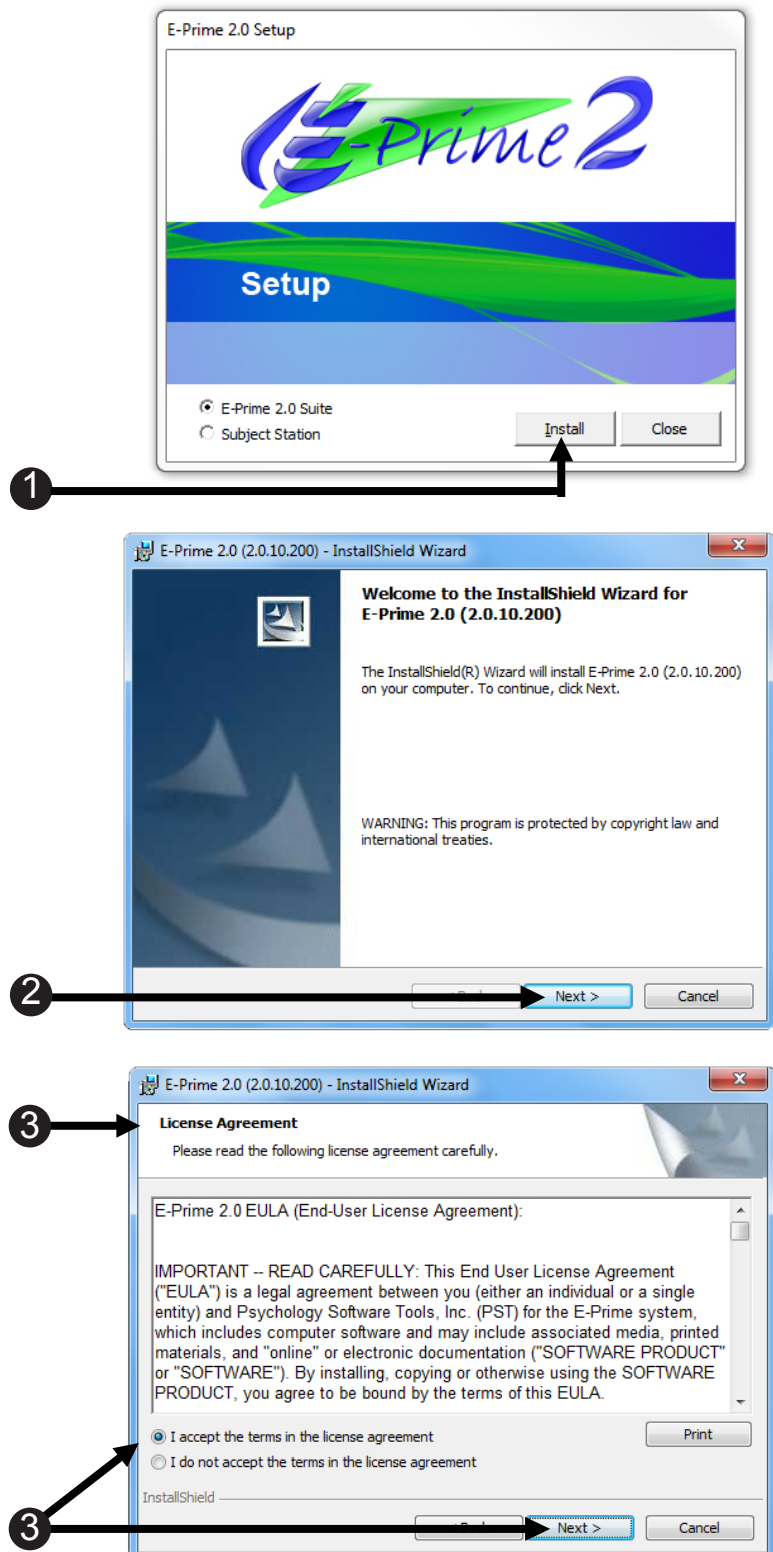
4) ***Specify* Your Name** and **Your Institution** or check with your system administrator for appropriate information.

5) Enter your E-Prime 2.0 **Serial Number.**
   ⚠️**NOTE:** *Before using E-Prime, you must complete both the Installation and Registration and Validation processes in section 1.3 Registration and Validation. Your serial number and hardware key will be required (some installations use a hardware key connected to the network, and will not require a physical key).*

6) **_Click_ Next** to continue installation.

7) **_Select_ Complete** to *install* the complete **E-Prime 2.0 suite**.

8) **_Click_ Next**.

9) **_Click_ Install** to begin transferring files to your computer.

6
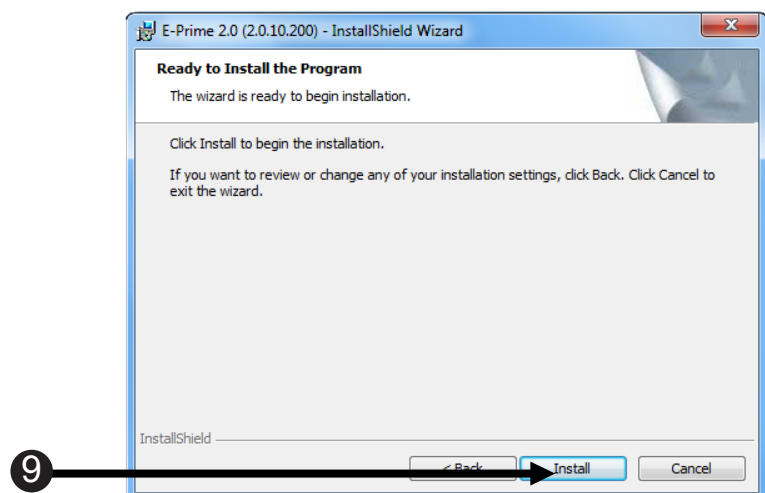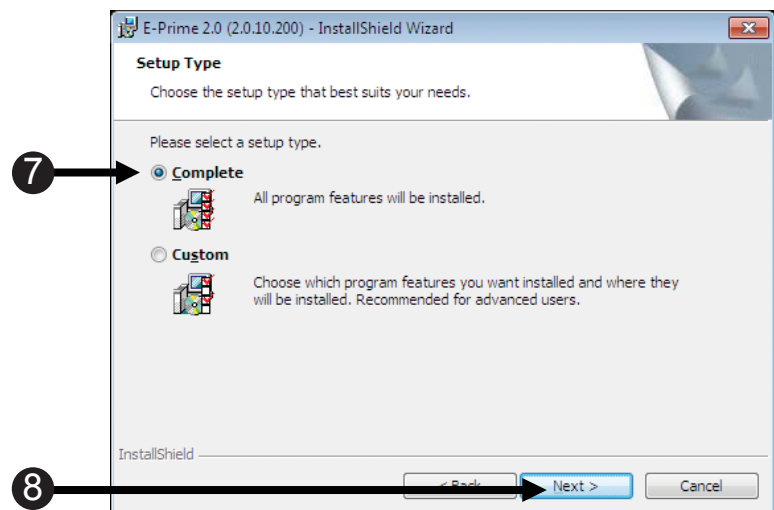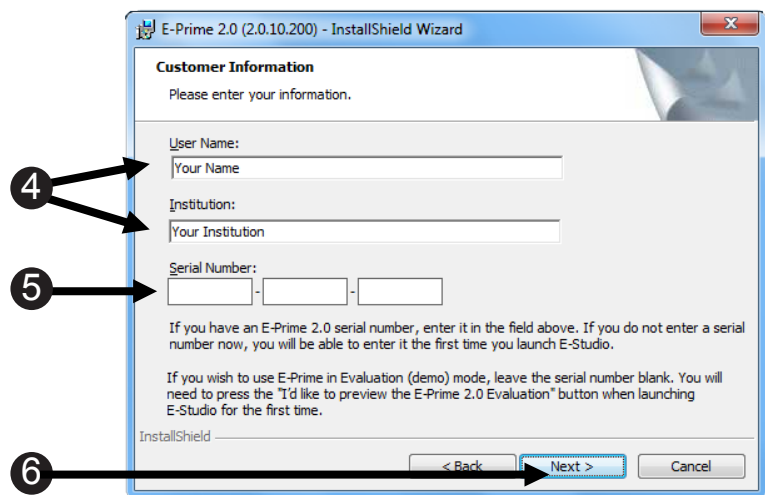
10) **Wait** while the installer configures the software.

The E-Prime installer may prompt you to install\update additional drivers at this point. Please install them and continue with your installation.

⚠️ **NOTE:** *If you are instructed to reboot, do so and follow all prompts. You may have to restart the E-Prime installer once your reboot is complete.*
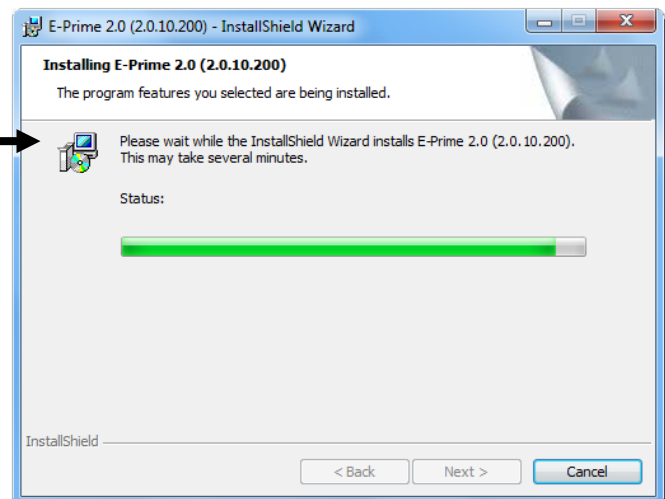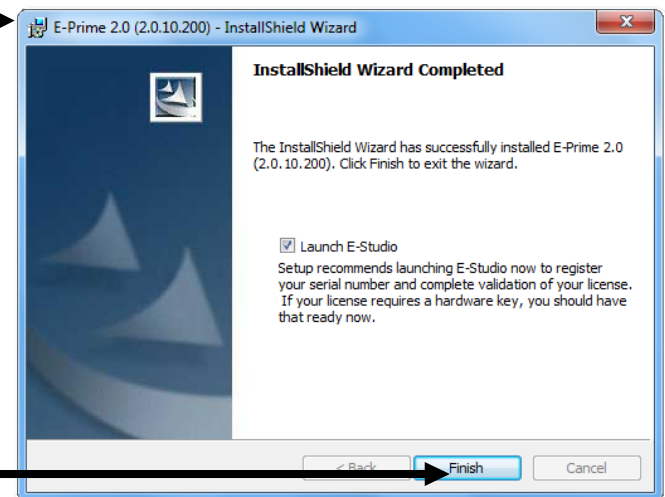

11) If **E-Prime 2.0** is installed properly, you will see the following window.

12) **Click** Finish to complete installation.

1.3 Registration and Validation

1) Connect the hardware key.
2) Launch E-Studio (if not launched automatically by Setup).
3) The E-Prime Auto Update screen appears. Click OK.
4) If you did not enter your serial number when prompted to do so during installation, the E-Prime Registration screen appears. Enter your name, institution, and serial number and click OK.
5) If this is your first time opening E-Studio you will be prompted to accept the End User License Agreement. You must choose yes, and accept the agreement to proceed.

⚠ **NOTE:** *If upgrading from E-Prime 1.x to 2.0, you will be prompted to insert your 1.x hardware key temporarily during the validation process. This is a one-time operation requiring the 1.x hardware key to validate the 2.0 hardware key. To start the validation process, install E-Prime 2.0 and follow the prompts. E-Prime 1.x installation is not required for validation.*

1.4 E-Prime Resources

Where to find information

Currently, over 500 pages of documentation are available in various forms. We recommend that you work through the Getting Started Guide in its entirety. This provides the foundation for learning to use the applications which comprise E-Prime.

Getting Started Guide

The Getting Started Guide includes step-by-step tutorials to walk you through the basics of E-Prime.
*   **Tutorial 1** — E-Studio (estimated time to complete: 40 – 60 minutes).
*   **Tutorial 2** — E-Merge (estimated time to complete: 15 minutes).
*   **Tutorial 3** — E-DataAid (estimated time to complete: 15 minutes).
*   **Advanced Tutorials** — Modifying basic experiments to use image, sound, and movie stimuli as well as user-written script.

User's Guide and New Features/Reference Guide

The User's Guide and New Features/Reference Guide are included as PDF files on your E-Prime software CD. It is extremely useful to have the manuals as a reference point as you work through the system. Each volume contains valuable information that will help you master the applications within E-Prime.

Sample Experiments

Open, inspect, and run each program from the Samples folder
 (default installation ...My Experiments\Samples).
• BasicRT – text reaction time experiment
• PictureRT – picture reaction time experiment
• SoundRT – sound reaction time experiment
• SlideRT – combined text and image reaction time experiment using a Slide
• MovieRT – movie reaction time experiment
• NestingRT – allows selection of different word lists from different conditions
• NestingXRT – using extended responses, borders, colors, and inputs from multiple devices
• MultipleDisplayRT – using multiple monitor displays

⚠ **NOTE:** *The MultipleDisplayRT sample is only available in E-Prime 2.0 Professional.*

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

⚠️**NOTE:** *Getting Started Guide, User's Guide, New Features/Reference Guide are also all available through the Help > Documentation menu in E-Studio.*

Resource	Description	Format	Location
Getting Started Guide *(this manual)*	Quick reference for general information, step-by-step tutorials for each application within E-Prime.	Printed	Included with E-Prime shipment, on E-Prime software CD, and part of the E-Prime installation (accessed via the E-Prime 2.0 menu from the Start menu).
User's Guide	Provides technical details about each application.	PDF	Included on E-Prime software CD, via the E-Prime 2.0 menu from the Start menu, and from the PST Product Service and Support site.
New Features/ Reference Guide	Fully documents features of each application.	PDF	Included on E-Prime software CD, via the E-Prime 2.0 menu from the Start menu, and from the PST Product Service and Support site.
E-Basic Help	Fully documents all features of the E-Basic Language.	Windows Help file	Located in the E-Prime 2.0 menu from the Start menu or in the Help menu within E-Studio.
Application Help	Help for individual applications.	Windows Help file	Accessed through the Help menu within the application.

1.5 Working With E-Prime
Before you begin
The E-Prime 2.0 Standard and E-Prime 2.0 Professional file extension is .es2. This Getting Started Guide uses the .es2 extension for all examples. Please note if you are using E-Prime 2.0 Professional, you will be prompted to convert your .es2 files to E-Prime 2.0 Professional upon opening them. This is because the samples and tutorials are distributed in the E-Prime 2.0 Standard format. We recommend that you convert your experiments to E-Prime 2.0 Professional if you have it. Please note, there may be some differences between the illustrations and what you are seeing on your screen. This is because all of the illustrations in the Getting Started Guide are taken from the Professional version using a non-converted, Standard .es2 file.

Upgrading your Experiment
We have added several new features to E-Prime 2.0 and because of this there will be some differences in experiment settings. We have compiled a list of features that will be affected. Please see the following link for more details: http://www.pstnet.com/support/kb.asp?TopicID=4756. If you are currently working in an older version of E-Prime 1.x or 2.0, you will also be prompted to convert your experiments when you open them. Once your experiments are converted you will no longer be able to open them in older versions of E-Prime. However, when you open your new .es2 file, a uniquely named backup <ExperimentName>Backup<#>.es2 (.es) of your old experiment is automatically created in the folder you are working in.

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

Reporting Problems

The PST Product Service and Support site, which can be found at http://www.pstnet.com/support, provides the latest updates, a Knowledge Base section, samples, downloads, and a personal support interface to communicate with PST support representatives. When reporting problems, it is essential that you minimally report the following information:

• User Information including name, institution, serial number, phone number, and e-mail address.
• Machine Information including Windows version, manufacturer/model of your PC, type of CPU, amount of memory, etc. This information is available via the System properties from the Control Panel, or by typing msinfo32 into a command prompt.
• Information about the problem including the name of the application in which the problem occurred (E-Studio, E-Run, etc.), version number of the application, and the text of any error messages you receive. If applicable, please attach a copy of your .es2 file as well as any additional files (images, sounds, etc.) that are used in the experiment.

To ensure a timely response, please include all of the information you wish to convey in one post, instead of several posts. A common cause for delay in support is due to the end user omitting the .es2 file and/or associated files with their request.

The PST User Forum, found at http://www.pstnet.com/forum, is a free service provided by PST for end users to share information with each other about any of PST's products, including E-Prime. We encourage you to participate in the PST User forum as a means to share information about E-Prime and obtain assistance from a growing and experienced group of E-Prime users.

Useful Information

How to terminate an experiment early

Press Ctrl+Alt+Shift to terminate the E-Run program. Click OK in the dialog box verifying whether the experiment should be terminated. Click OK in the dialog box displaying the "Experiment Terminated by User" message. Please note that this feature is used to assist with faster testing or debugging of an experiment. When an experiment is terminated early using this method, an incomplete data file is written, and must be recovered with the E-Recovery application.

Conditional Exit (E-Prime 2.0 Professional only)

Press Ctrl+Alt+Backspace to terminate the E-Run program. Unlike the Ctrl+Alt+Shift termination method, this method of terminating an experiment will produce a data file after termination.

Your Serial Number

Your serial number is provided on the Registration Card included with your system. Place the card in an appropriate place so that it is accessible. Additionally, your serial number can be found in the About E-Studio dialog box via the Help menu within E-Studio (after installation).

⚠ **NOTE: _DO NOT LOSE THIS INFORMATION_**. *You **MUST** provide your serial number for Product Service and Support.*

Chapter 2: E-Studio

This guide serves as a tutorial to build your first E-Prime experiment. The purpose of this exercise is to familiarize you with some of the primary features of E-Studio.

The experiment used in the E-Prime Getting Started Guide is a variation of the 1996 Blair & Banaji study examining automatic and controlled processes in stereotype priming. Blair & Banaji's results support the proposal that stereotypes may be automatically activated, but that these effects may be controlled, or even eliminated by the people perceiving the sterotypes.[1]
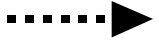
In the experiment described in the following tutorial, participants will be presented with a prime word for a short duration. The prime word will be either stereotypically masculine or feminine (e.g., sports or flowers) and will have either a positive or negative connotation (e.g., sports or bald). The 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.
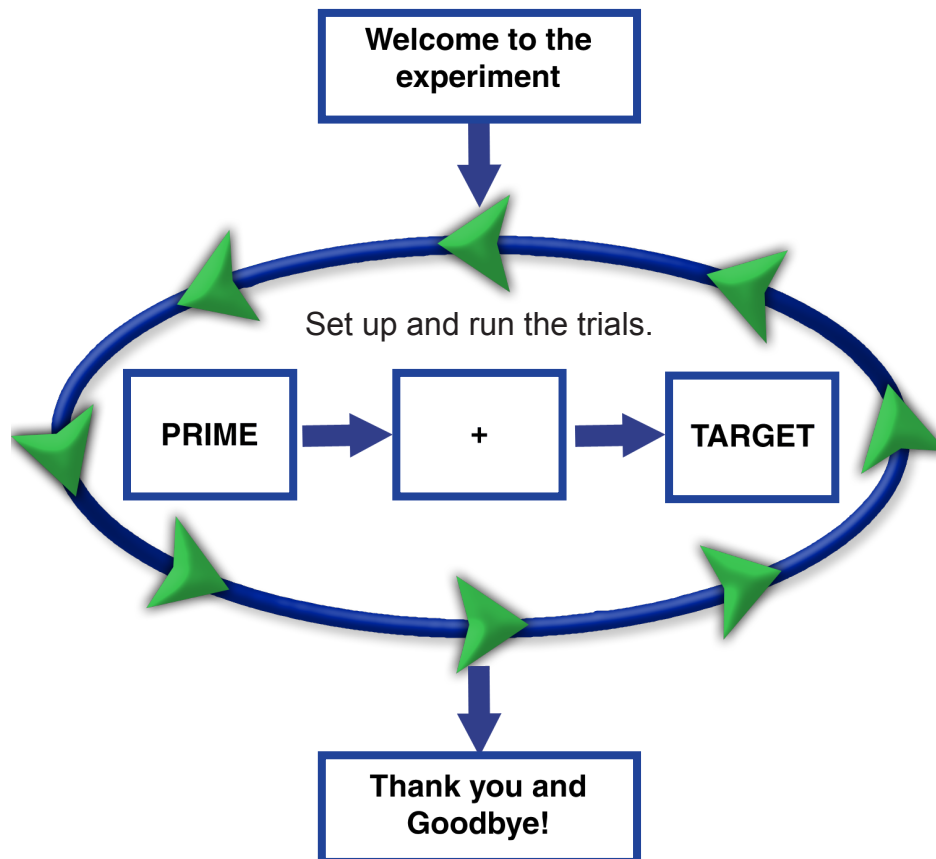
[1] Blair, I. V., & Banaji, M. (1996). Automatic and controlled processes in stereotype priming. Journal of Personality and Social Psychology, 70, 1142-1163

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 by holding the left mouse button and moving the mouse to the area indicated in the instructions.
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.
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 changes 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.

Finding the "My Experiments" Folder

E-Prime 2.0 is compatible with Microsoft Windows XP, Vista, and Windows 7. You will frequently be working within the "My Experiments" folder, because this folder is the default location to store new experiments created with E-Studio. E-Prime creates the "My Experiments" folder in your personal documents folder on your PC. This folder also contains the "Samples" folder, which stores the sample experiments that are documented in **Appendix B** of the *E-Prime User's Guide*, and the "Tutorials" folder, which stores the E-Studio files that are documented in the E-Prime Getting Started Guide.

The table below shows the default paths to your personal documents folder. Note that the path on your particular machine may have been modified by your administrator:

Operating System	Path to your personal documents folder("My Documents" or "Documents")
XP	<drive>\Documents and Settings\<user name>\My Documents\
Vista	<drive>\Users\<user name>\Documents\
Windows 7	<drive>\Users\<user name>\My Documents

When the E-Prime documentation directs you to the "My Experiments" folder, it does not include the full path to the folder. Instead, the documentation refers to "...My Experiments", where the "…" indicates the full path up to your personal documents folder. When you see this notation in the documentation, replace the "…" with the path to your personal documents folder.

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

Open the E-Studio application and begin creating a new experiment.

1) **_Click_** on the **Windows Start** menu, **_select_** **All Programs**, and then **_select_** **E-Prime 2.0**. From the menu, **_click_** on **E-Studio** to **_launch_** the **application**.

   This will launch the E-Studio application.

2) **_Select_** the **Blank (Standard)** option and **_click_** **OK**.

   If you are using E-Prime 2.0 Standard you will not need to do this step.
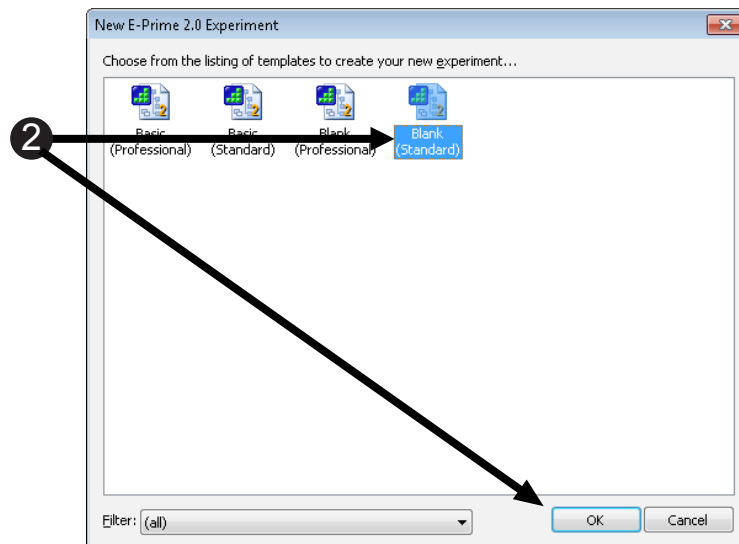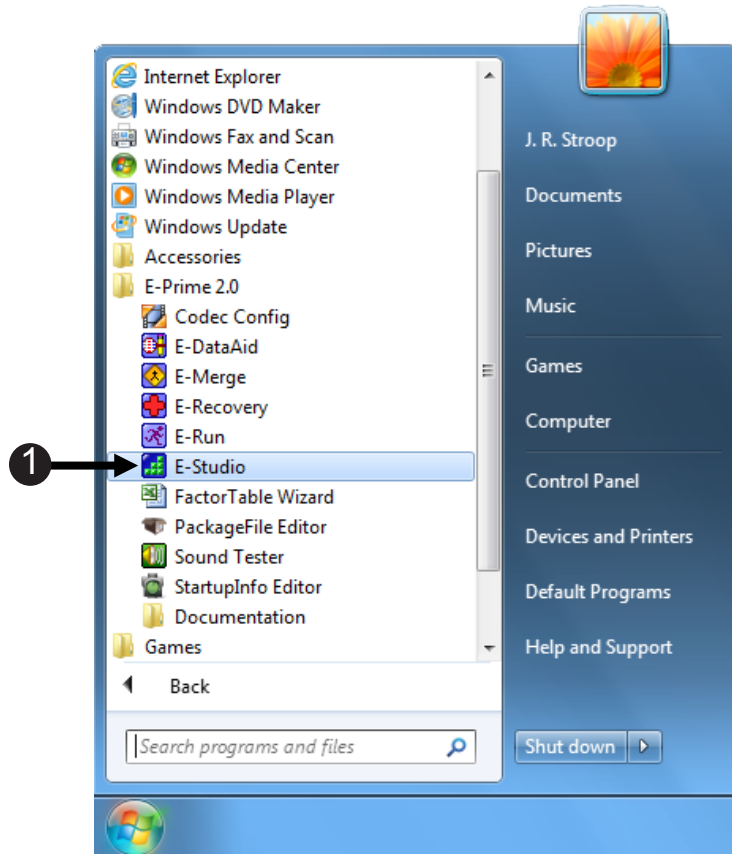
Task 2: Preview the E-Studio interface

This task will introduce you to some of the major components and features of the E-Studio interface. Located to the far left of the interface, the Toolbox contains the E-Objects which you will use to create your experiment. The objects can be added to the experiment by dragging and dropping them onto the Structure window. The Structure window shows the layout of your experiment and works similarly to a Windows Explorer folder. When you highlight an object in the Structure window, information about the object will be displayed in the Properties window. Note that you may resize the 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.
   In E-Prime 2.0 Professional, you can right click in the Toolbox to change the Toolbox defaults.

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 that are 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 window.*
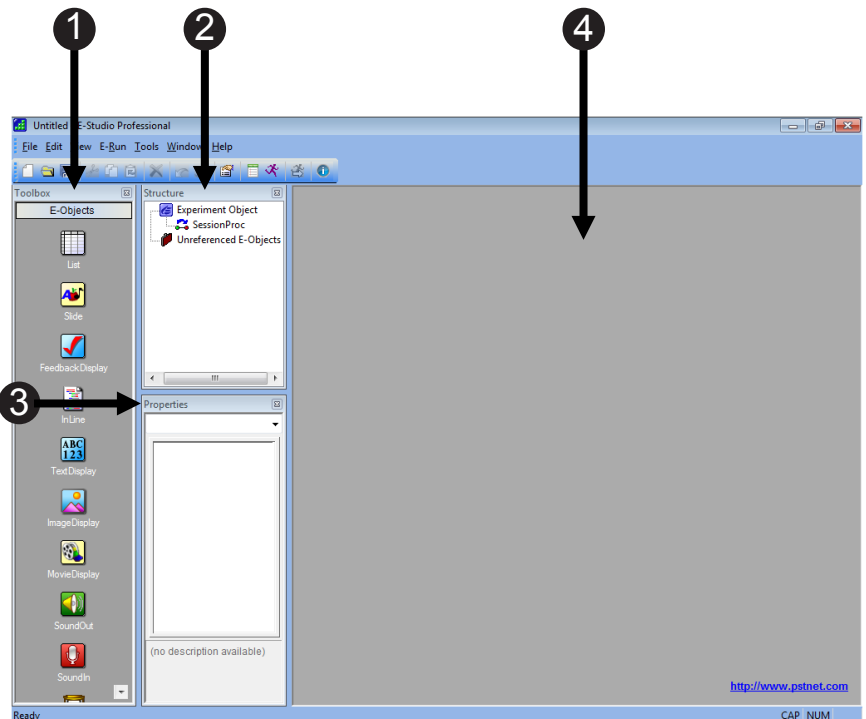
Task 3: Create your first object

There are several different types of E-Objects that can be used to display information during an experiment. The most basic of these objects is the TextDisplay. The TextDisplay is used to present text to the experiment participant. In order to add a TextDisplay to your experiment, locate the TextDisplay in the Toolbox and drag and drop the object onto the SessionProc. 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 (.es2) 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**, and ***drop*** it on the beginning of the **SessionProc** timeline.
   This is also reflected in the Structure window. Notice changes 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 window or on the SessionProc. Every object has a set of associated properties which are displayed in the Properties window when the object is selected.
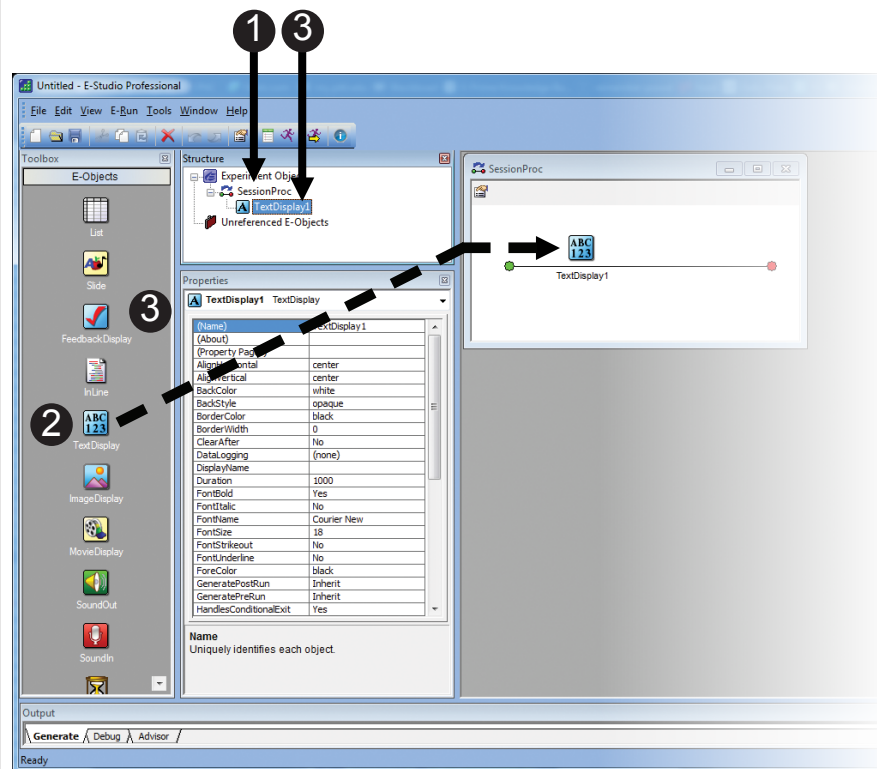
Task 4: Name the TextDisplay object

Now that the TextDisplay has been added to the experiment, it needs to be altered to perform the desired function. This TextDisplay will be used to present the instructions to the participant. First we will rename the TextDisplay to Instructions. This can be done several ways. The steps below will illustrate how to change the TextDisplay name using the Properties window.

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

   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.

Properties	☒
A TextDisplay1 TextDisplay	▼

(Name)	Instructions
(About)	
(Property Page	
AlignHorizontal	center
AlignVertical	center
BackColor	white
BackStyle	opaque
BorderColor	black
BorderWidth	0
ClearAfter	No
DataLogging	(none)
Duration	1000
FontBold	Yes
FontItalic	No
FontName	Courier New
FontSize	18
FontStrikeout	No
FontUnderline	No
ForeColor	black
GeneratePostR	Inherit

Name
Uniquely identifies each object.

Task 5: Save the experiment and view the Property Pages

Next, we will save our work using the File menu > Save option from within E-Studio. Once the Save option has been selected, E-Prime 2.0 will prompt you for a filename. You are able to choose any name you wish. However, we recommend calling the experiment 'Tutorial.' This will aid you in finding where you left off later, if you are not able to complete the entire tutorial in one sitting.

⚠ **NOTE:** *It is also possible to save by using the Ctrl+S key combination at any point during experiment creation.*

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 .es2 extension. When working in E-Prime 2.0 Professional, the default Save As type is E-Studio 2.0 Professional Files (.es2), unless the experiment originated in the E-Prime 2.0 Standard format.*
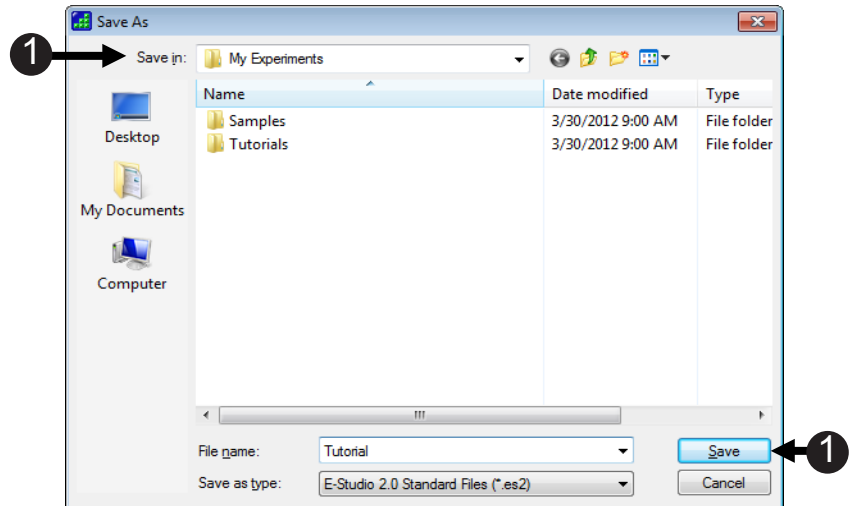
2) *Double click* the object named **Instructions** either in the **Structure** window or the **SessionProc** timeline.
   This will open a window representation of the TextDisplay object named Instructions.
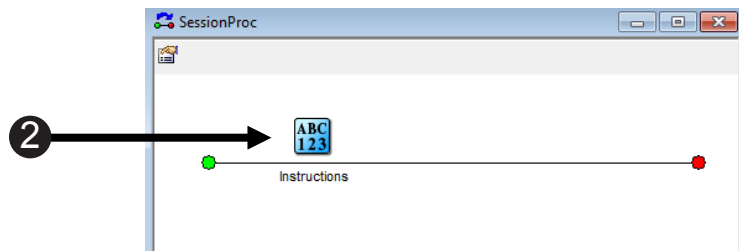
3) *Click* on the **Property Pages** button in the upper left corner of the **Instructions** window.
   This will open a set of tabbed pages called Property Pages, which will allow you to specify the object's properties.
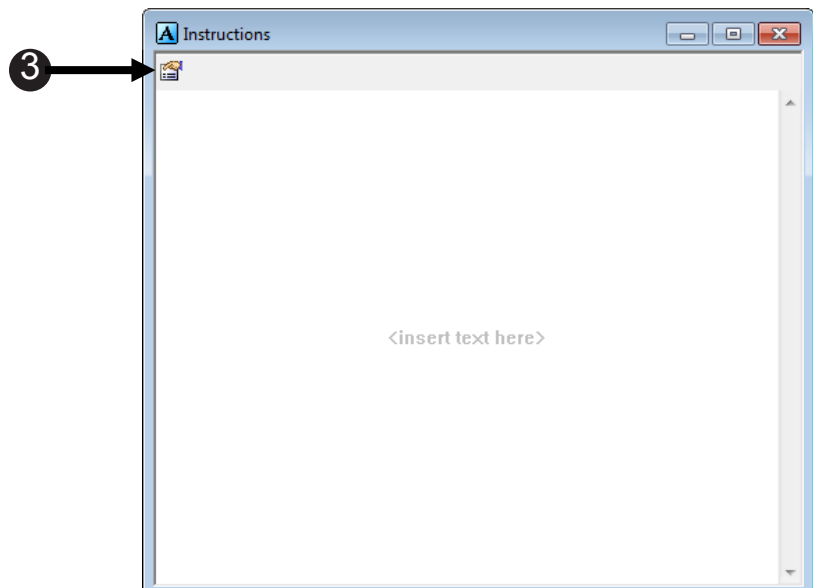
Task 6: Specify the object properties

Now we will edit the Text property of the Instructions to explain the experimental task to the participant. This property is located on the General tab of the Property Pages. The visual appearance of the Instructions can also be altered using the other properties located on the General tab, but for our purposes we will use the default settings. Once we have entered the Instruction text into the Text property, we will set the Duration of the Instructions to be infinite. This will force the Instructions screen to stay on screen until an event occurs to terminate it.

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 participant.
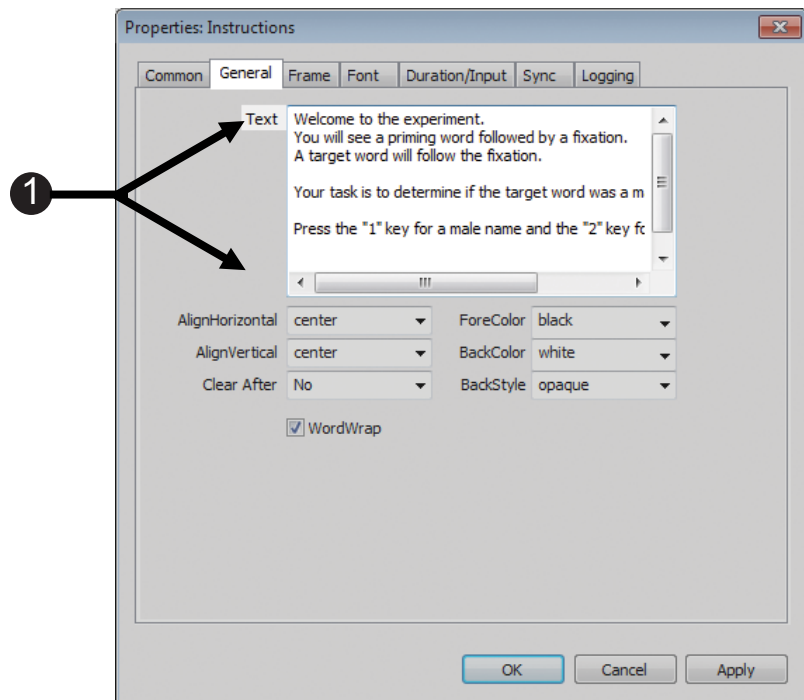
2) *Click* on the **Duration/Input** tab. *Specify* the Duration of the display to be **(infinite)**.
   The (infinite) setting results in the object running until some condition is met (e.g., a keypress).
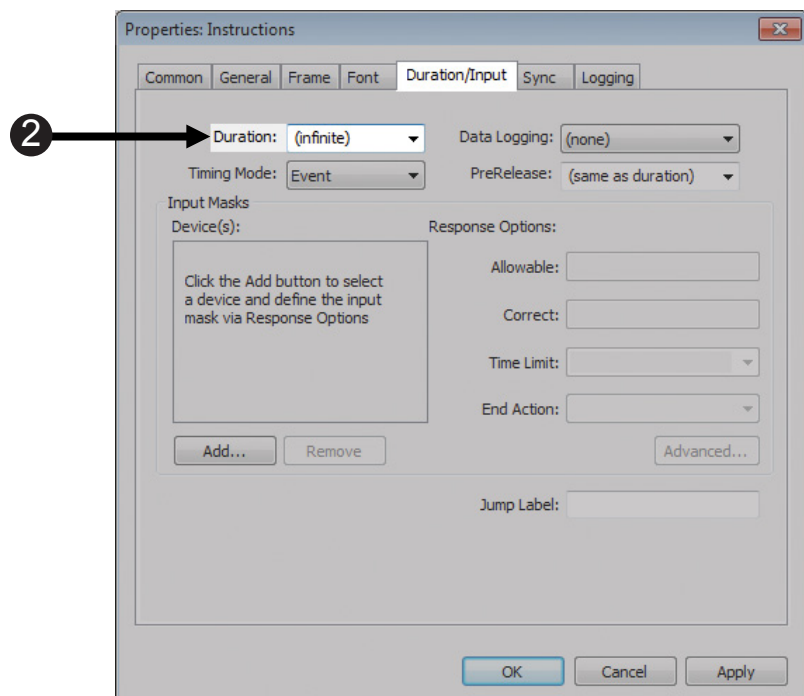
Task 7: Enable the keyboard as an input device

Only the keyboard and mouse are enabled as possible input devices by default. If you have an external device with which you want to collect a response (e.g., joystick) 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 at the top of the Structure window 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.

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

   The Add Input Device dialog will be displayed.

2) *Click* the **Keyboard** device to *select* it, and *click* **OK**.

   The keyboard will now be enabled as an input device, and the Response Options fields will become available.
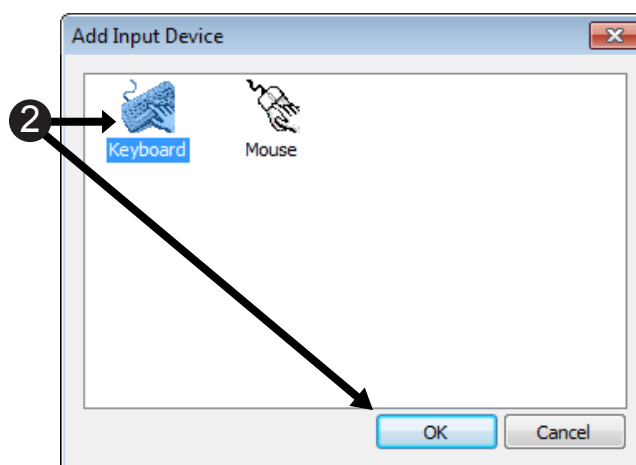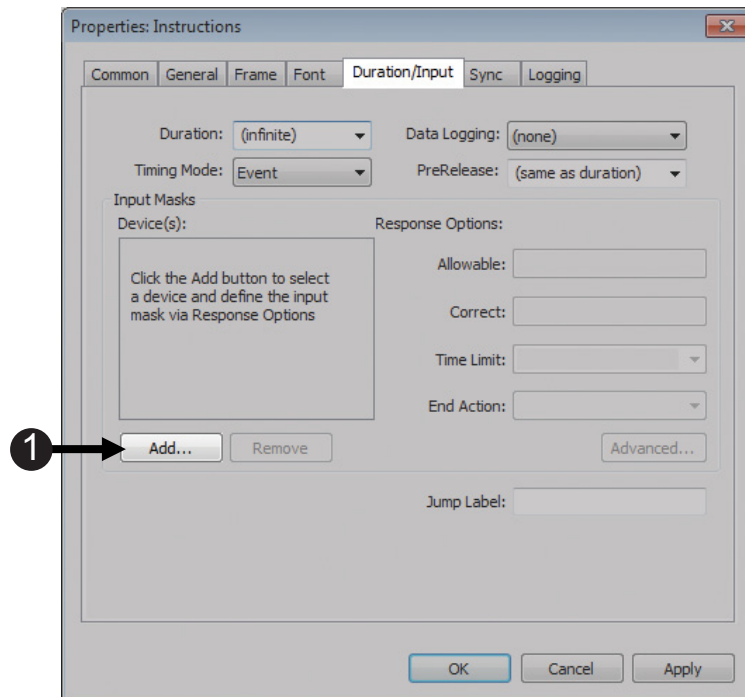
Task 8: Set the response options for the keyboard device

We have set up the Instructions object to accept input from a keyboard. Now we will choose the particular input that the Instructions object will act on and what that action will be. In this instance, we will use the space bar to end the Instructions display.

1) **Select** the **Duration/Input** tab and **edit** **Allowable** to read {SPACE}. *Only those keys specified in the Allowable field will be considered valid responses. All other keys will be ignored.*
   ⚠️**NOTE:** *The Braces, {}, and all capital letters tell E-Prime that the word "SPACE" refers to a special character. See E-Basic Help, {key} naming scheme for more information.*

2) **Verify** the **EndAction** field *reads* **Terminate**.

3) On the **Frame** tab *edit* the **Width** and **Height** to **100**%. ***Click* OK** to *exit* the **Property Pages**.

4) ***Close*** the **Instructions** object in the **Workspace**.
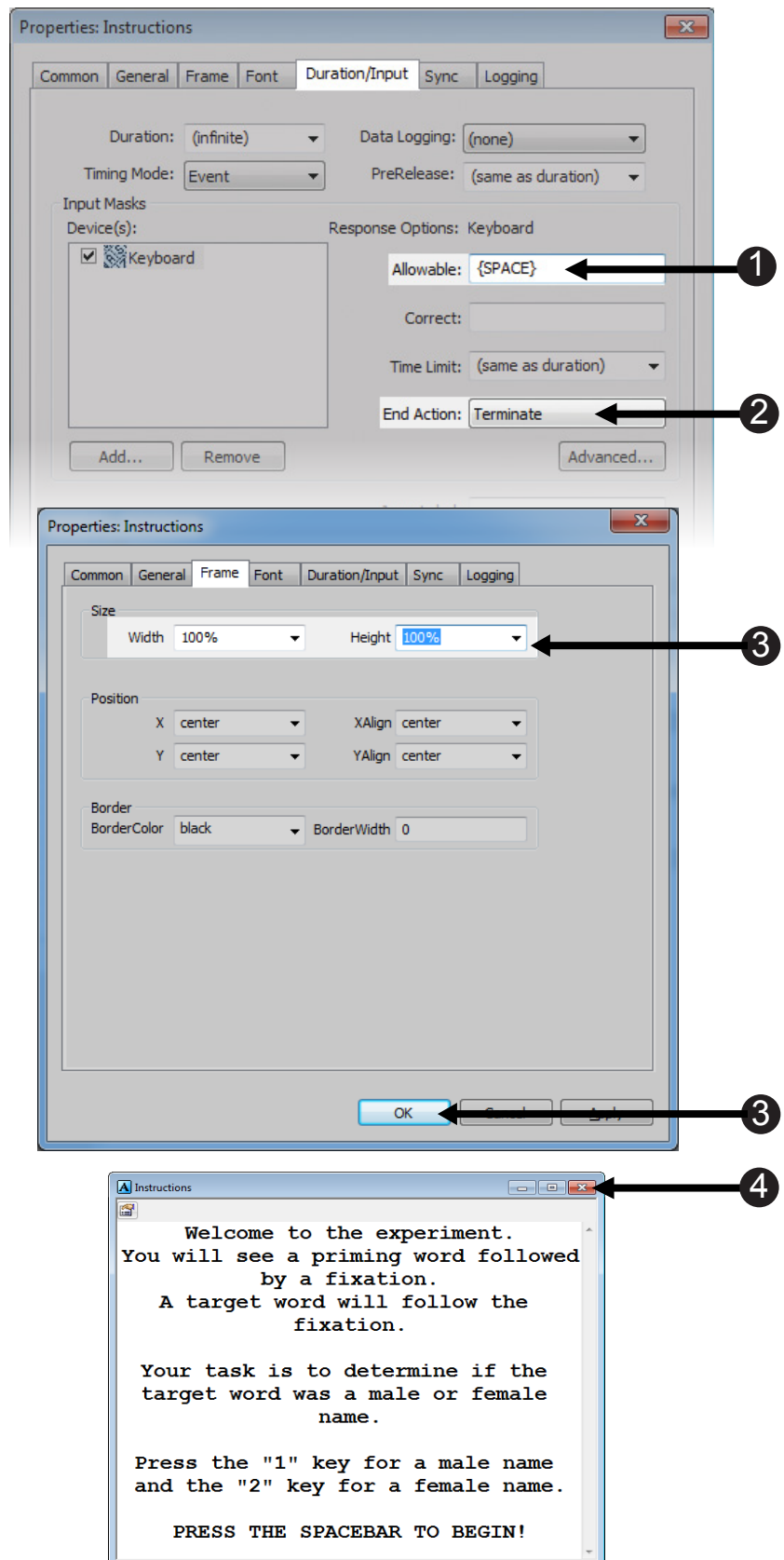
Task 9: Create and Edit the Goodbye object

Next we will add another TextDisplay. This TextDisplay will notify the participant that the experiment has concluded. Start by dragging and dropping another TextDisplay from the Toolbox onto the SessionProc. You can rename the object via the same method as last time, or highlight the TextDisplay, press F2 to edit, type the new name, and press Enter to accept the new name.

1) *Drag* a new **TextDisplay** from the **Toolbox** and *drop* it *after* the **Instructions** object in the **SessionProc** procedure. The object will be given a default name of **TextDisplay1**.
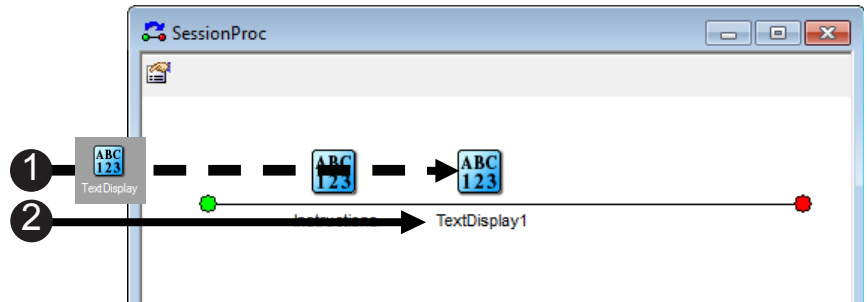
2) *Click* on the **TextDisplay1** to select it then *press* **F2** to rename the object.
   You may alternatively right click on the object and select Rename from the context menu.

3) *Type* **"Goodbye"** as the new object name, and *press* **Enter** to accept the change.
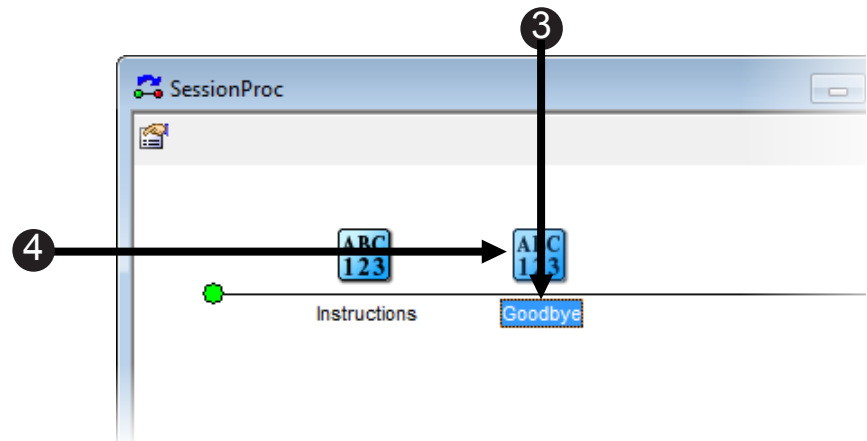
4) *Double click* the **Goodbye** object to *open* the object in the **Workspace**.

5) *Type* "**Thank you and Goodbye.**" directly into the **Goodbye** object.
   This will be the text displayed to the participant.
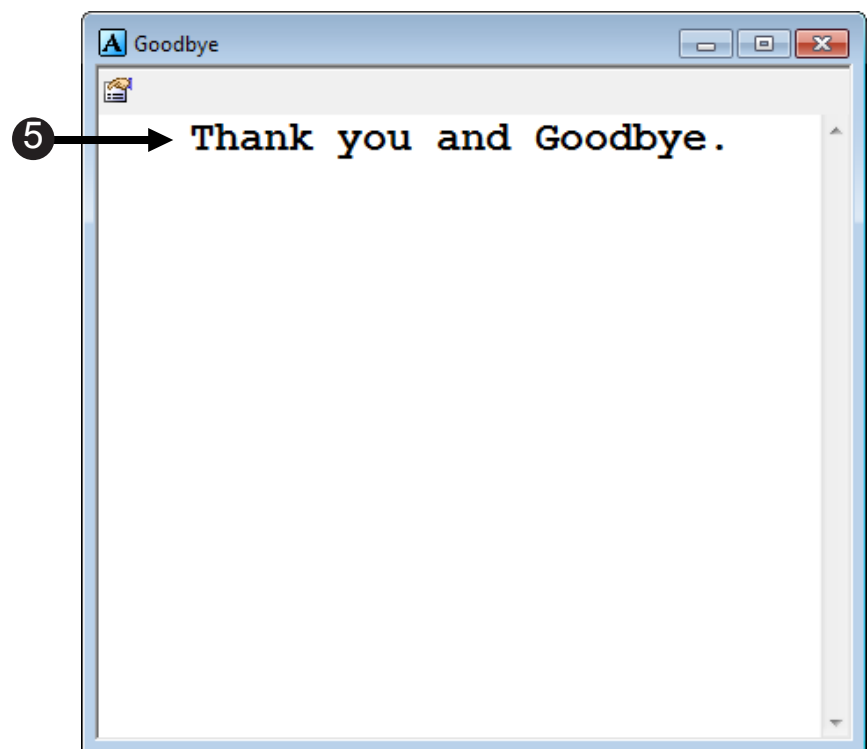
Task 9 (continued): Create and Edit the Goodbye object

The Goodbye object is open and ready to be configured. We will edit the Goodbye object's properties so that it will display the dismissal text to the participant for five seconds before the experiment concludes. No responses will be registered by the Goodbye object. Instead, the display will terminate when the specified duration has expired.

6) *Open* the **Goodbye** object's **Property Pages.**

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

   All durations in E-Studio need to be specified in milliseconds. Do not include the units (ms) when specifying durations as it will cause an error.

8) *Click* **OK** to *dismiss* the **Goodbye** object **Property Pages**.

9) *Close* the **Goodbye** object in the **Workspace**.

   Click the ⊠ in the upper right corner of each window, or choose Close All from the Window menu.
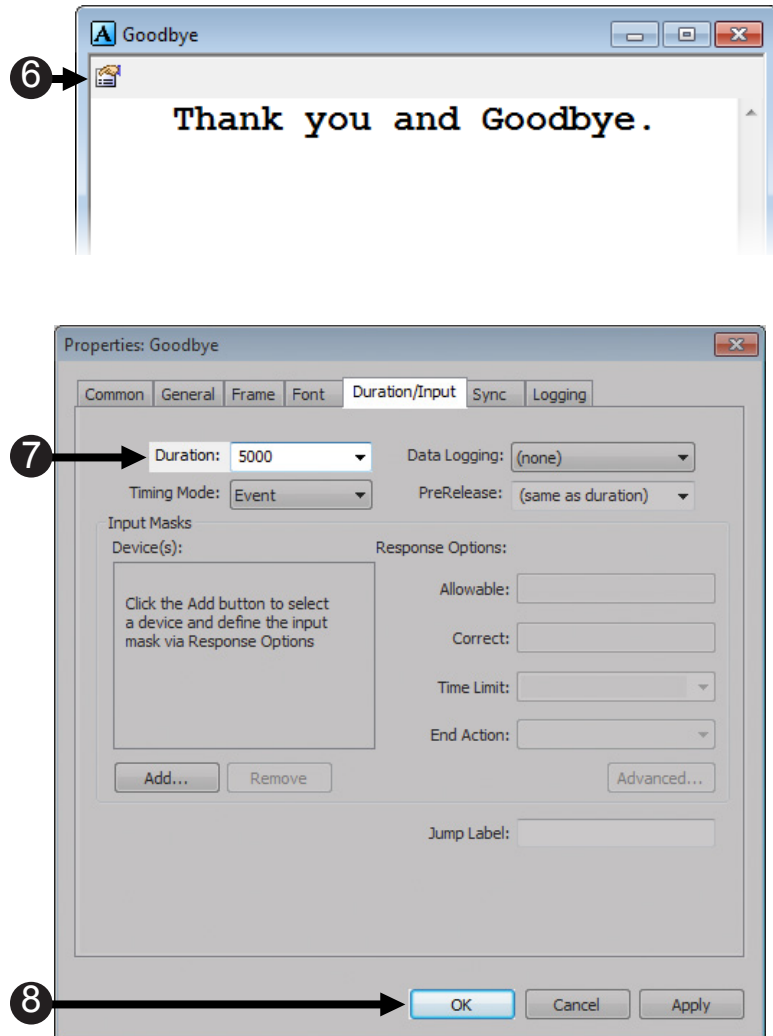
Task 10: Create the BlockList object

Try to think of your experiment in layers. The top layer is the SessionProc object. It works like a receptionist to control all of the greetings and administrative events in the experiment, such as the instructions and the goodbye screen at the end of the experiment. The next layer we add will act like a manager, because it will oversee all of the experimental tasks that are presented to the participant. In order to create this layer, we will begin by adding a List object to the SessionProc. The List object can be used to present different stimuli at the same point in the experiment. We will create the list to run a block of trials.

1) *Locate* the **List** object in the **Toolbox**. *Drag* it to the **SessionProc** and *drop* it between the **Instructions** and **Goodbye** objects. Use **F2** to *rename* it to **BlockList**.

    After you rename the List, you will be able to view its properties in the Properties window.

2) *Double click* the **BlockList** object. *This opens the BlockList object's window in the Workspace. Remember to resize the windows in the Workspace to maximize your view.*

3) Now is a good time to *save* your experiment. To do this, *press* **Ctrl+S**, *select* **Save** in the **File** menu, or *click* the **Save** icon on the **Application Toolbar**.
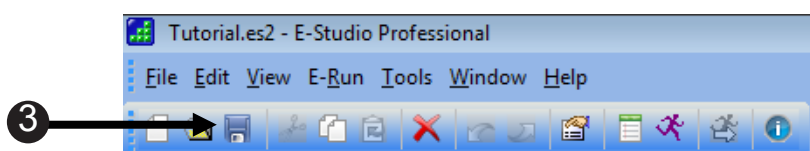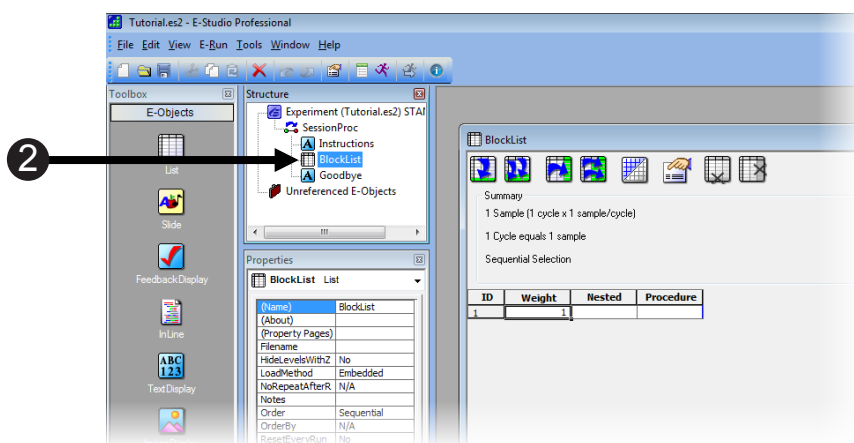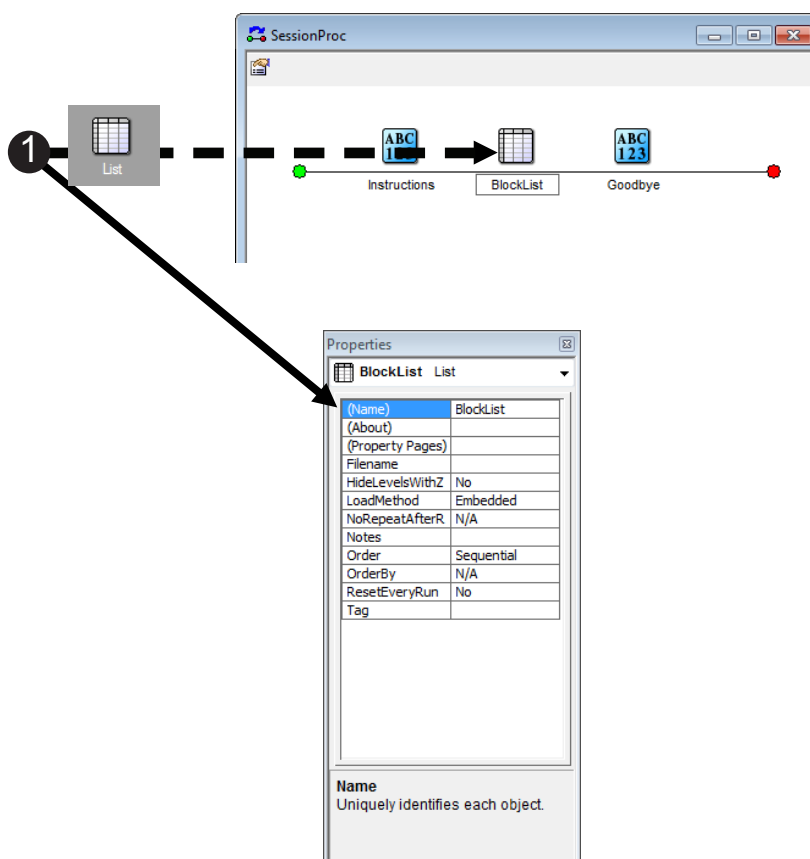
Task 11: Define the BlockList object

Now that we have created the BlockList object, we must set it up to manage the experiment. When you start running participants for your study you may want to set up an experiment that allows your participants to practice the task before they perform the actual experimental task. We will want to distinguish the practice task from the actual experimental task. To accomplish this we will need to create an Attribute within the BlockList called PracticeMode.

⚠ **NOTE:** *Any Attributes that you define on List objects will automatically be logged to your data file when the experiment is run.*

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 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(.). The first character must be a letter.*

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.
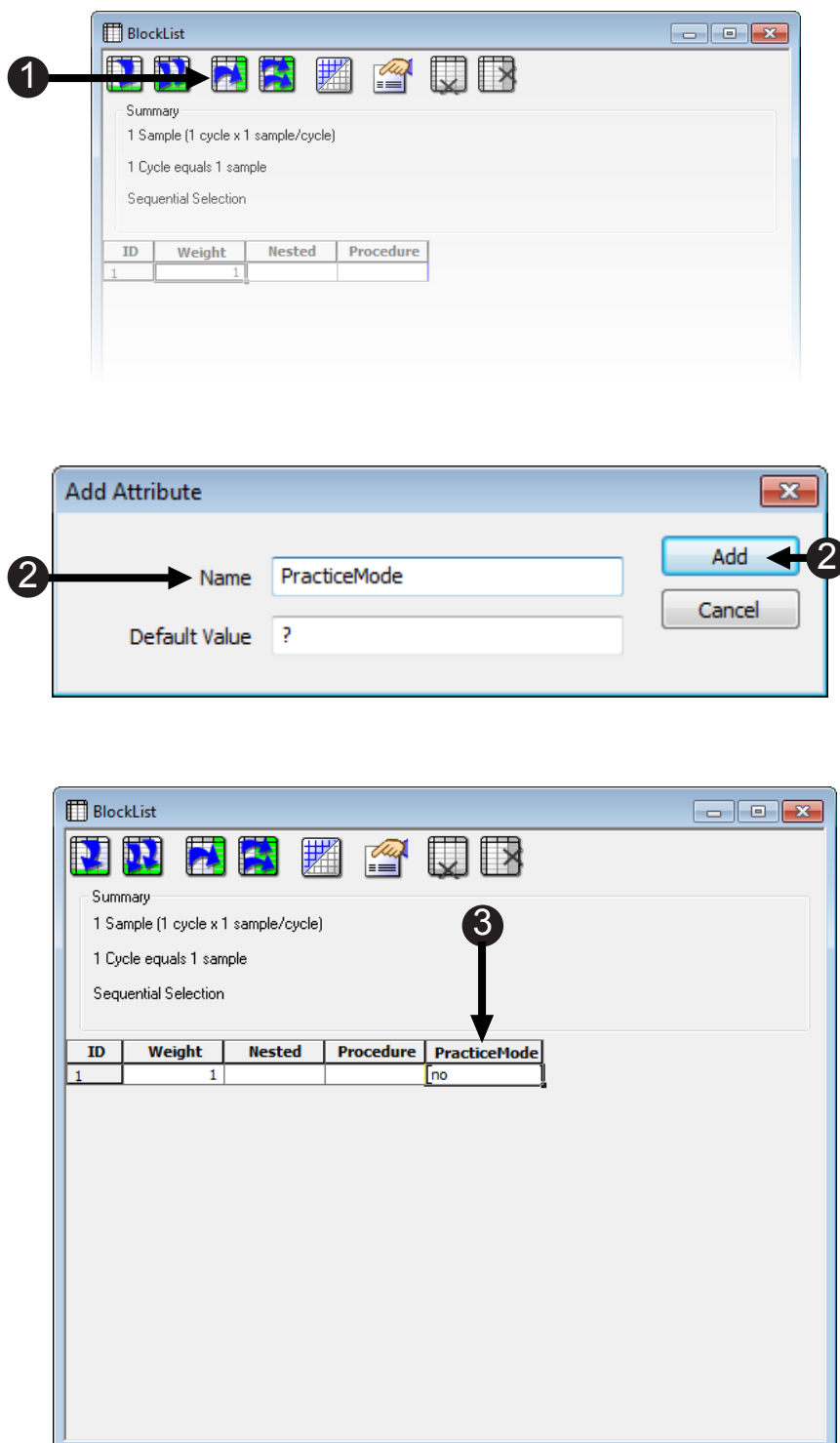
Task 12: Create and define the Block Procedure

The next thing we will do is complete the "management" layer that we started with the BlockList. This will require making a new Procedure called the BlockProc.

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

2) A **dialog** will indicate 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) *Click* **No** when you are prompted to make the **BlockProc Procedure** the **default value** for newly created levels.
   It is likely that the Procedure will change at the block level.

4) *Close* the **SessionProc** and **BlockList** windows in the **Workspace**.
   Click the 🔳 *in the upper right corner of each window, or choose Close All from the Window menu.*

5) *Press* **Ctrl+S** or *click* **Save** in the **File menu** to save your experiment.

6) *Click* the **Generate** button to *compile* the **experiment script** as specified thus far.
   It is a good practice to generate your script after completing individual parts of an experiment in order to catch potential errors. If errors are found, the Output window will open at the bottom of the screen to display the errors.
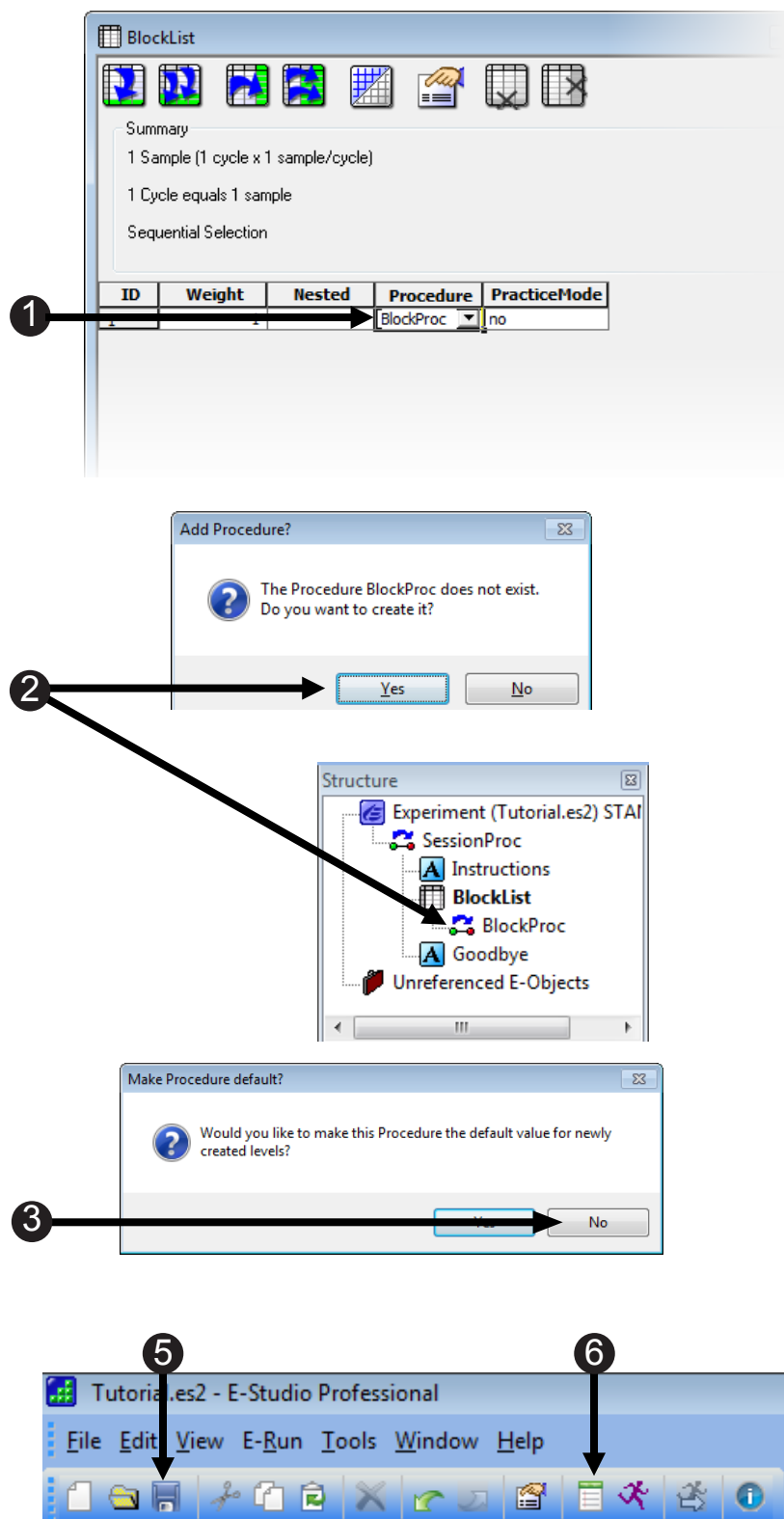
Task 13: Create and define the TrialList object

For a functional experiment, stimuli must be presented to the participant. In order to do this we need to add another layer to the experiment. This layer does all of the work in regard to stimulus presentation. Here the List object Attributes often equate to the factors, conditions, or independent variables that are important to your design. Remember, all Attributes created are automatically logged to your data file when the experiment is run. To create the "worker layer", we will begin by adding a List object to the BlockProc.

1) *Double click* the **BlockProc** object in the **Structure** window to open it in the **Workspace**.

2) *Drag* a new **List** object to the **BlockProc** timeline and use **F2** to *rename* it **TrialList**.
   TrialList will be used to organize your trial-level Attributes/variables and their values.

3) *Double click* the **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 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 initially have the value of 'female' when a new level (row) of the list is created.
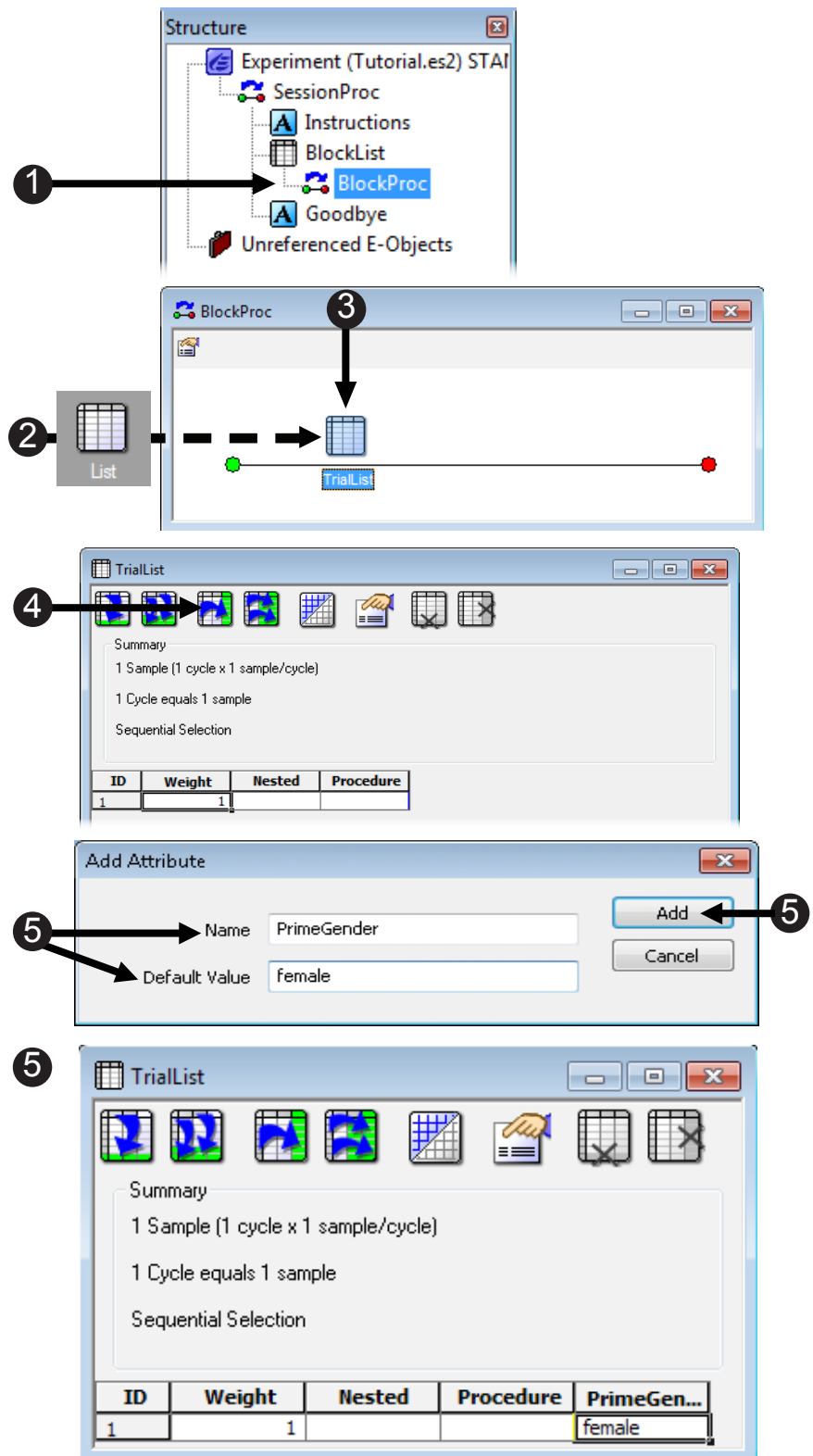
Task 14: Specify Attributes in the TrialList

Next we will add the Attributes necessary to present your stimuli.

1) *Click* the **Add Multiple Attributes** tool button. In the **Add Multiple Attributes** dialog, *type* **5** and *click* **OK**.

   Five new Attributes, Attribute1 - Attribute5, will be added to the TrialList.

2) *Double click* on the **column headings** for **Attribute1 - Attribute5** to *change* the **attribute** names and *specify* **default values** using the table below.

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.

   ⚠ **NOTE:** *The defaults will not show up in the list until you add more levels to the TrialList object.*
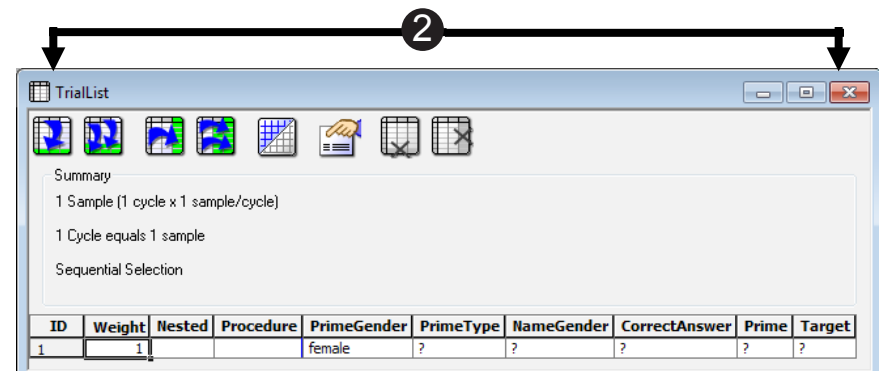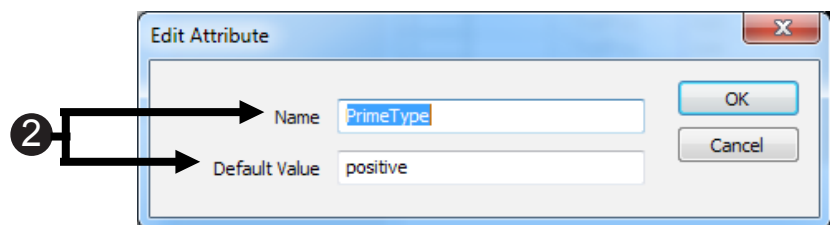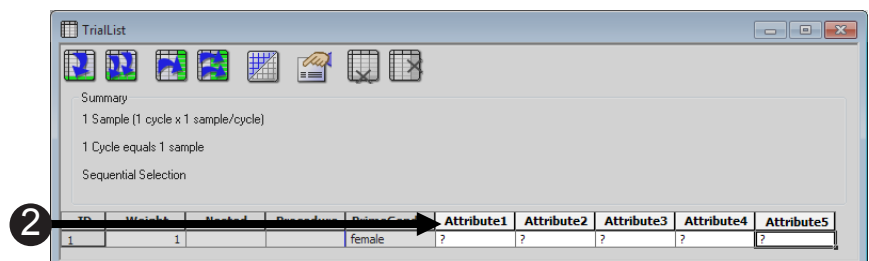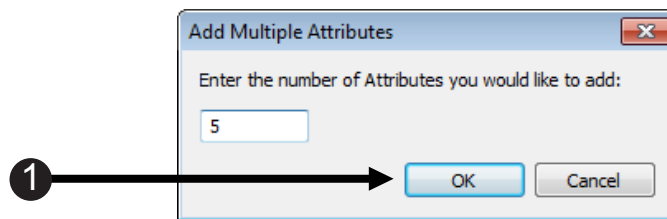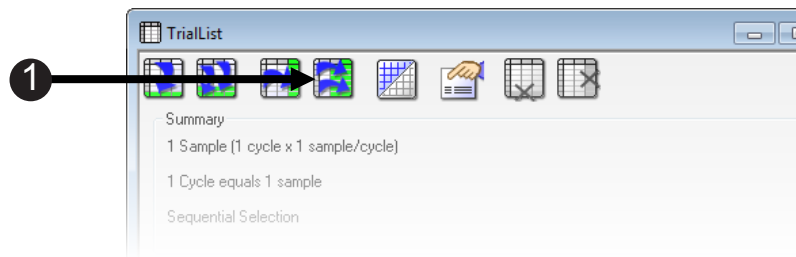
Task 15: Specify levels in the TrialList and create the Trial Procedure

Now we will complete the "worker" layer of the experiment. First we will add the Trial Procedure, and then we add levels to the experiment.

1) **Select** the **first Procedure cell** on the **TrialList**, *type* **TrialProc,** and *press* **Enter**.

2) **Click Yes** to *create* the **TrialProc**.

3) **Click Yes** to *make* the **TrialProc** the **default** value for newly created levels.

4) **Click** the **Add Multiple Levels** tool button and *enter* **7** to *add* **seven** levels. **Click OK** to *add* levels.

5) **Compare** your **TrialList** to the **TrialList** shown.

Task 15 (continued): Specify levels in the TrialList and create the Trial Procedure

Now we will specify what stimuli we want presented at each level of the Trial Procedure.
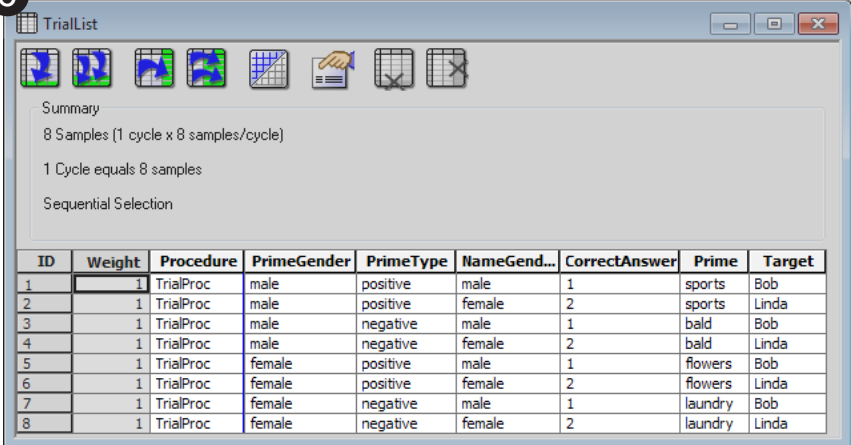
6) Using the **table** below, *complete* the **TrialList** object grid to match the **one** shown to the **right**.

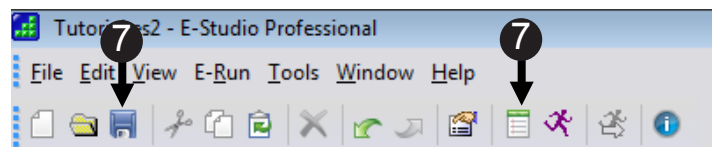| Name	Value
Procedure	TrialProc
PrimeGender	4 male, then 4 female
PrimeType	alternate 2 positive, then 2 negative
NameGender	alternate male, then female
CorrectAnswer	alternate 1, then 2
Prime	2 sports, 2 bald, 2 flowers, 2 laundry
Target	alternate Bob, then Linda

The List object fills in information using auto complete, e.g., after you enter "male" as a new value for PrimeGender, when you type "m" in the next cell the List will fill in "male."

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

6

TrialList

Summary
8 Samples (1 cycle x 8 samples/cycle)

1 Cycle equals 8 samples

Sequential Selection

ID	Weight	Procedure	PrimeGender	PrimeType	NameGend...	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

7 **7**

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Task 16: Specify the TrialList object properties

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 **Property Pages** 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 dropdown 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 after all 8 levels have been shown as stimuli.

4) **Verify** the option to exit after "**After 1 cycles (8) samples**" is selected. **Click OK.**
   The List will run for one cycle of 8 samples and then exit.

5) **Review** the **TrialList Summary** and **close** the **window**.
   Notice that the summary is reflected on the List object, and may be shown or hidden using the Summary toggle button.

6) **Press Ctrl+S** to **save** your **experiment**.
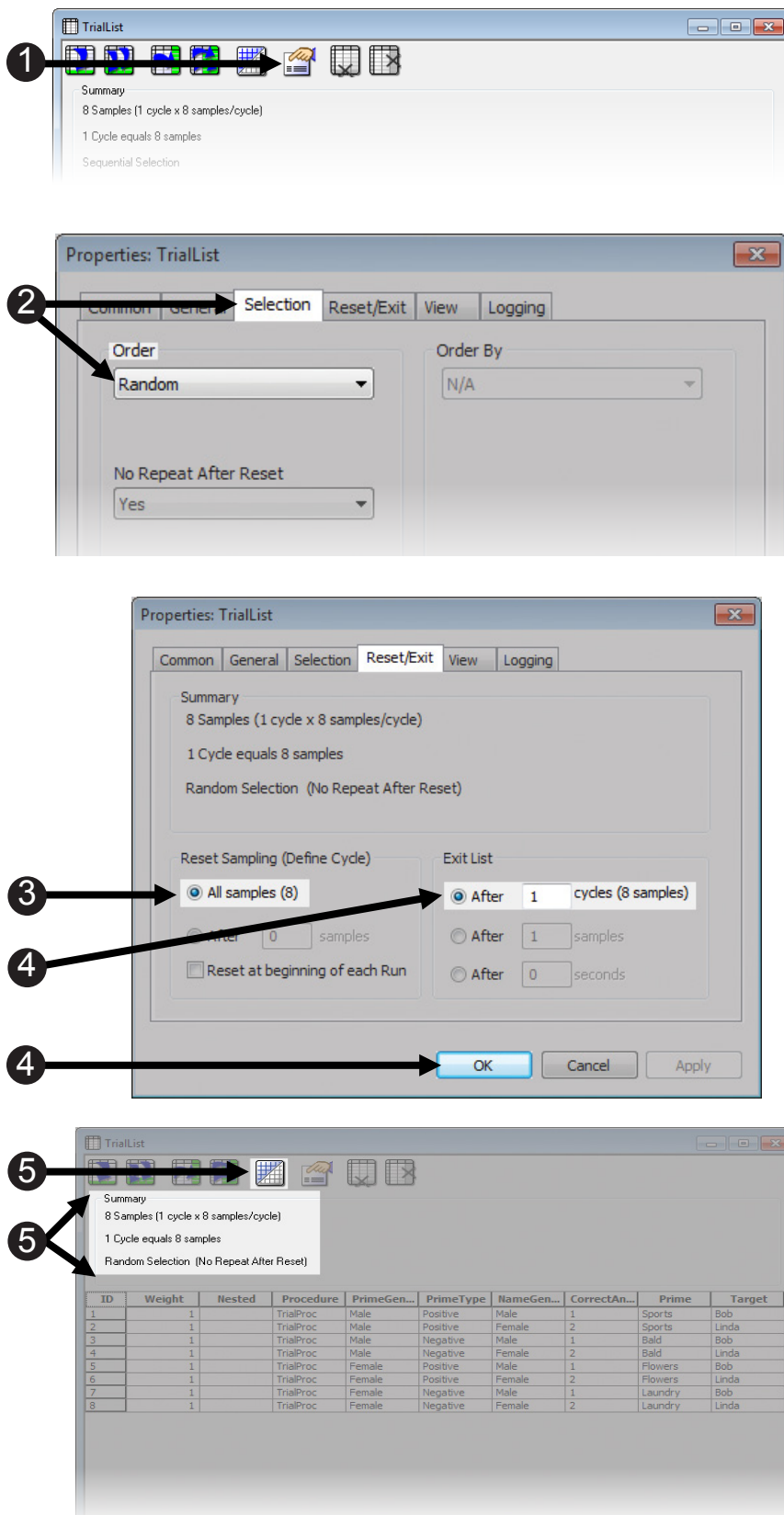
Task 17: Define the TrialProc

Now that we have completed the "worker" layer of the experiment, we need to define what work is to be performed, i.e., what constitutes a single trial. We will set up a procedure named TrialProc to do this. In this experiment, a single trial consists of four events: the Prime, a Fixation display, the Target (when the critical stimulus is presented and the response is collected from the participant), and Feedback based on the participant'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 **FeedbackDisplay** object from the **Toolbox** to the **TrialProc**. *Rename* this object "**Feedback**."

   Feedback is the last event of the trial procedure.
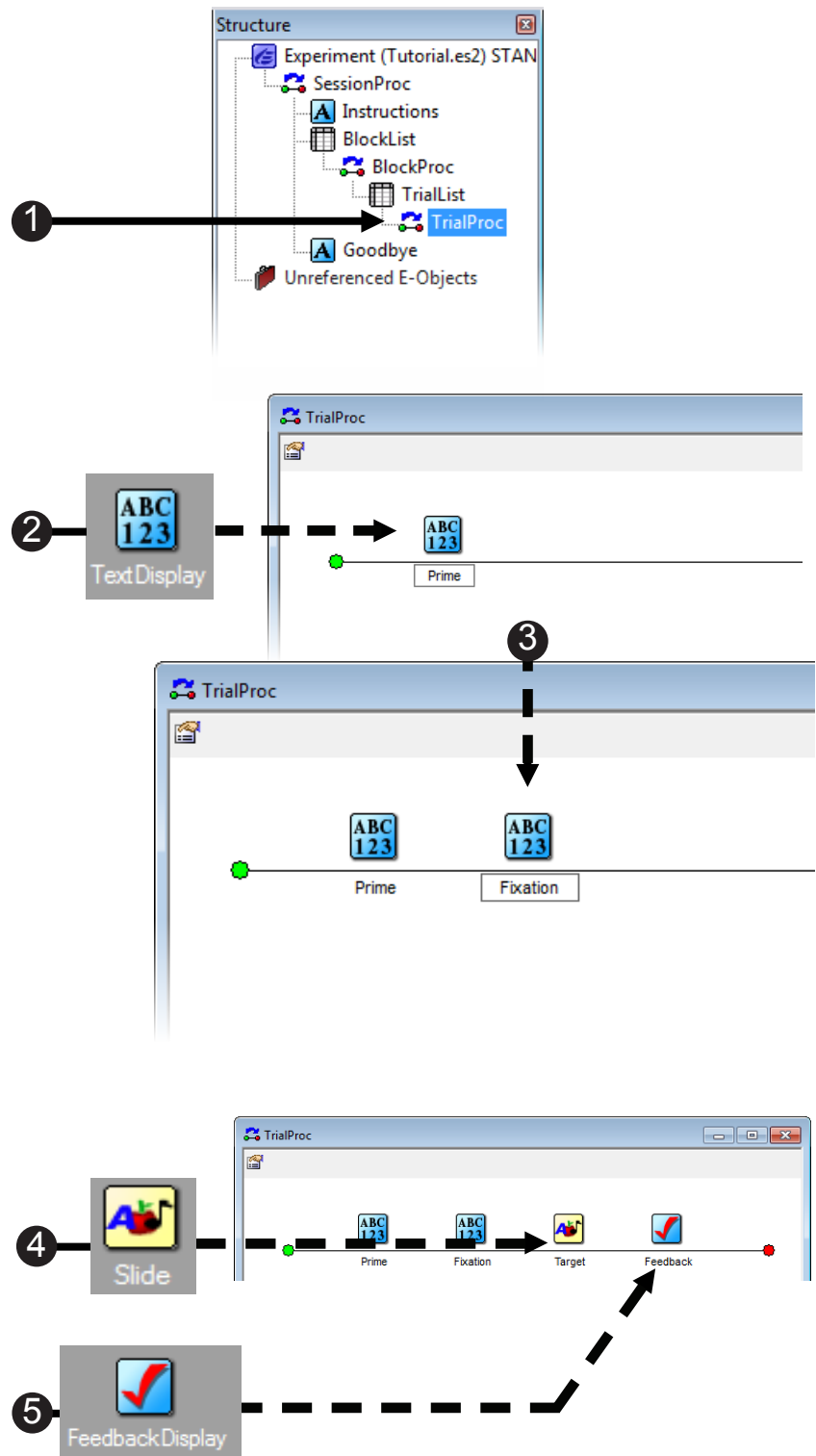
Task 18: Specify the properties for Prime object

Next we will define the properties of the Prime object. We will use the Prime Attribute from the TrialList object to dictate what is displayed by the Prime object. This is achieved by enclosing the desired Attribute in square brackets, e.g., [Prime]. We will not need to add an input device because the Prime object will not collect responses.

1) *Double click* the **Prime** object to *open* it in the **Workspace**.

2) *Click* the **Properties** button to *open* the **Prime** object's **Property Pages**.

3) *Select* the **General** tab. In the **Text field** *type*: **[Prime]** to *indicate* that the text to be displayed will *vary* according to the **Prime Attribute**, which was created earlier in the **TrialList**.

4) On the **General** tab, notice that the **Prime** text will be **centered** by **default**. (AlignHorizontal and AlignVertical are set to center).

5) *Select* the **Frame** tab, *specify* the **Width** and **Height** to be **100**%.

6) *Select* the **Duration/Input** tab, *specify* the **Duration** to be **1000**ms.

7) *Click* **OK** to *close* the **Property Pages** window.
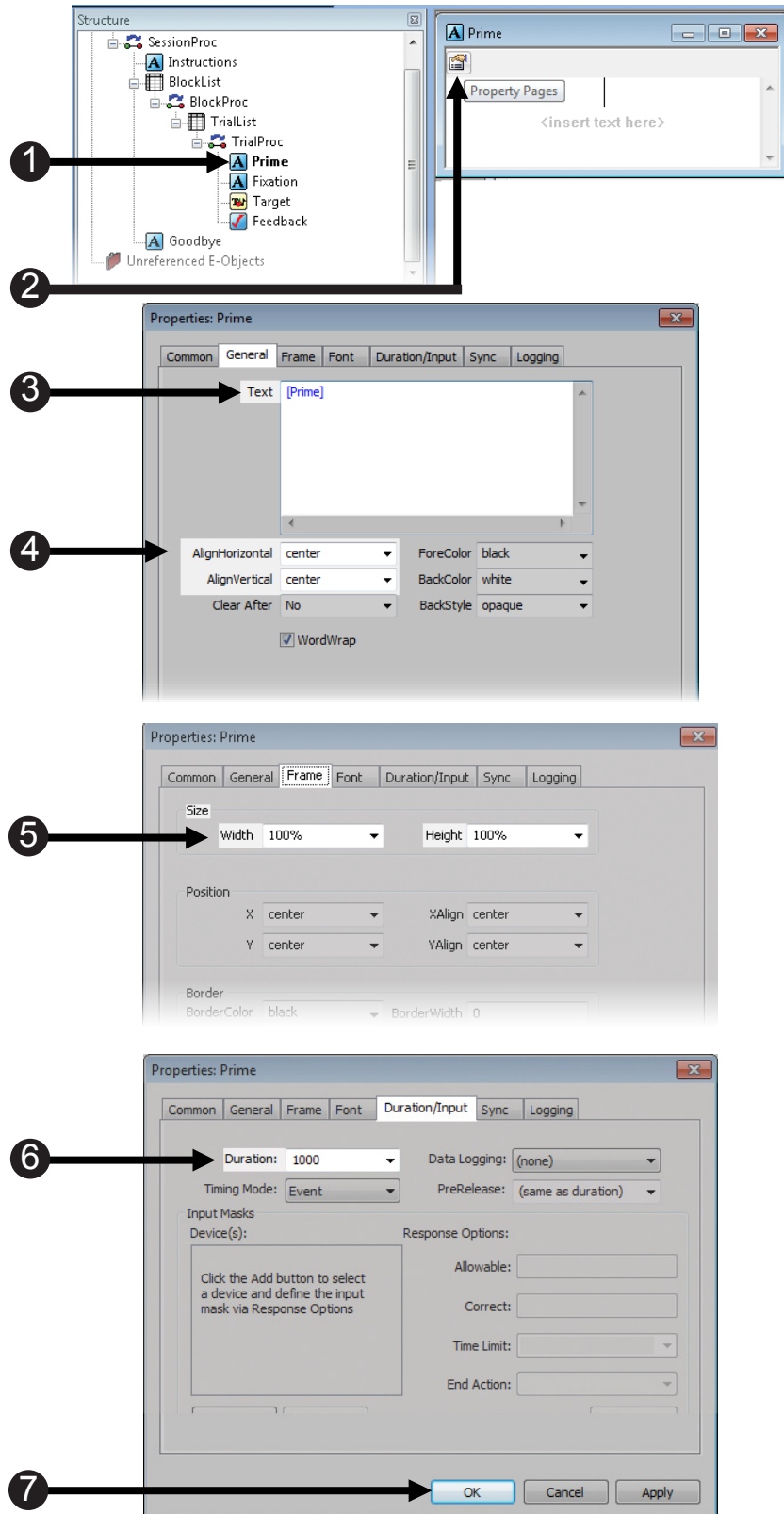
Task 19: Specify the properties for the Fixation object

We will now define the properties of the Fixation object using the Property Pages. The Fixation object will display a '+', and like the Prime object it will not collect responses.

1) ***Double click*** the **Fixation** object to ***open*** it in the **Workspace**.

2) ***Click*** the **Properties** button to ***open*** the **Fixation** object's **Property Pages**.

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**ms.

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

6) ***Close*** the **Fixation** window, and **Press Ctrl+S** to ***save*** the **experiment**.
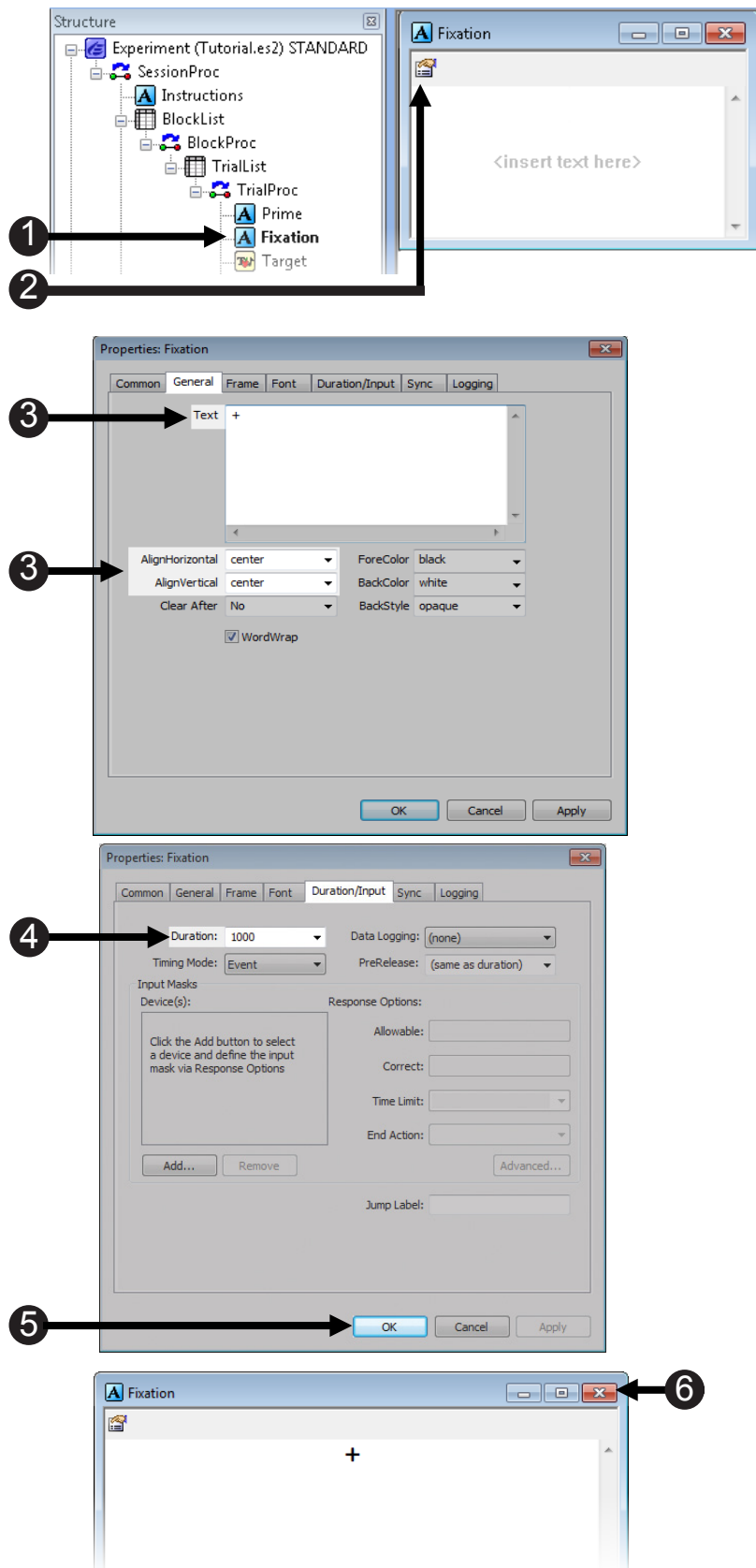
Task 20: Add text to the Target object

Slide objects are 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 using the Target Attribute from the TrialList object.

1) **Double click** the **Target** object to open it in the **Workspace**.

2) **Click** the **SlideText** button on the **Slide** toolbar, then **click** anywhere within the **active** Slide window.
   A text sub-object will appear in the Slide window.

3) **Use** the **dropdown 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**.

5) On the **Frame** tab for the **text sub-object**, set the **X-** and **Y- Position** properties to **center**.
   This will center the text in the display.

6) **Click OK** to **accept** the settings.
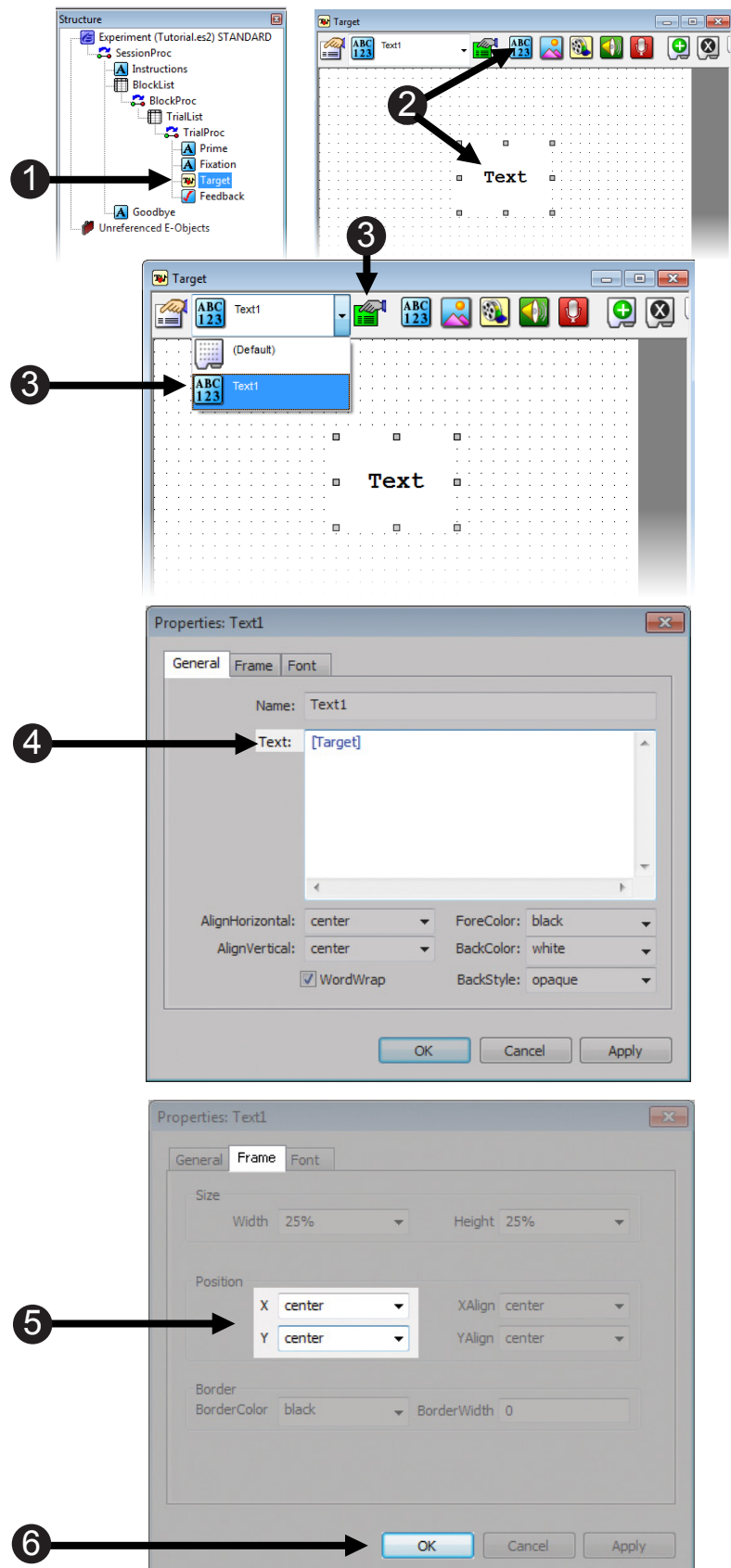
Task 21: Set Target Duration and Enable Input

Now we will set a duration for the Target object, enable a participant response, and set the Correct field to use the CorrectAnswer Attribute to score responses.

1) **Click** on the **Target** object in the **Structure** window. Next, 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**ms.

3) **Set** the **Data Logging** to **Standard**.

4) **Click** Add and *double click* the **Keyboard** to *add* it as an **Input Device.**

5) **Specify** the **Allowable** fields to be "**1**" and "**2**."

   This notation means that either 1 or 2 will be accepted, not the literal number 12.

6) **Set** the **Correct** field to **[CorrectAnswer]**. *Verify* the **Time Limit** is set to **(until feedback)**, and the **EndAction** is set to **Terminate**. **Click** OK.

   If you wish to change the criteria for CorrectAnswer you must do so in the TrialList, and adjust Allowable in the object Properties.

35
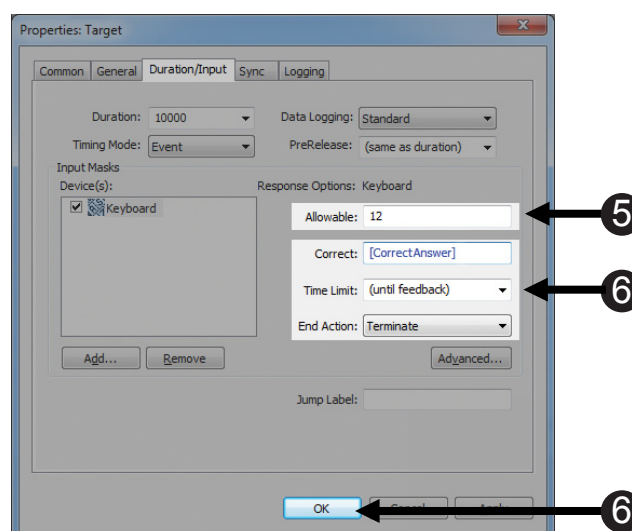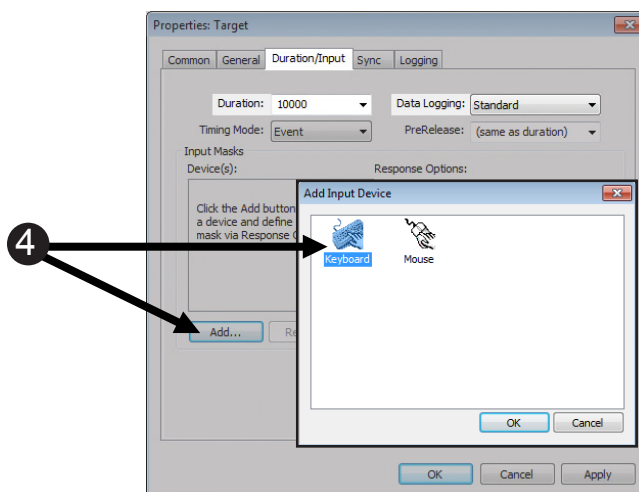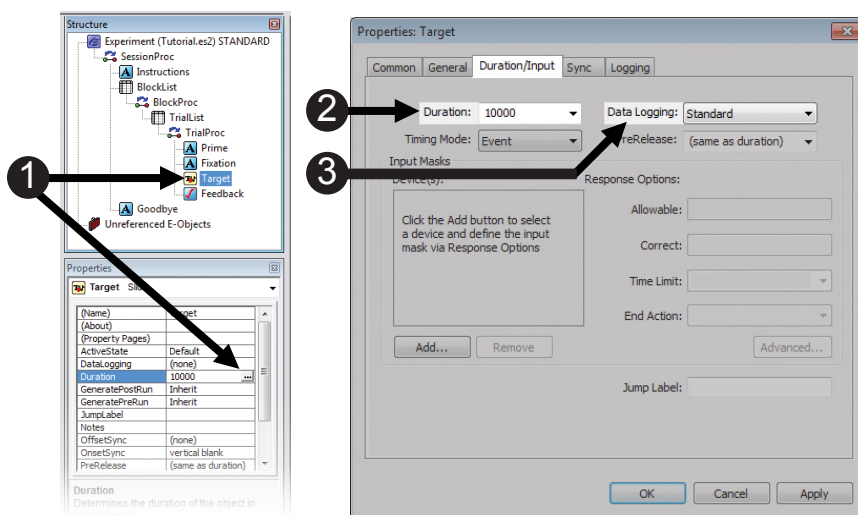
Task 22: Link the Feedback object to the input object

Next, we will link the Feedback object with the input collected by the Target object. This should not be confused with the Attribute named Target, which will be specified as: [Target]. *The Feedback object will present the appropriate feedback on each trial based on how and when the participant responded to the stimulus displayed by the Target object.*

1) ***Double click*** the **Feedback** object to ***open*** it in the **Workspace**.

2) ***Click*** the **white Property Pages** button to ***view*** the **Property Pages** of the **Feedback** object.

3) On the **General** tab, ***specify*** the **Input Object Name** to be **Target**.
   You need to specify the name of the object that is collecting the participant's response. In this experiment, the participant's response is collected in the Slide object named Target.

4) ***Click*** **OK** when you are **finished**, and ***press*** **Ctrl+S** to ***save*** the experiment.
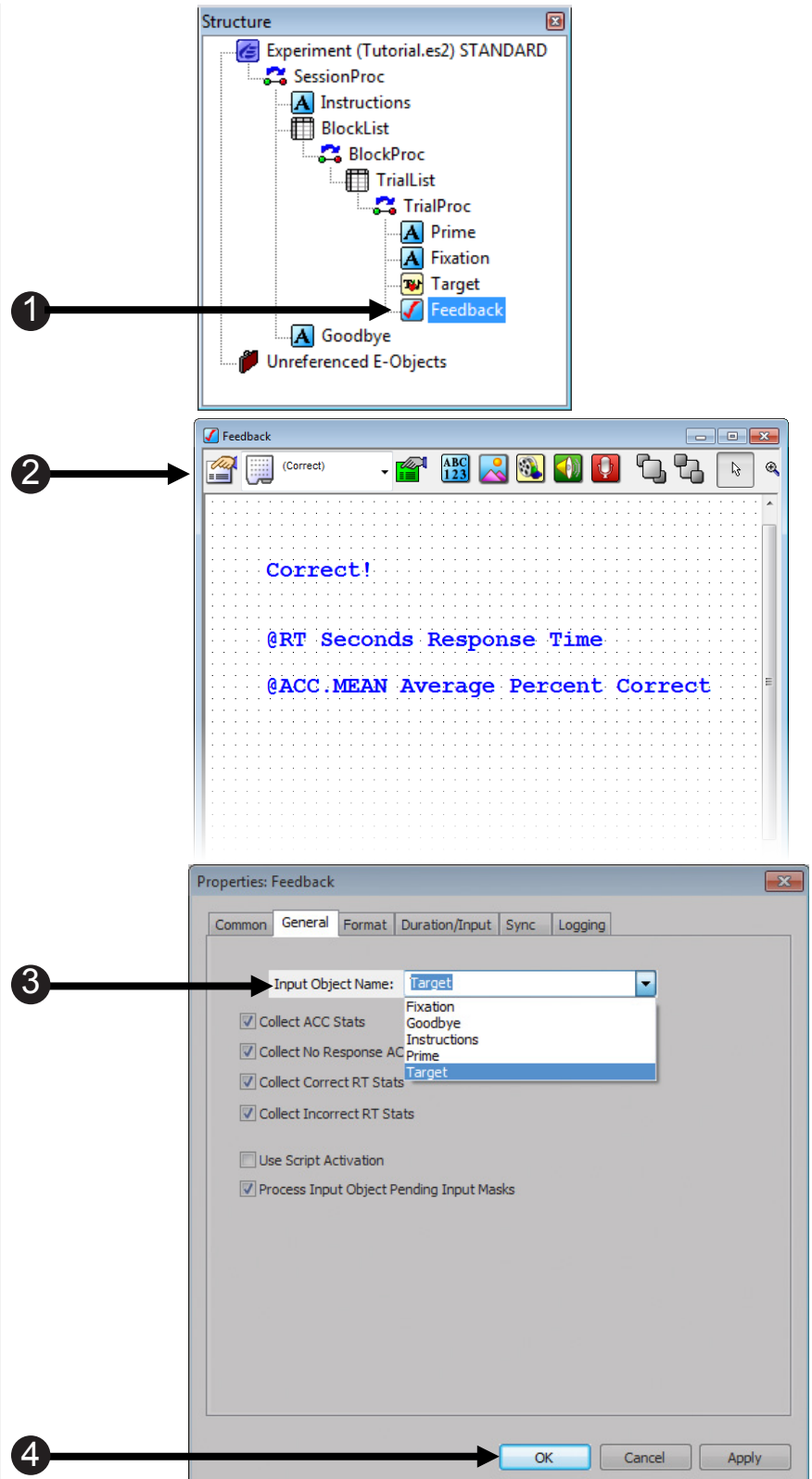
Task 23: Specify the properties for the Feedback object

The Feedback object is a Slide object that has been configured to present information to the experiment participant regarding their performance during the experiment. There are four SlideStates that are included by default: Correct, Incorrect, NoResponse, and Pending. Each SlideState defines a different type of feedback for each type of possible response. Statistics, such as response time or average percent correct, can be included on the Feedback SlideStates by using macros. For more information on the available macros (indicated by the @ symbol), refer to the FeedbackDisplay topic in the E-Prime Reference Guide.

1) **Click** each of the **tabs** at the bottom of the **Slide** to **view** the various **SlideStates** included in the **Feedback** object.
   SlideText sub-objects on the SlideState use FeedbackDisplay macros to display the reaction time, accuracy, etc.

2) On the "**Correct**" **SlideState**, **click** the **text box** containing the "**Correct!**" message. Then **click** the **green Sub-Object Property Pages** button**.**

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, and **press Ctrl+S** to **save**.
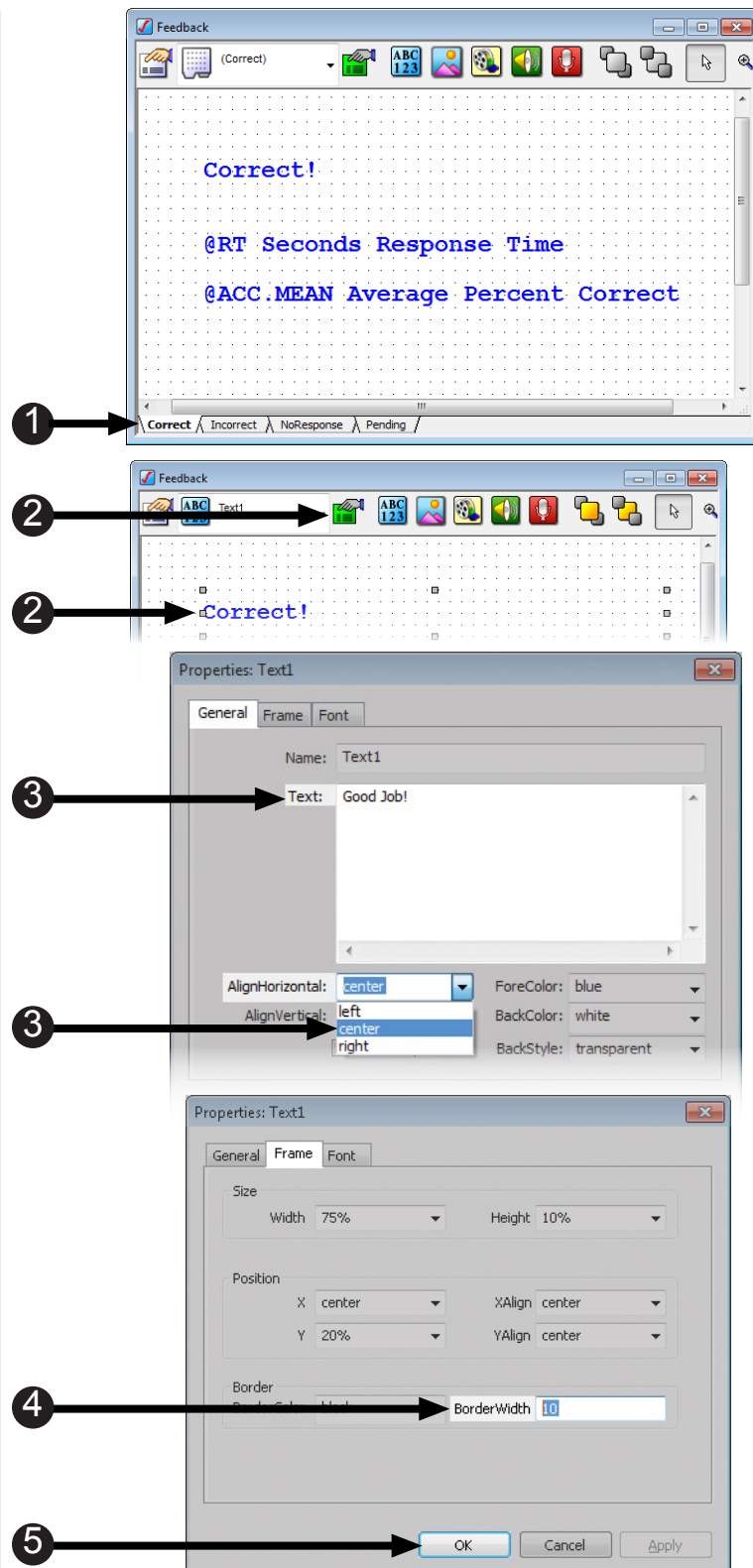
Task 24: Generate the Script

We have finally finished configuring the experiment. One of the last things left to do is to generate the script to check for errors. E-Prime has an Output window which allows you to view any errors that occur during script generation. These errors are called compile or script generation errors. When an error occurs, E-Prime prompts you with a message box, the Output window will display the error including the line of script in which the error was found. This will allow you to locate the place in the script where the error occurred so that it can be fixed.

1) ***Click*** the **View** menu, and ***select*** the **Script** and **Output** windows.
   ⚠️**NOTE:** *You must select each window individually. When a window is currently in view on the workspace, there is a checkmark next to it in the View menu.*

2) ***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 **progress report** in the **Output** window.
   If you have converted your experiment to E-Prime 2.0 Professional, you will also see an Advisor tab within the Output window. For more information on Experiment Advisor, please refer to the New Features/ Reference Guide.

3) 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 script, but with E-Studio, you did it much more quickly.
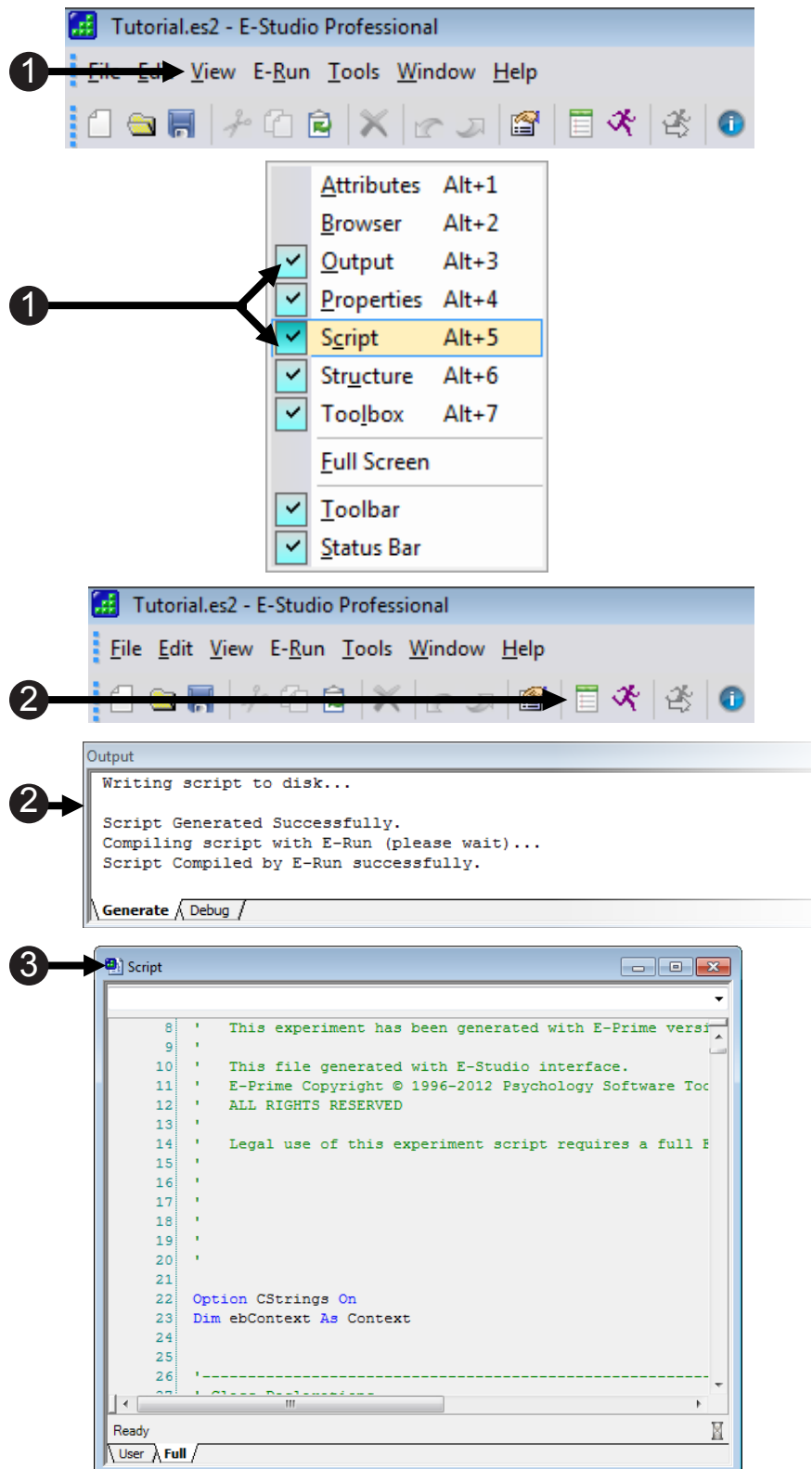
Task 25: Run your experiment

The second to last step you need to do is run your experiment to check for run time errors. Run time errors are the errors that occur when your experiment is running. Like compile errors, E-Prime prompts you with a message box, and the Output window displays the error and the line of script in which the error was found. This will allow you to locate the place in the script where the error occurred so that it can be fixed. Because run time errors, such as a failure to find an external stimulus file, can only be detected during the experimental run, it is paramount to test your experiment. The last step when developing an experiment is to look at your data. This way you can confirm that you are logging everything necessary for your analysis, double check your timing, and make any necessary corrections before you begin running actual experiment participants. Chapter 4 of the this manual explains how to do this with E-Prime's data analysis program, E-DataAid.

1) ***Review*** your **experiment structure**.

   Compare the structure of your experiment to the diagram included at the beginning of this tutorial to see how the original experimental design is implemented in E-Studio.

2) ***Click*** the **Run** tool button.

   If the experiment script is generated successfully, the E-Run application launches and executes the E-Basic script (.ebs2) file. If errors are generated, refer to Chapter 7: Troubleshooting in this manual for additional information.

3) At the beginning of each run, several participant initialization and startup dialogs are presented in order to collect participant information. ***Click*** **OK** in each **dialog** to ***accept*** the **default settings** and begin the experiment!
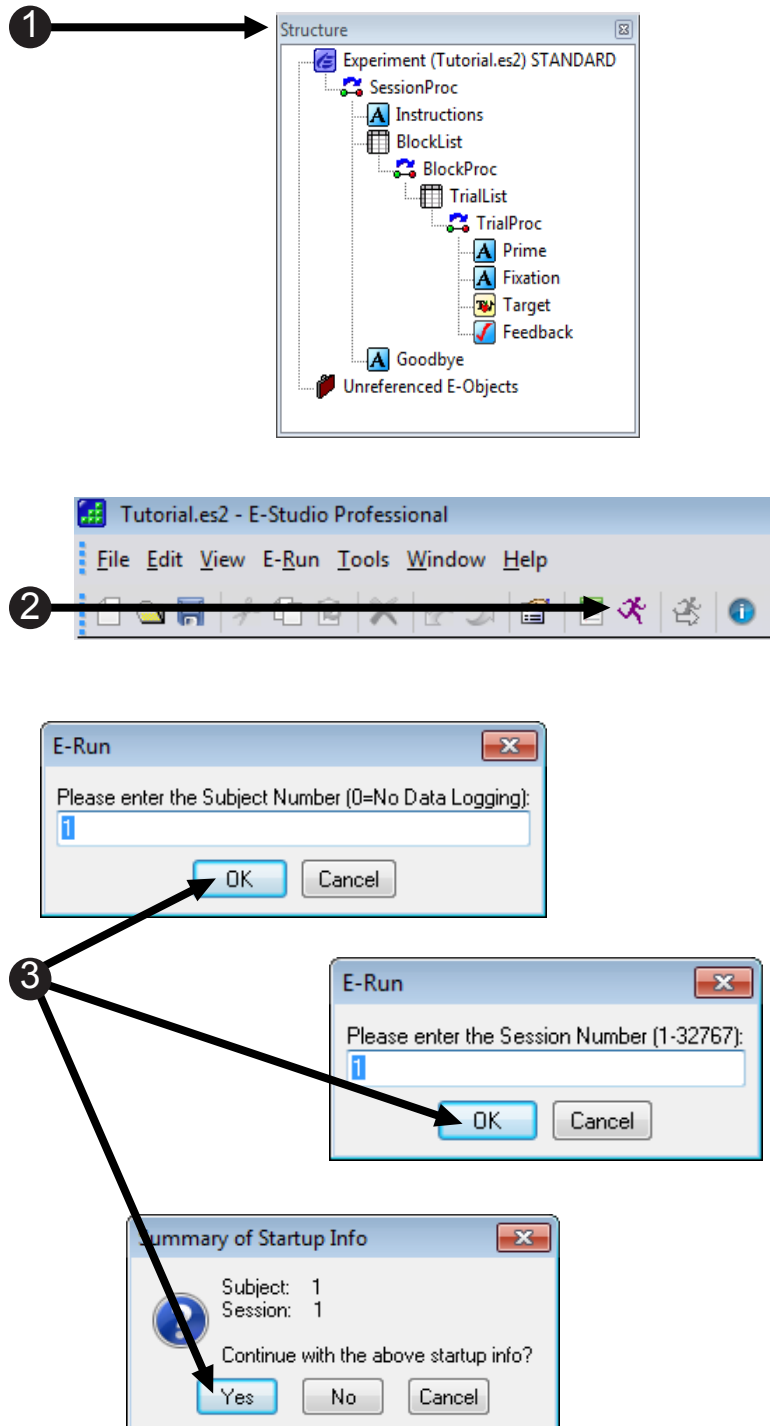
Task 25 (continued): Run your experiment

Let's review what you can expect to see when the experiment runs. First, you will see the instructions. Once you have read and understand the instructions, press the spacebar to begin the experiment. Next, the priming word is presented. This is followed by a fixation.

4) *Read* the experiment **Instructions**, then *press* the **spacebar** to continue.

5) *Read* the **Prime object text**.

6) **Wait** the duration of the fixation until the Target is presented.
   ⚠ **NOTE:** *The fixation for this experiment is a plus sign.*

④

```
              Welcome to the experiment.
    You will see a priming word followed by a
                     fixation.
      A target word will follow the fixation.

    Your task is to determine if the target word
             was male or female name.

    Press the "1" key for a male name and "2" for
                  a female name.

          PRESS THE SPACEBAR TO BEGIN!
```

⑤

bald

⑥

+

Task 25 (continued): Run your experiment

Next, the Target stimulus is shown and you will then make your response. Your response will be subsequently scored as correct, incorrect or no response, and will be accompanied by reaction time information. The experiment will run for eight trials. After the last trial, you will be presented with the Goodbye message, indicating the experiment is over.

7) *Read* the **Target object text** and *respond*.

8) *Read* the **Feedback object text**. *Repeat* steps 5-8 for all **eight trials**.

9) *Read* the **Goodbye object text**.

10) Congratulations, you have completed the first tutorial. After the experiment has finished running you may save your experiment and close E-Studio.

⑦

Bob

⑧

Good job!

0.591 Seconds Response Time

25.00% Average Percent Correct

⑨

Thank you and Goodbye.

Chapter 3: E-Merge

Task 1: Open E-Merge

When you run an experiment (.es2 file) E-Run collects all data as individual participant data files (.edat2 files); there is a separate .edat2 file for each participant. The E-Merge application is used to merge single participant data files into a master file for analysis. We begin by opening the E-Merge application.
⚠ **NOTE:** *From within the E-Studio application you can also select Tools > E-Merge to open E-Merge.*

1) ***Click*** on the **Windows Start** menu, ***select*** **All Programs**, and then ***select*** **E-Prime 2.0**. From the menu, ***click*** on **E-Merge** to ***launch*** the **application**.

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

2) ***Click*** **Close** to ***dismiss*** the **Quick Reference** dialog.

   The Quick Reference is presented as a reminder of the merge process. The Quick Reference dialog can be displayed at any time using the View menu.
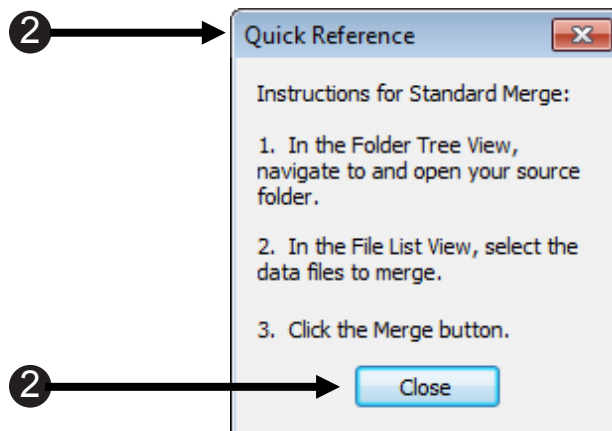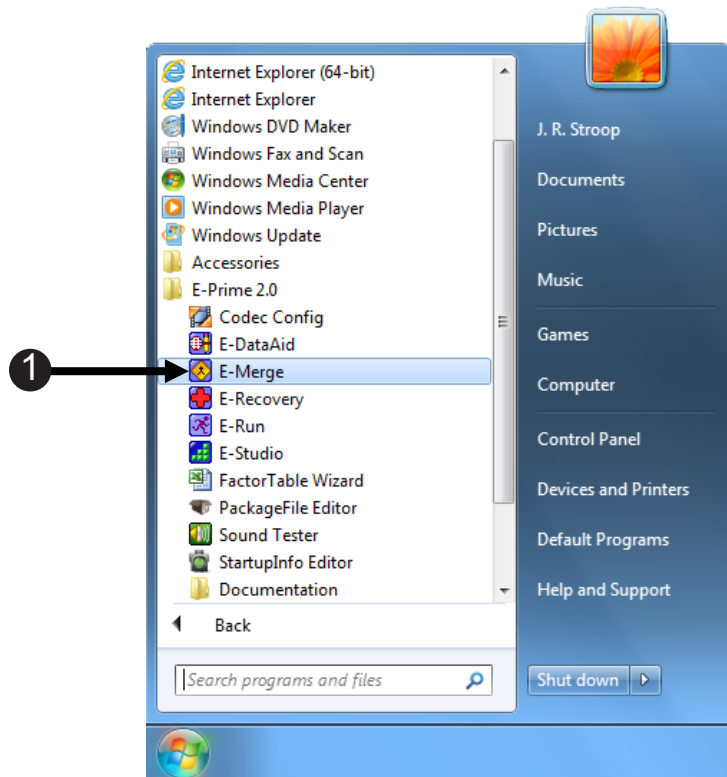
Task 2: Locate your experiment files

The Folder Tree window on the left side of the E-Merge display allows you to navigate to the folder containing your data files. E-Merge is typically used after collection of multiple participant data files.

1) In the Folder Tree, *navigate* to the **...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) displays the **available data files** in that folder.

   There are five participant data files located in the folder named Data. These files have been collected by five participants running the experiment you created in the previous tutorial.
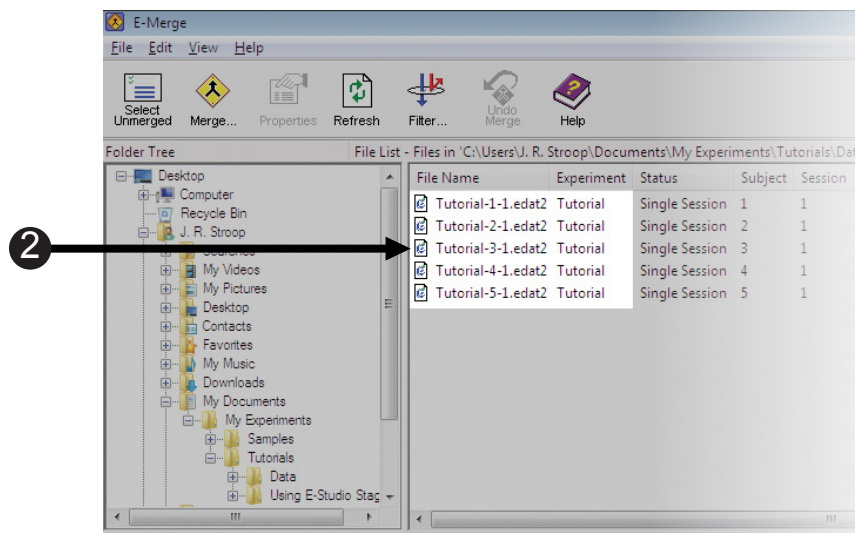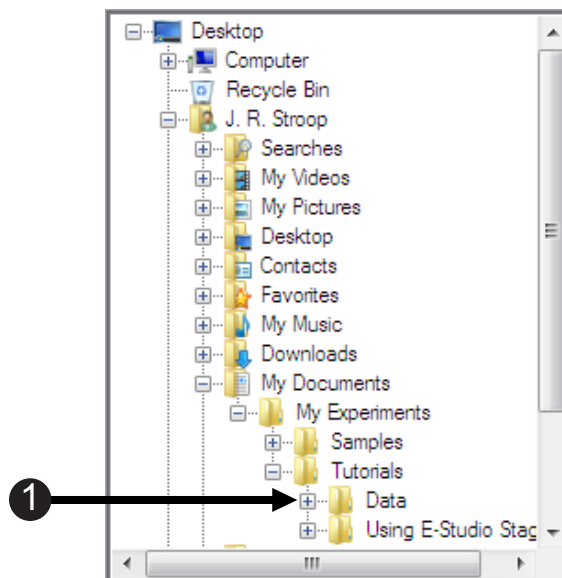
Task 3: Select files to merge and choose a merge operation

Now that you have located the files, you will select the unmerged files and merge them into one master file. Then you must choose what type of merge operation you wish to perform. Use the Standard Merge operation when files are located within a single folder. Use the Recursive Merge option when data files are located within sub-folders.

1) ***Click*** the **Select Unmerged** tool button to *select* all **E-Prime data files (*.edat or *.edat2)** that have not yet been merged into another file.

   A single data file can be selected by clicking on its filename. Multiple data files can be selected one at a time by clicking on each filename while keeping the Ctrl button held down.
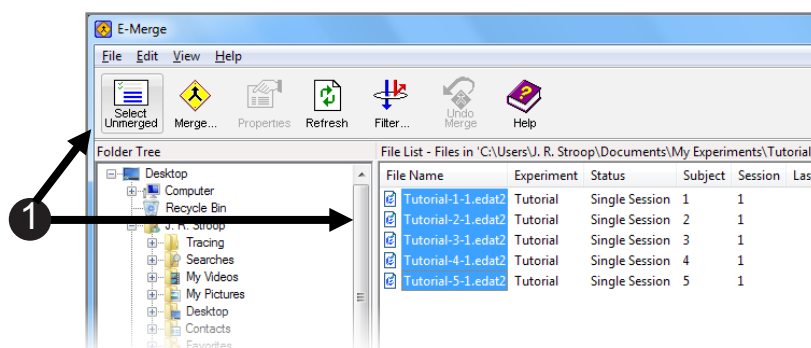
2) ***Click*** the **Merge tool** button on the **toolbar**.
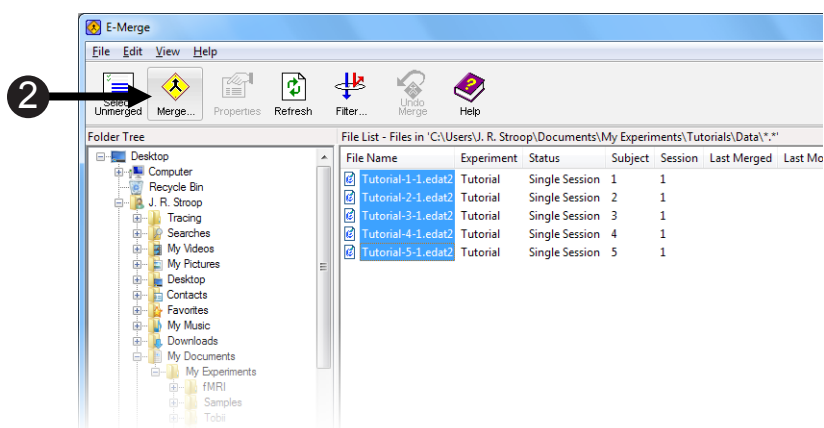
3) A **dialog** *appears* requesting the type of **merge operation** to perform.

   Standard Merge is the default operation.

4) ***Click*** **Next** to *continue* with a **Standard Merge** operation.
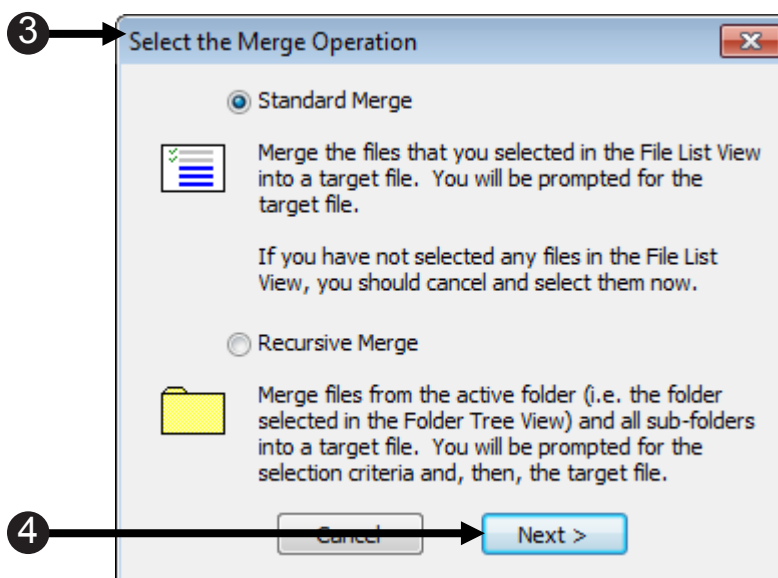
Task 4: Set the Target File

Now we will designate our target data file, which is the file in which we want to store the merged data. In this example, we are creating a new merged data file named 'Merged Tutorial Data'. It is also possible to merge new single participant data files into an existing merged data set by specifying an existing data file as the Target File. However, the same data cannot be merged into a file more than once.

1) *Type* **Merged Tutorial Data** for the **File name.** This is the **Target File.** *Click* **OK** to launch the merge operation.

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

2) *Click* **Yes** to *create* the **Merged Tutorial Data** target file.

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

4) *Click* **OK** to *dismiss* the **Merge Results** dialog.
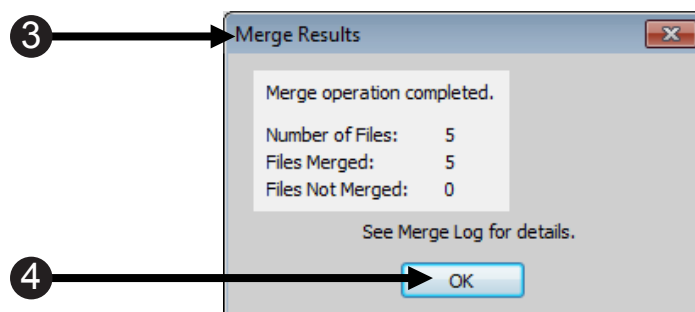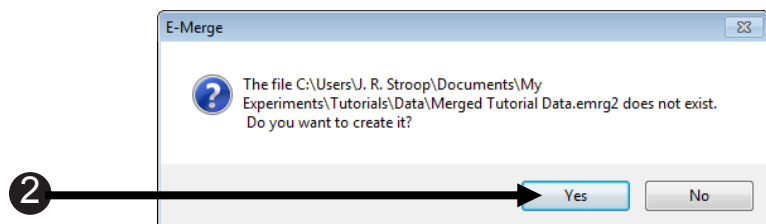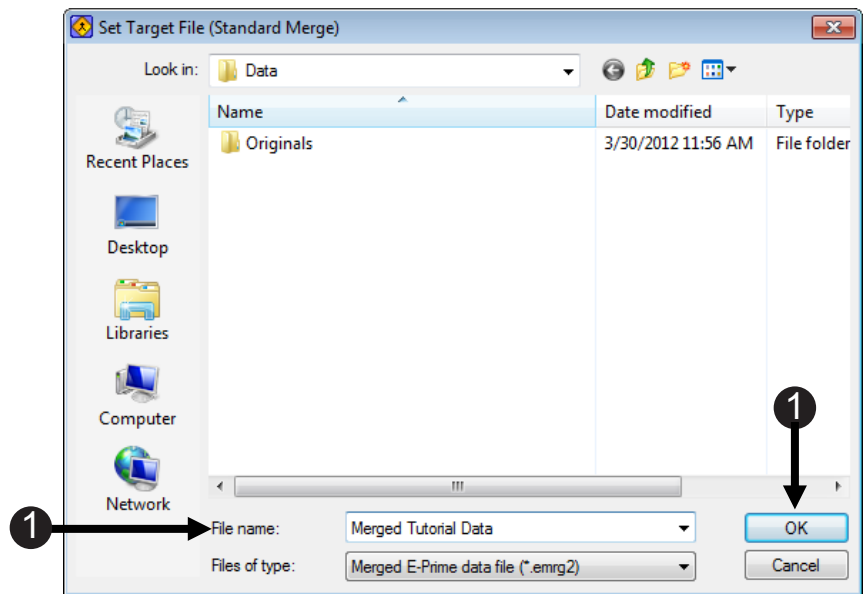
Task 5: Examine merge results in the File List

Let's look at the results of the merge. In the File List window, the icon to the left of each filename designates the file type, along with the file extension. A green checkmark designates a merged data file, and a red target symbol denotes the target file. The E-Merge interface also contains some other useful information about the data files. We will examine the interface below before moving on to analyze the data.

1) In the **File Name column** the **green checkmark** *designates* that the **.edat2** file has been *merged* into a **Target file**.
   The Status column reads Single Session for each of the .edat2 files that were collected from an individual participant run.
   ⚠️**NOTE:** *If you do not have your Windows folder settings set to display known file extensions, you will not see the .edat2 and .emrg2 extensions.*

2) The **Target file**, **Merged Tutorial Data.emrg2**, is designated with a red target. The **Status column value** also *reads* **TARGET**.
   The location of the Target file will also be listed at the bottom of the E-Merge window.

3) A **merged data file (.emrg2)** that is not currently set as the **target data file** will have its **Status** *listed* as **Merged Data.**

4) The **Last Merged column** for each of the **single subject (.edat2)** files *lists* the **date** that the file was *merged* into a **merged data file.**

5) The **Last Modified column** for **Merged Tutorial Data.emrg2** *lists* the **date** of the **merge operation.**
   Notice that merged data files are the only files that have been modified.

6) Congratulations, you have completed the E-Merge tutorial. You may close the E-Merge application at this time.


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Chapter 4: E-DataAid

Task 1: Open E-DataAid

The E-DataAid application is used to edit or examine your data, perform basic analysis, and prepare it for export to another application (such as Excel). We begin by opening the E-DataAid application.

⚠️ **NOTE:** *From within the E-Studio application you can also select Tools > E-DataAid to open E-DataAid.*

1) ***Click*** on the **Windows Start** menu, ***select*** **All Programs**, and then ***select*** **E-Prime 2.0**. From the menu, ***click*** on **E-DataAid** to ***launch*** the **application**.

> *The E-DataAid application launches without opening a specific data file. A file must be opened within the application.*
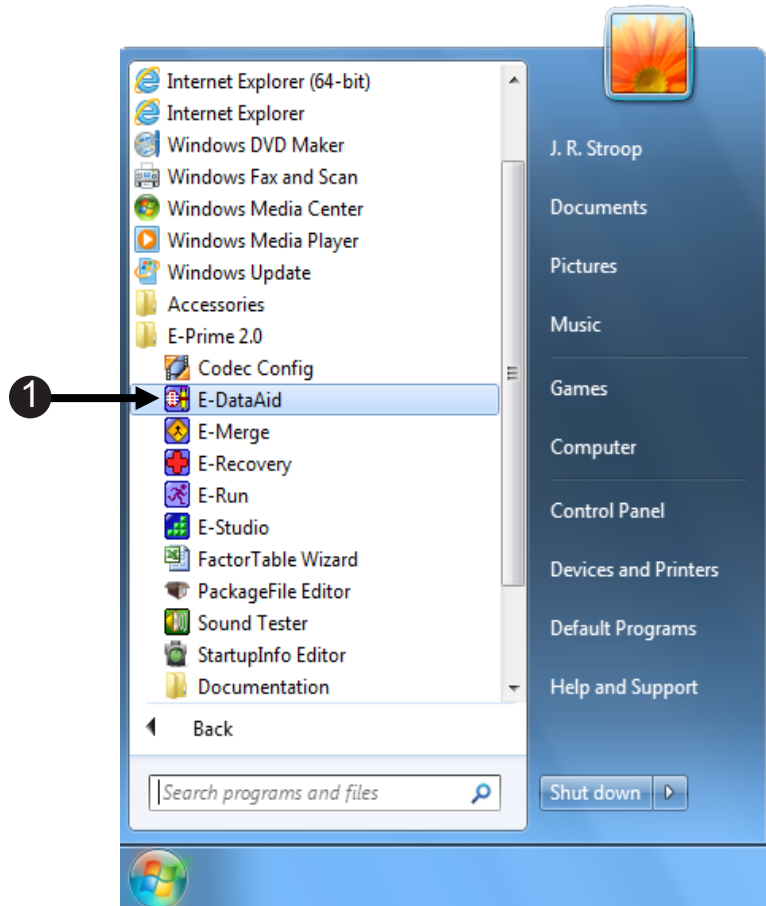
Task 2: Open a data file

In order to perform this task, we need to open the merged data file we created in the last tutorial. If you did not complete the last tutorial, you will need to do so now before you can perform this task.

⚠ **NOTE:** *If you accidentally overwrite any data or tutorials, you are able to restore any of the experiments or data files included with the E-Prime installation. In E-Studio, select Tools > Options, select the General Tab. Then click Copy Samples and Tutorials to My Experiments Folder...*

1) In **E-DataAid**, *click* the **Open** tool button, or *press* **Ctrl+O**.

> *There is also an Admin Open command available from the File menu, which allows 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) *Navigate* to the **...My Experiments\Tutorials\Data** folder.

> *All of the data files in the folder, either single participant (.edat2) or merged (.emrg2), appear in the Name column.*

3) *Select* the **Merged Tutorial Data.emrg2** file and *click* **Open**.

> *The Merged Tutorial Data.emrg2 file contains data from the five participants who participated in the Tutorial experiment.*

4) This is what an open **Merged Tutorial Data.emrg2** file looks like.

Task 3: Filter the data

It is important to know how to filter the data so you are able to look for missing data and perform different types of analyses. We will filter this data set to look at only correct trials.

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 participant'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 (in this case Target.ACC), and allows selection of individual values for inclusion in the filter. By clicking on the 1 box, only those trials in which the participant responded correctly will be included in any subsequent data analyses.

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

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 that the Target.ACC column header has turned white to indicate that a filter is now in place (you may need to scroll to the right in the spreadsheet to see this column).
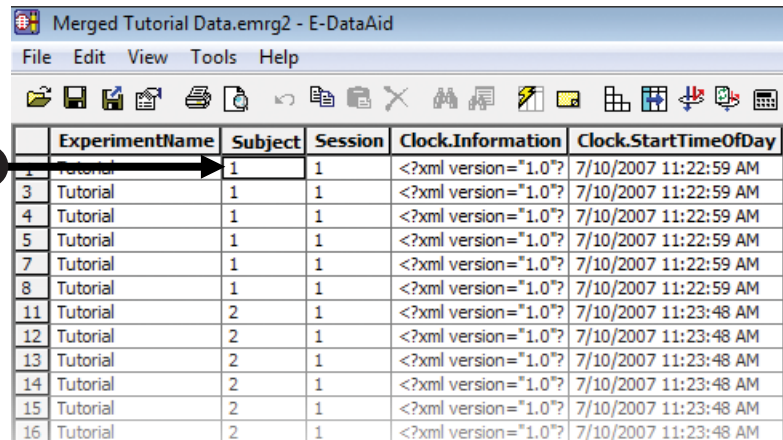
Task 4: Edit cells

By default, the E-DataAid spreadsheet displays the ExperimentName, Subject, and Session variables in the first three columns. The other variables are arranged alphabetically within levels (e.g., Session, Block, Trial, etc.). E-DataAid also has the ability to mark any changes you make to the data files in the event that you need to alter your data for housekeeping purposes. For example, let's suppose a participant ID number was entered incorrectly at the time the experiment was run. You can enter the correct value in E-DataAid and the program will reflect this alteration by changing the font color for the edited values.

1) *Click* the **first cell** in the **Subject column** to *select* it. *Type* **11** in the first cell and *press* **Enter**.

    After you press Enter, E-DataAid automatically changes all of the cells for the Subject column in this session from 1 to 11.

2) All **modifications** are *displayed* in **red**.

    ⚠️**NOTE:** *E-DataAid tracks and annotates all alterations made to a data file. See View > Display Annotations...*

3) *Click* the **Undo** button to return the data to its original form.

    Any changes you make to the data do not become permanent until you save the file. Any edited and saved values are displayed in red whenever the data files are loaded in E-DataAid. We don't want to keep this change, so we click Undo here.

Task 5: Analyze data

Next we will configure the data for analysis using the Analyze command. Ultimately we want to create a table of reaction time means that show the average reaction time by condition. In order to do this, we need to specify the NameGender, PrimeGender, and PrimeType variables as the columns, and the Subject number variable as the row. Then we will need to select the Target.RT variable to calculate the reaction time data.

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 using the same process.

   If you drag the wrong variable name to one of the fields, you can remove it by dragging the variable back to the Variables list.

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

4) 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.
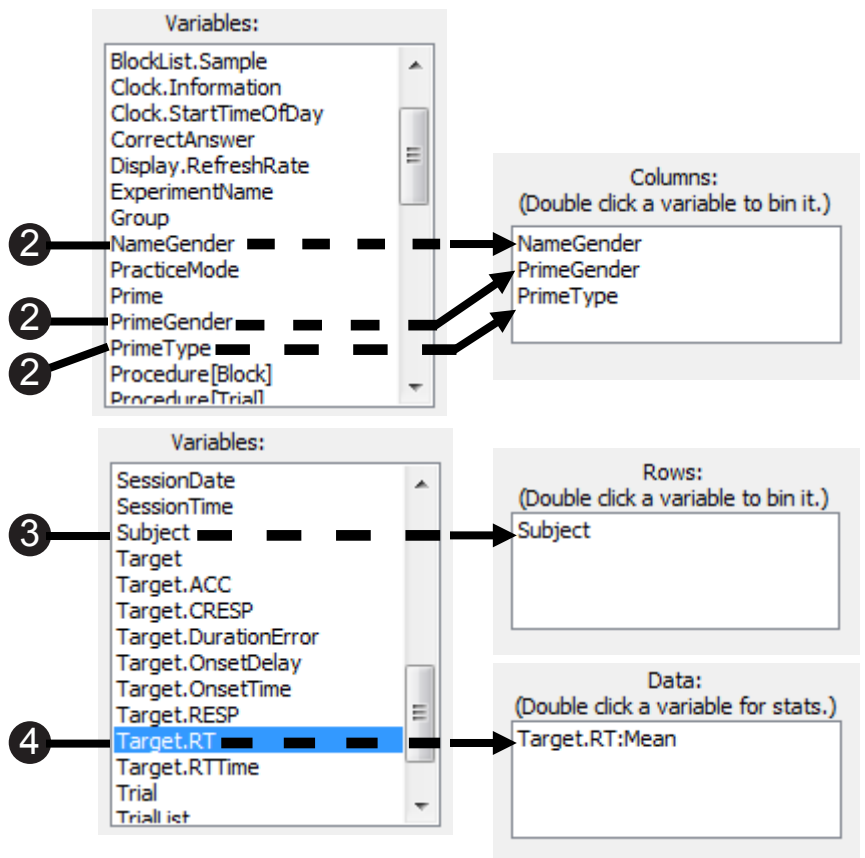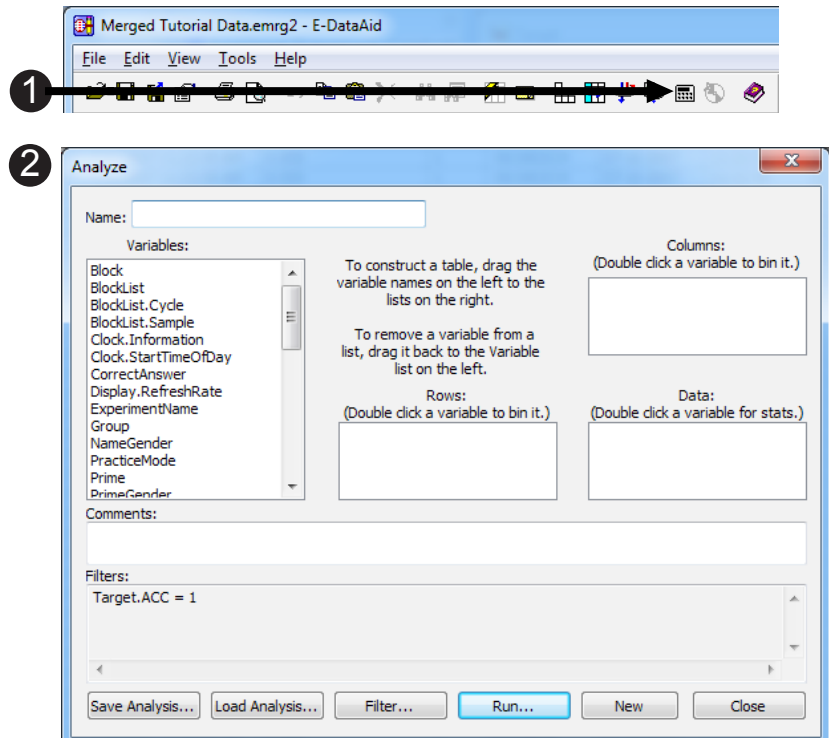
Task 5 (continued): Analyze data

Next we will name the analysis, and double check that we have everything set up the way we want it. Then we can run the analysis. Remember, we are only looking at the correct trials because of the filter we set up in Task 3. The Analyze dialog gives you the option to remove the filter before completing the analysis by clicking Filter... > Clear All > Close. You also have the option to save the analysis operations (.anl file) so you don't have to do the setup part if you plan to use the analysis again (via the Load Analysis... button).

5) *Type* **Mean RT by Condition** in the **Name** field as the **title** of the **analysis**. Then *double check* that your Analyze screen matches the one shown here.

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

7) This is what the output will look like. Remember we are looking at the correct answers only, which is why there are empty cells in the table.

⑤ → Analyze

Name: Mean RT by Condition

Variables:
Block
BlockList
BlockList.Cycle
BlockList.Sample
Clock.Information
Clock.StartTimeOfDay
CorrectAnswer
Display.RefreshRate
ExperimentName
Group
NameGender
PracticeMode
Prime
PrimeGender

To construct a table, drag the variable names on the left to the lists on the right.

To remove a variable from a list, drag it back to the Variable list on the left.

Columns:
(Double click a variable to bin it.)
NameGender
PrimeGender
PrimeType

Rows:
(Double click a variable to bin it.)
Subject

Data:
(Double click a variable for stats.)
Target.RT:Mean

Comments:

Filters:
Target.ACC = 1

⑥ → Run... | New | Close

⑦ → Table

Column Conditions:
NameGender, PrimeGender, PrimeType

	A	B	C	D	E	F	G	
1			female	female	female	female	male	male
2			female	female	male	male	female	fema
3	Subject	Stats	negative	positive	negative	positive	negative	posi
4	1	Mean Target.RT	579.00	1341.00	841.00		2805.00	808.
5	2	Mean Target.RT		610.00	729.00	470.00	734.00	571.
6	3	Mean Target.RT	953.00	700.00		467.00	563.00	425.
7	4	Mean Target.RT	625.00	888.00	549.00	590.00	567.00	1822
8	5	Mean Target.RT	542.00	606.00	361.00	583.00		360.

Display Mode
○ Plot
○ StatView and SPSS
● Custom

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

Task 6: Create an Excel plot

Sometimes a visual representation of the data is easier to interpret. We will use Excel to plot the data from the analysis table so we can examine the data in graph form. In order to complete this step, you must have Excel installed on the computer you are currently using.

1) **Select** the **Plot option** under **Display Mode**.

2) **Click** the **Excel Plot** button.
   E-DataAid launches Excel, copies the analysis table to a worksheet, and plots the data. You may need to click the Excel application to see it.

3) **Examine** the **table** and **plot** created in Excel showing **mean reaction time by condition** for each **participant**.
   Target.RT, reaction time collected by the Target object, is the dependent measure, and will be summarized as a mean.

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

5) Within **E-DataAid**, *close* the **Table** and **Analyze** dialogs.
   Analyses may be saved (Save Analysis...) to be reloaded (Load Analysis...) at a later time.

Task 7: Export data

Sometimes it is necessary to perform more complicated statistics with your data, and it is helpful to have an easy way to export the data to an analysis package. The Export function in E-DataAid allows you to export your data into a tab (or other delimiter) delimited format (.txt) tailored for import into several different analysis packages including Excel and SPSS.

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** and *select* **OK**.

3) In the **Export As** dialog, *enter* the **filename** to be '**Exported Tutorial Data.txt**,' and *click* the **Save** button.
   The data is exported to a tab delimited text file. In the next step, we will import this file into another application.
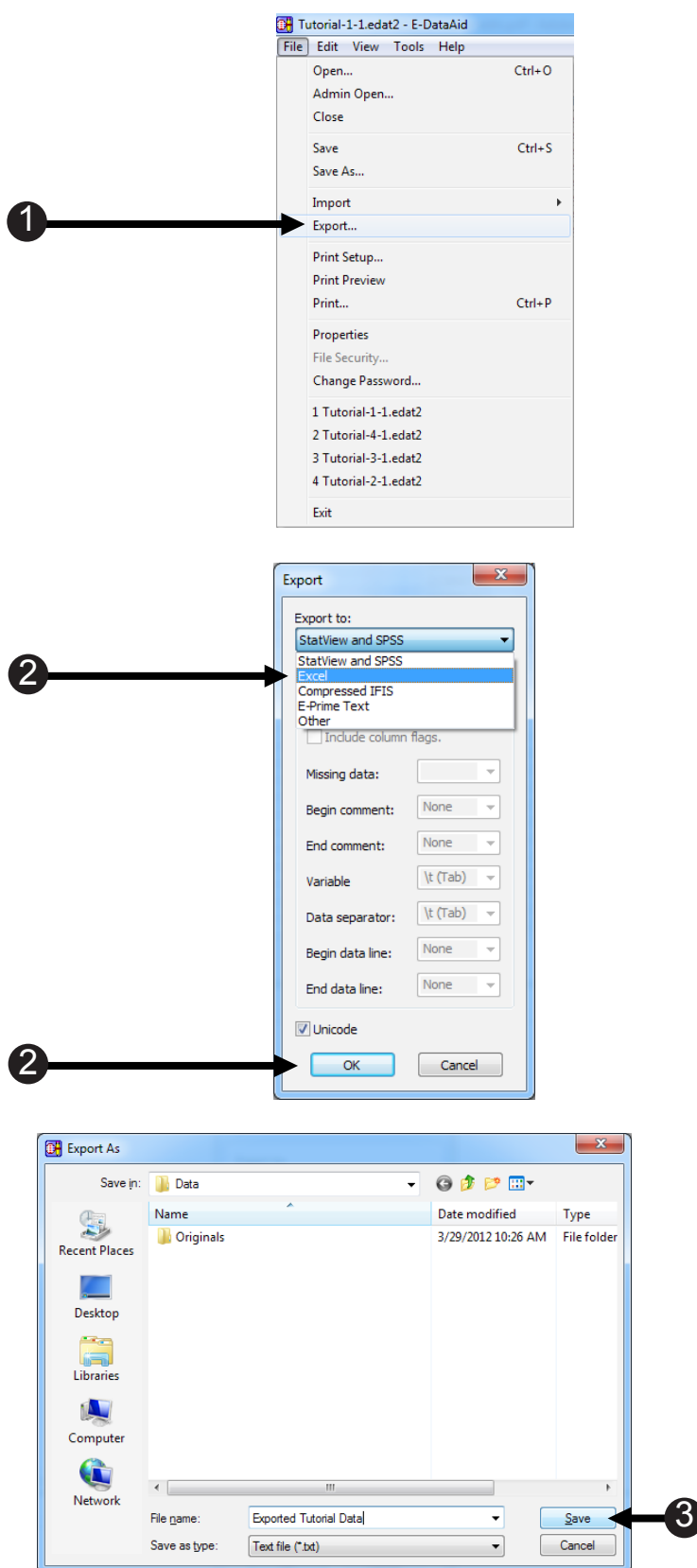
Task 8: Import text file into Excel

Excel offers a statistical analysis package and many people are familiar with its basic operations. This is an example of how to import a data file. To import your data into another program please follow your software's instructions on importing a tab (or other delimiter) delimited data file. Once the data is imported, you can use Excel's functions and formulas to perform the desired statistical analyses, and/or plot the data.

1) **Open** a new workbook in **Excel**, and **select** **Open** from the **File** menu.

2) **Navigate** to ...My Experiments\Tutorials\Data\Exported Tutorial Data.txt. **Select** **Text Files** so **Exported Tutorial Data.txt** will be listed in the file list.

3) **Select** **Exported Tutorial Data.txt** and **click** the **Open** button.
   This brings up the Text Import Wizard. The defaults in the wizard are set for delimited text separated by tabs.

4) **Step** through the **Text Import Wizard**, **accepting** the **default settings**, or **click** **Finish**.
   Exported Tutorial Data.txt will be opened in an Excel spreadsheet, with header information indicating the location of the source file, and a list of any active filters at the time the data was exported.

5) **Exit** **Excel**.

6) Congratulations, you have completed the E-DataAid tutorial. You may close the E-DataAid application at this time.
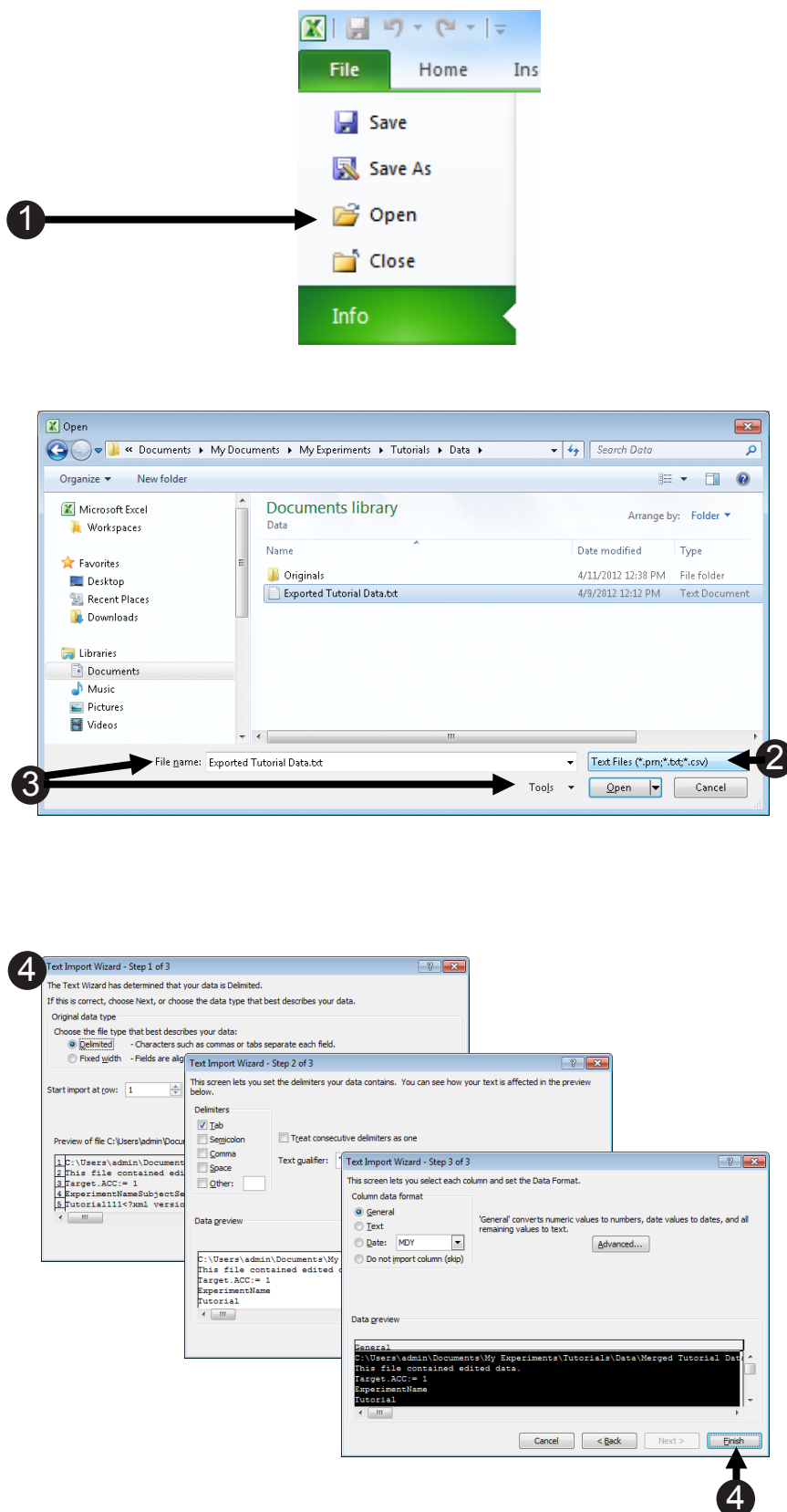
Chapter 5: Advanced Tutorials

The E-Studio basic tutorials are 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. 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 Experiments\Tutorials\Data\Originals folder.
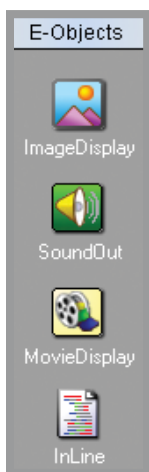
Picture Tutorial:
Modify an existing experiment to use images rather than text stimuli.

Sound Tutorial:
Modify an existing experiment to present sound and text simultaneously.

Movie Tutorial:
Modify an existing experiment to present a movie in conjunction with text and sound.

Script Tutorial:
Add user-written script to an existing experiment.

Advanced Tutorial 1: Modify Tutorial.es2 to present pictures

This tutorial is designed to walk you through the necessary steps to set up your Tutorial.es2 experiment to display pictures. We will show you how to alter the Target object to present image files, and set its properties to display the images. Then we will demonstrate how to change your list to present the images. Finally, we will edit the Instructions to reflect the changes. When you have completed this tutorial you will have an experiment that shows images.

Task 1: Open Tutorial.es2 and save as PictureTutorial.es2

It is a good idea to preserve the original Tutorial.es2 that we have spent so much time on. In order to do this we will open the Tutorial.es2 experiment and save it as PictureTutorial.es2. This way we can make some modifications to the new file without altering the contents of the original Tutorial.es2 file.

⚠️ **NOTE:** *If you have not gone through the entire Getting Started Guide and would like to complete this tutorial go to ...My Experiments\Tutorials\Data\Originals folder, and open the Tutorial.es2 file.*

1) Within the **E-Studio** application, *use Ctrl+O* to *Open* **Tutorial.es2**.

2) In the **File** menu, *select* the **Save As** command.

3) In the **Save As dialog** *navigate* to **...My Experiments**, *change* the **File name** field to '**PictureTutorial**,' and then *click* **Save**.
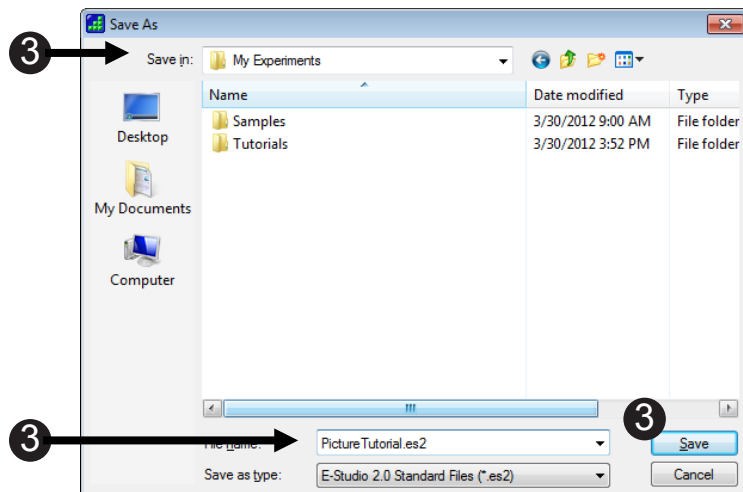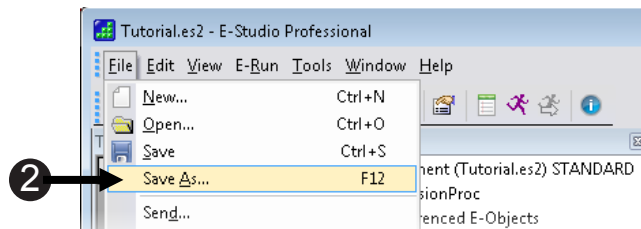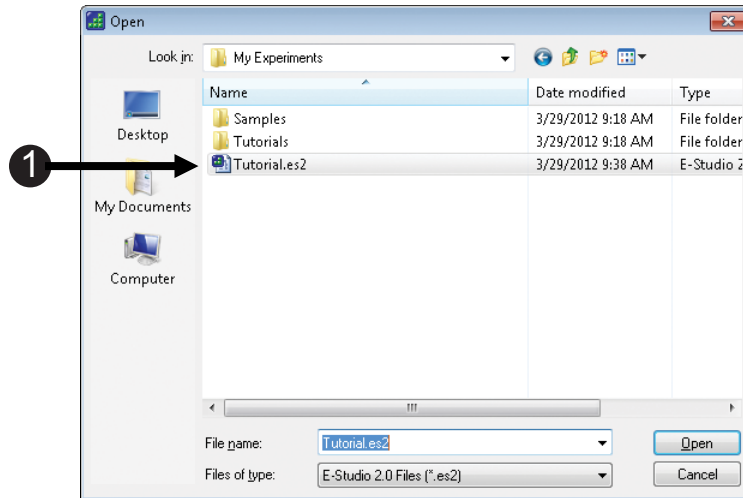
Task 2: Replace SlideText with a SlideImage

We will now begin to transform the experiment to display image files in place of simple text.

1) *Open* the **Target** object in the **Workspace**. *Use* the **dropdown menu** on the **Slide toolbar** to *select* the **text sub-object**. *Right click* and *select* **Delete** to **delete** the **Text1 sub-object** from the **Slide**.
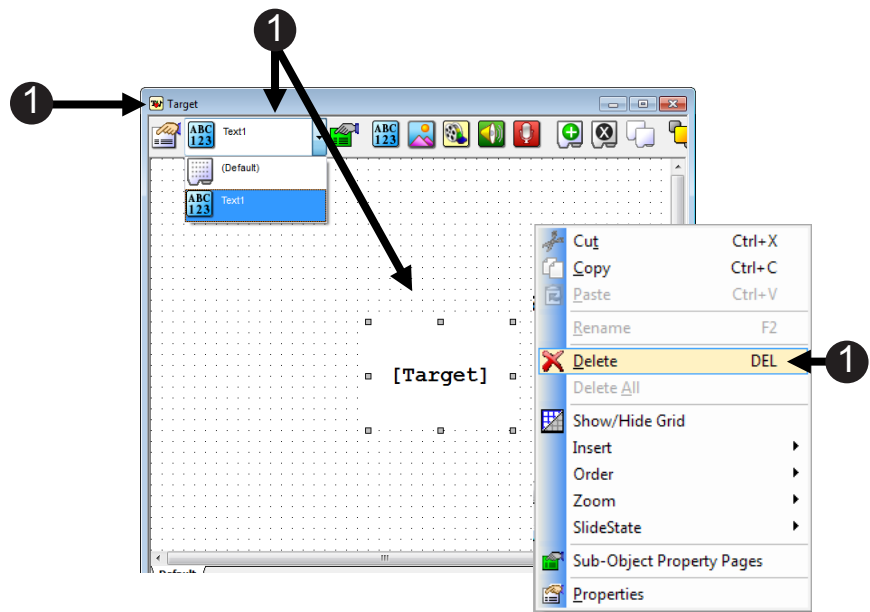
2) *Click* the **SlideImage** button on the **toolbar**, then *click* anywhere within the **active SlideState** window.

   An image sub-object will appear in the Slide window. The picture will be gray because no file has been selected yet.

3) *Click* the **green Sub-Object Property Pages** button.
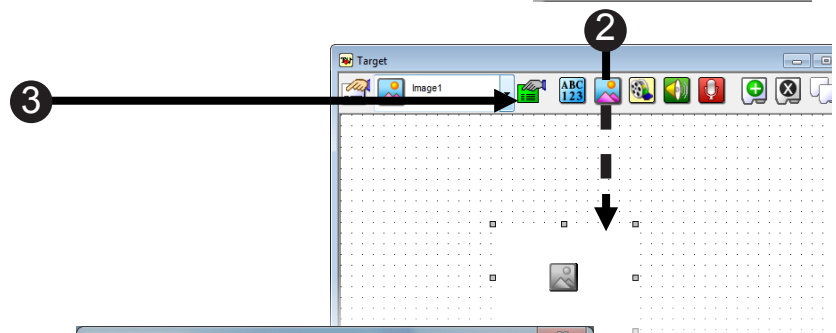
4) On the **General** tab, *enter* **[Target]** in the **Filename field**, for **Stretch** *select* **Yes**, and for **Stretch Mode** *select* **UpDown**.
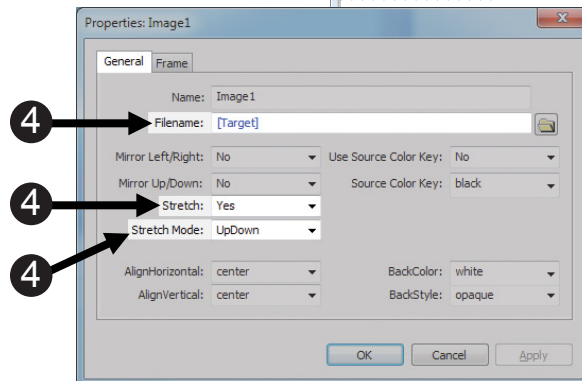
5) On the **Frame tab** for the image, *set* the **Width** to **50**% and the **Height** to **75**%. *Set* the **X** and **Y Position** properties to **center**.

6) *Click* **OK** to *accept* the **settings**.
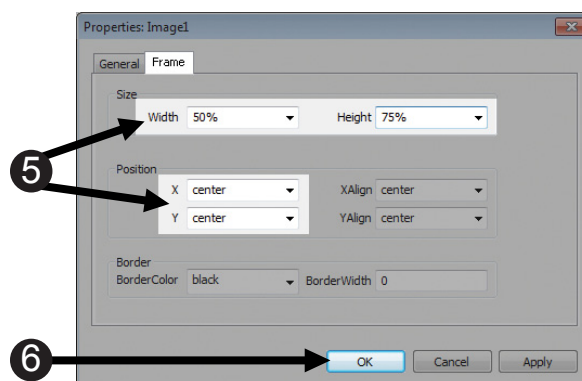
Task 3: Specify the properties of Target

Now we will edit the properties of the Slide to show images for ten seconds, verify that the input device is the keyboard, and double check the data logging, allowable responses, correct answer setting, and end action.

1) ***Click*** the **white 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 green 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**ms
   - **Data Logging** is ***set*** to **Standard**
   - The **Keyboard** is ***enabled*** as the **Input Device**
   - The **Allowable** field is ***set*** to "**12**"
   - The **Correct** field ***references*** **[CorrectAnswer]**
   - **Time Limit** is ***set*** to **(until feedback)**
   - **End Action** is ***set*** to **Terminate**

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

   This takes you back to editing the Target object in the workspace.
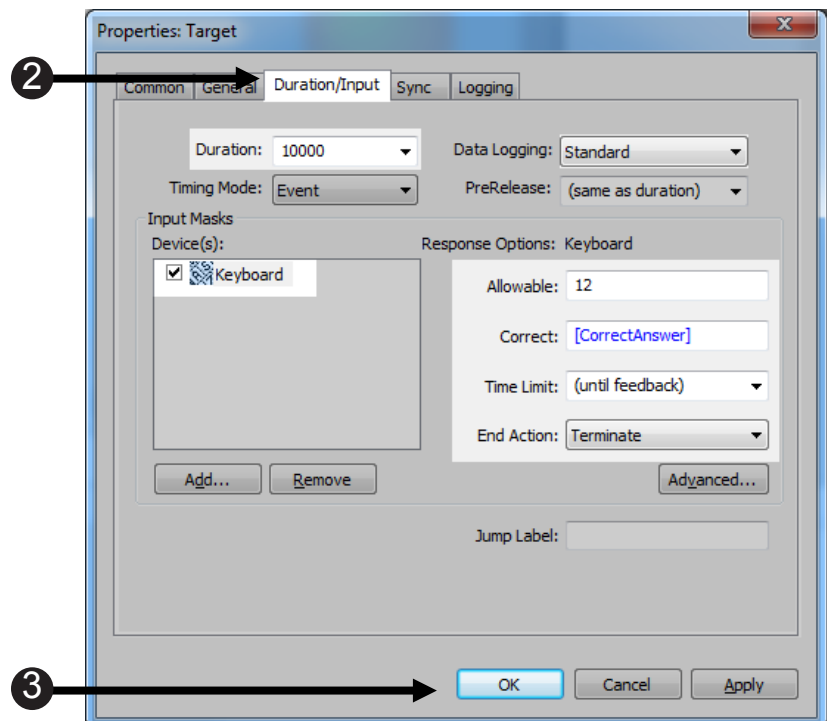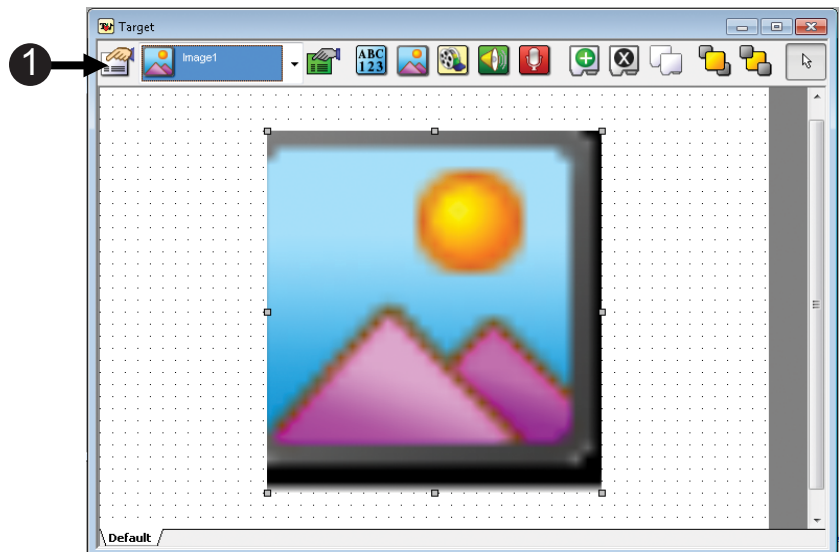
Task 4: Modify the List object
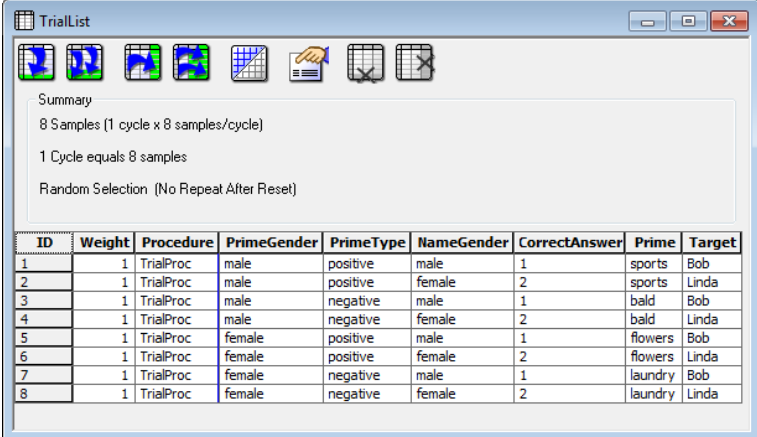
We will now modify the TrialList to display images instead of text. The first thing you should do is copy the ...My Experiments\Tutorials\female.jpg and male.jpg image files into the same folder you are currently saving your .es2 file. We will modify the Target Attribute which currently contains male or female names, to reference the female.jpg and male.jpg images. E-Prime is capable of presenting additional image formats as well (e.g., JPEG, PNG, BMP). For more information please refer to the SlideImage sub-object topic in the E-Prime Reference Guide.

1) Using **Windows Explorer**, *copy* the ...**My Experiments\Tutorials\ female.jpg** and **male.jpg** to the same **folder** where you are currently *saving* your **.es2 file**.
   ⚠️**NOTE**: *You can put your files elsewhere as long as you set the correct path to them in the experiment. However, when all of the resources for an experiment are in the same folder or subfolder as the .es2 file it is easier to move the experiment without leaving any necessary files behind.*
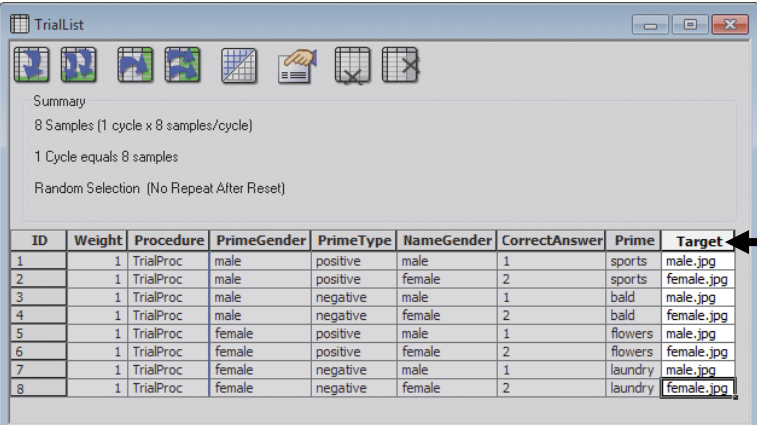
2) *Double click* the **TrialList** to *Open* it in the **Workspace**.

3) *Modify* the **Target Attribute values** to match those in the **TrialList** to the **right**.

4) In the **Prime Attribute** column, *change* "**bald**" to "**cigars**".

5) *Press* **Ctrl+S** to *save* your work before continuing.

② TrialList

Summary
8 Samples (1 cycle x 8 samples/cycle)
1 Cycle equals 8 samples
Random Selection (No Repeat After Reset)

ID	Weight	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

TrialList ③

Summary
8 Samples (1 cycle x 8 samples/cycle)
1 Cycle equals 8 samples
Random Selection (No Repeat After Reset)

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	bald	male.jpg
4	1	TrialProc	male	negative	female	2	bald	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

TrialList ④

Summary
8 Samples (1 cycle x 8 samples/cycle)
1 Cycle equals 8 samples
Random Selection (No Repeat After Reset)

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 5: Edit the Instructions

Since we have changed the experiment, we will need to edit the Instructions to reflect those changes; the Target stimulus is now a picture rather than text. Now when the Target stimulus is presented, a figure of either a male or a female will be displayed. We will replace the Instructions text to read: "Welcome to the experiment. You will see a priming word followed by a fixation. A picture will follow the fixation. Your task is to determine if the picture was a male or female image. Press the "1" key for a male image and "2" for a female image. PRESS THE SPACEBAR TO BEGIN!"

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

2) ***Edit*** the text **to read**: ***"Welcome to the experiment. You will see a priming word followed by a fixation. A picture will follow the fixation. Your task is to determine if the picture was a male or female image. Press the "1" key for a male image and "2" for a female image. PRESS THE SPACEBAR TO BEGIN!"***

3) ***Verify*** that your **experiment structure** matches that to the **right**. ***Save*** the **PictureTutorial** experiment.
   ⚠️ **NOTE:** *The necessary images are located in the ...My Experiments\Tutorials folder. These images must be saved in the same folder as PictureTutorial.es2.*

4) ***Press*** **F7** to ***Run*** the **experiment**.
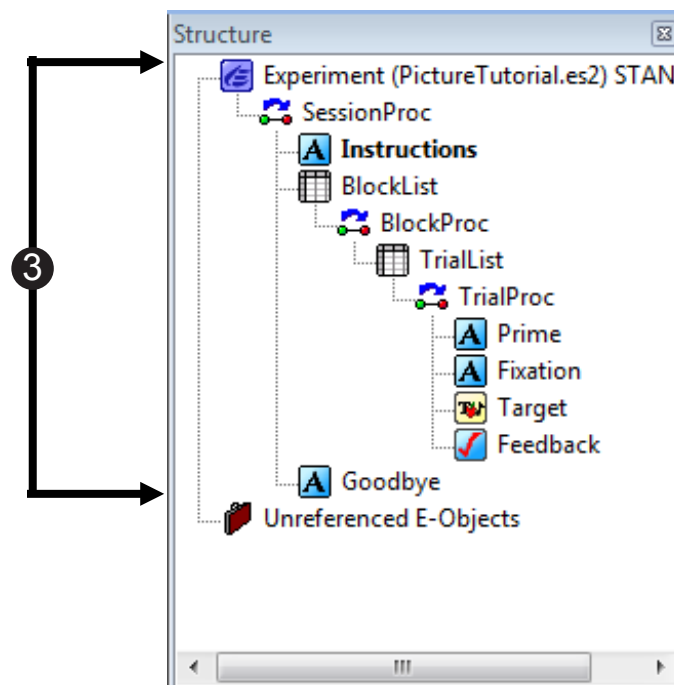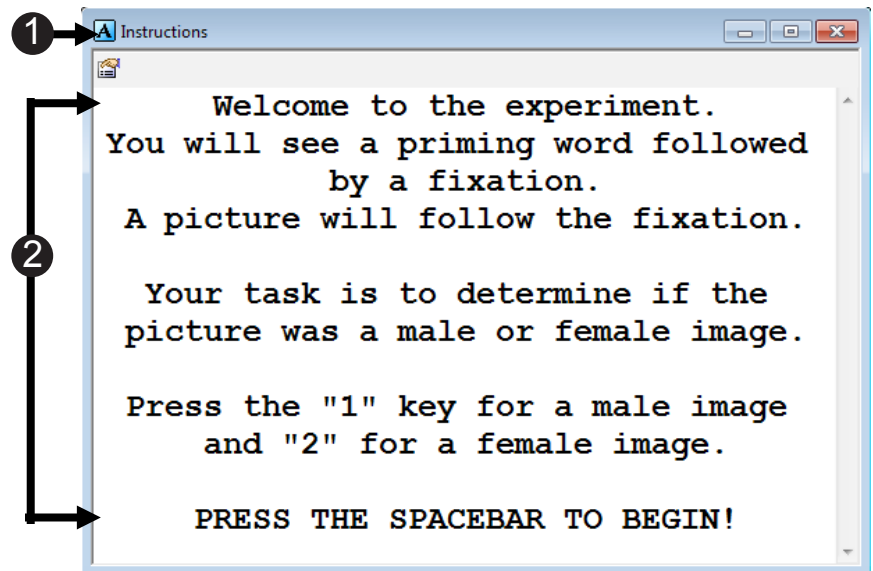
Advanced Tutorial 2: Modify PictureTutorial.es2 to present sound

This tutorial is designed to walk you through the necessary steps to set up your PictureTutorials.es2 experiment to include a sound with the Prime object. We will show you how to alter the Prime and TrialList objects to present text and sound files simultaneously. Then we will edit the Instructions to reflect the changes. When you have completed this tutorial you will have an experiment that uses a Slide object to prime the participant with text and sound before the Target object presents the stimulus.

Task 1: Open PictureTutorial.es2 and save as SoundTutorial.es2

The SoundTutorial experiment that we will create is based on the PictureTutorial experiment. It is a good idea to preserve the original PictureTutorial.es2. In order to do this we will open the PictureTutorial.es2 experiment and save it as SoundTutorial.es2 in the folder you are currently working in. This way we don't have to start an experiment from the beginning; we can simply modify the new file without altering the contents of the original PictureTutorial.es2 file.

⚠ **NOTE:** *If you have not gone through the entire Getting Started Guide and would like to complete this tutorial go to ...My Experiments\Tutorials\Data\Originals folder, and open the PictureTutorial.es2 file.*

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

   For instructions on how to open an experiment refer to Advanced Tutorial 1, Task 1 in this manual.

2) In the **File** menu, *select* the **Save As** command.

3) In the **Save As dialog**, *change* the **File name** field to '**SoundTutorial**' and then *click* **Save**.
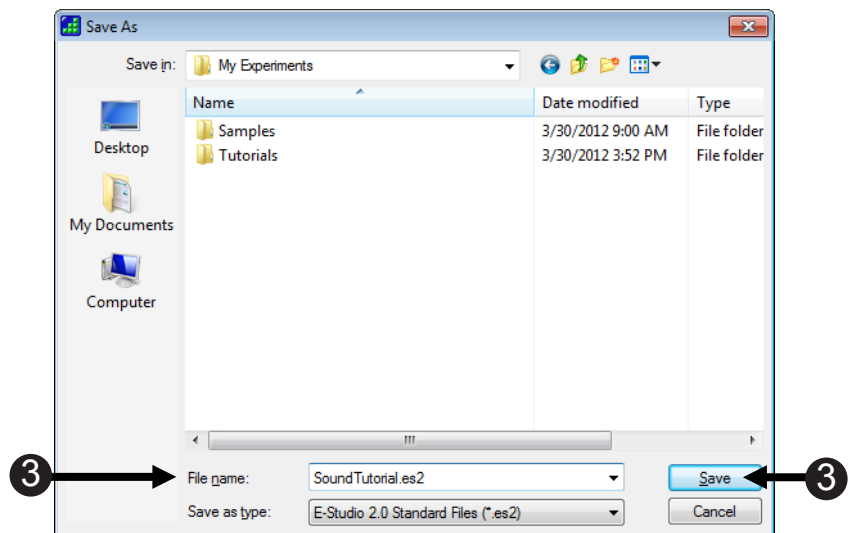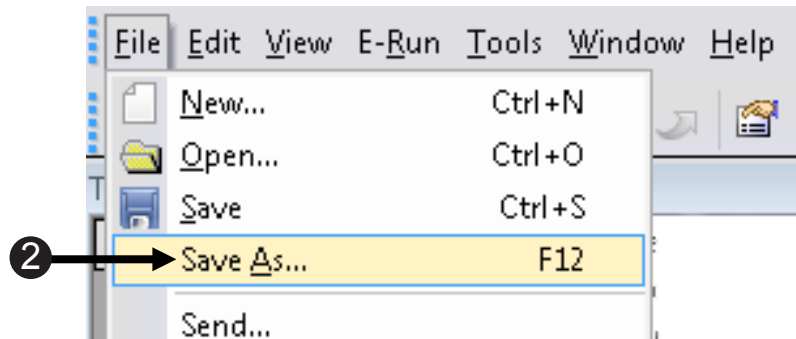
Task 2: Create a Slide object

The first thing we need to do is add an object that is able to perform multiple functions at the same time: a Slide object. To do this, we will drag and drop a Slide object into the workspace. This will create a Slide object in the Unreferenced E-Objects. Later, we will replace the current Prime object with the new Slide, and configure it 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, Unreferenced E-Objects folder.

2) **Highlight** the **Slide**, then **press F2** to **rename** the **Slide** object **SoundPrime**.
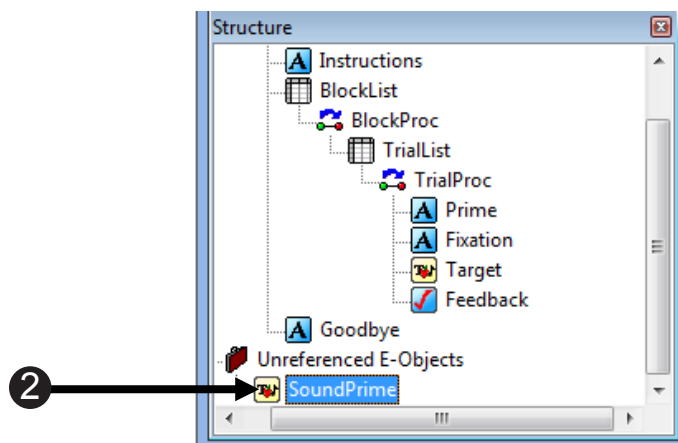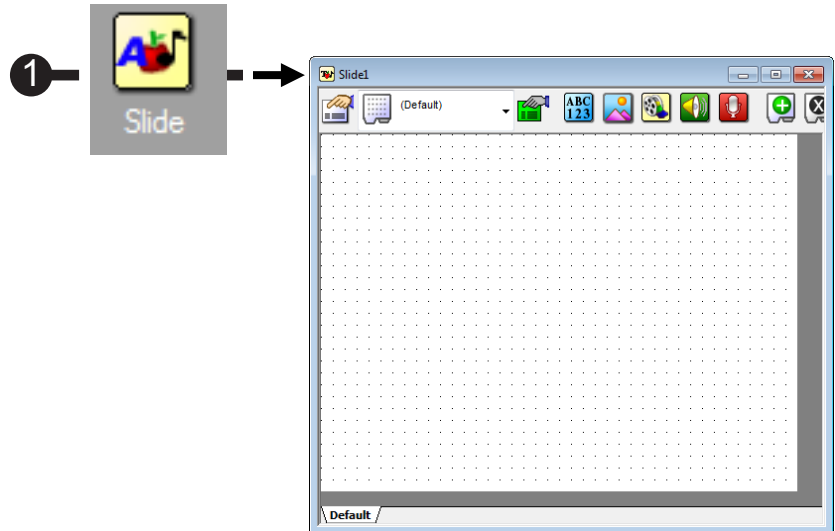
Task 3: Add text to the SoundPrime Slide object

Now we will add a text sub-object to the SoundPrime to present text.

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

2) *Select the* **Text1 sub-object** and *click* the **green Sub-Object Property Pages** button 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 Attribute topic in the E-Prime Reference Guide.

4) *Select* the **Frame** tab and *set* the **X - and Y - Position** properties to **center**.

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

6) *Select* the **default Slide State**, *click* the **green Sub-Object Property Pages** button.

7) *Select* the **Frame** tab and *edit* the **Width** and **Height** to be **100**%.

8) *Click* **OK** to *accept* the **settings**.
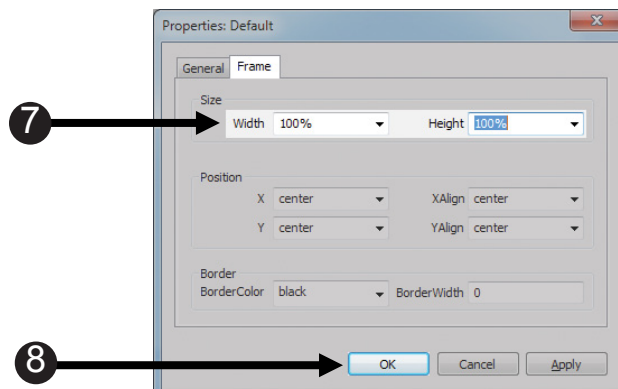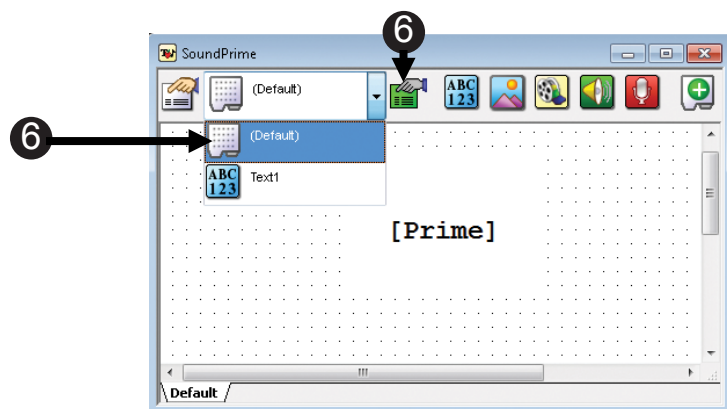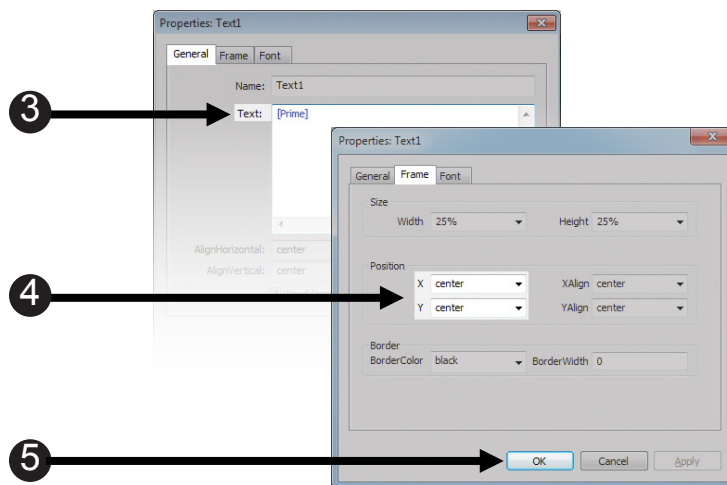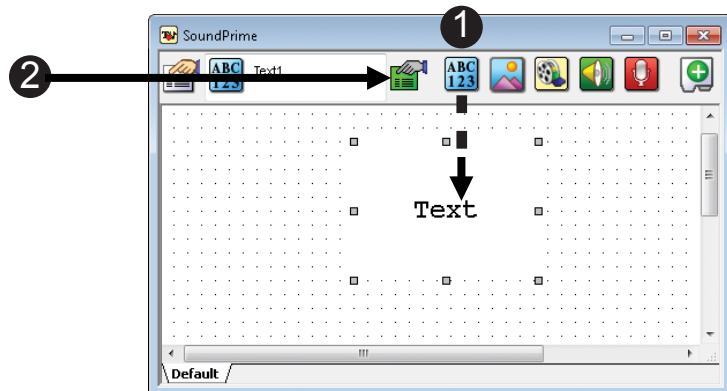
Task 4: Enable the Sound Device

Now we must double check that the experiment is enabled to use sound. First we will open the Experiment Property Pages window, and click the Devices tab. Then we simply confirm the checkbox next to the Sound Device is checked. E-Prime 2.0 allows for a number of Devices to be added to your experiment.

⚠ **NOTE:** *You can display a list of these Devices by clicking the Add... button. Once you have selected and added the new device to the Experiment Property Pages, all supported devices can be enabled 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.*

1) *Double click* the **Experiment object** at the top of the **Structure window** and *select* the **Devices tab** from the **Property Pages.**

2) *Confirm* the **checkbox** next to **Sound** is checked.

3) *Click* **OK** to *dismiss* the **Experiment Object Property Pages**.
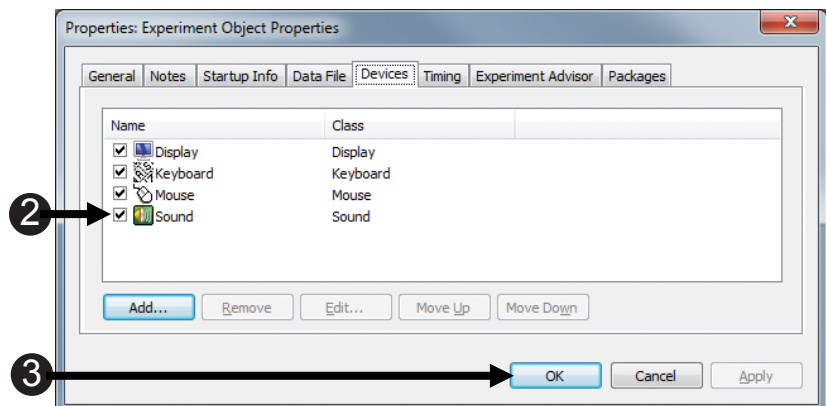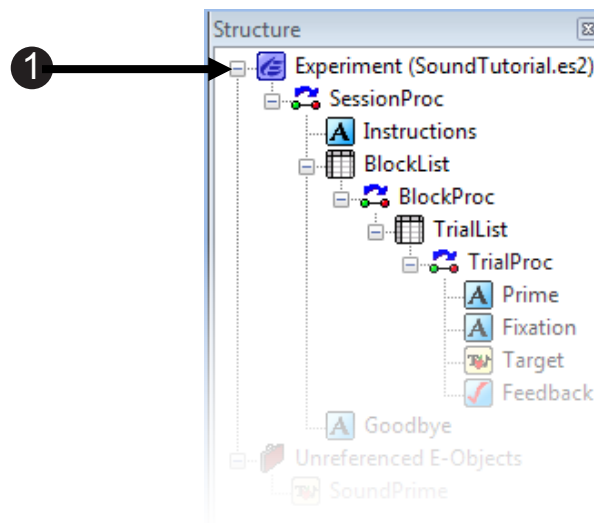
Task 5: Add sound to the SoundPrime object

Next we will add a sound sub-object to the SoundPrime object, and configure it to present sound stimuli simultaneously with the [Prime] text.

1) ***Click*** the **SlideSoundOut** button on the **toolbar**, then ***click*** anywhere **within** the **active SlideState** window.
   A sound sub-object will appear in the Slide window. The sound sub-object will not be visible at runtime, and can be placed anywhere on the Slide itself.

2) ***Select*** the **SoundOut1 sub-object** and ***click*** the **green sub-object Property Pages** button.

3) On the **General** tab, ***set*** the **Filename field** to **[SoundFile]**.
   The SoundFile Attribute will be added to the TrialList in a future step. The filename for the sound sub-object will be resolved by this Attribute when you run your experiment.

4) ***Click*** **OK** to ***close*** the **Property Pages**, and ***press*** **Ctrl+S** to ***save*** your work before continuing.

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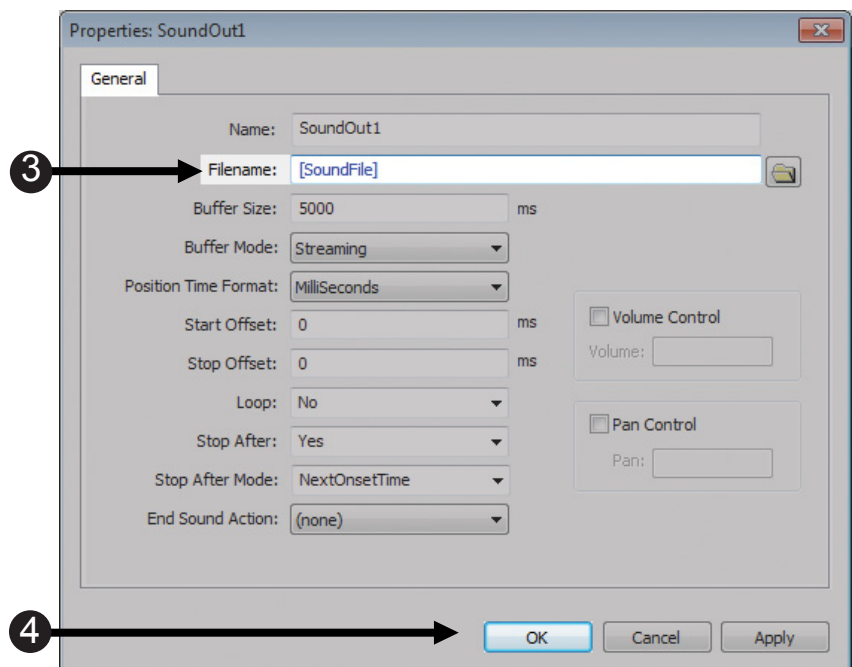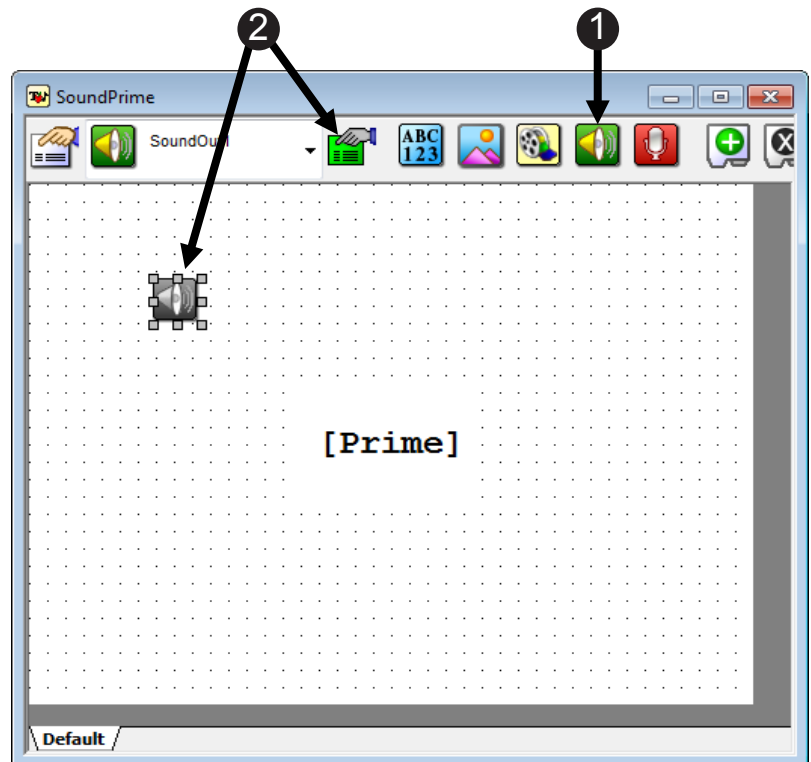
Task 6: Specify the properties of SoundPrime

Next we will configure the properties of the SoundPrime object. The white Property Pages button is used to set the properties of the entire object, e.g., object duration, input masks, etc., while the green Sub-Object Property Pages button is used to set the properties of the selected sub-object, such as the SoundOut sub-object's filename.

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

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

3) When you are finished, **click** the **OK** button.
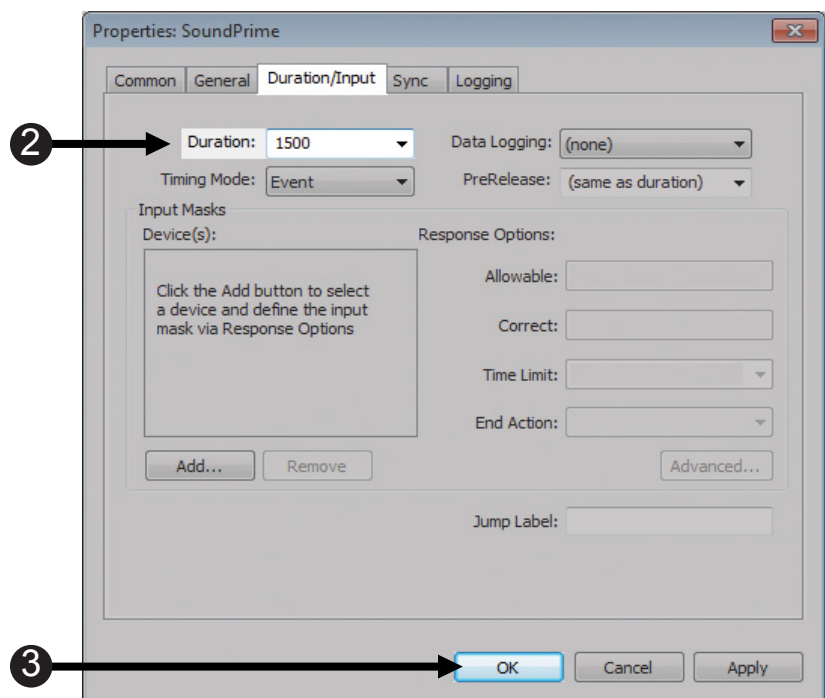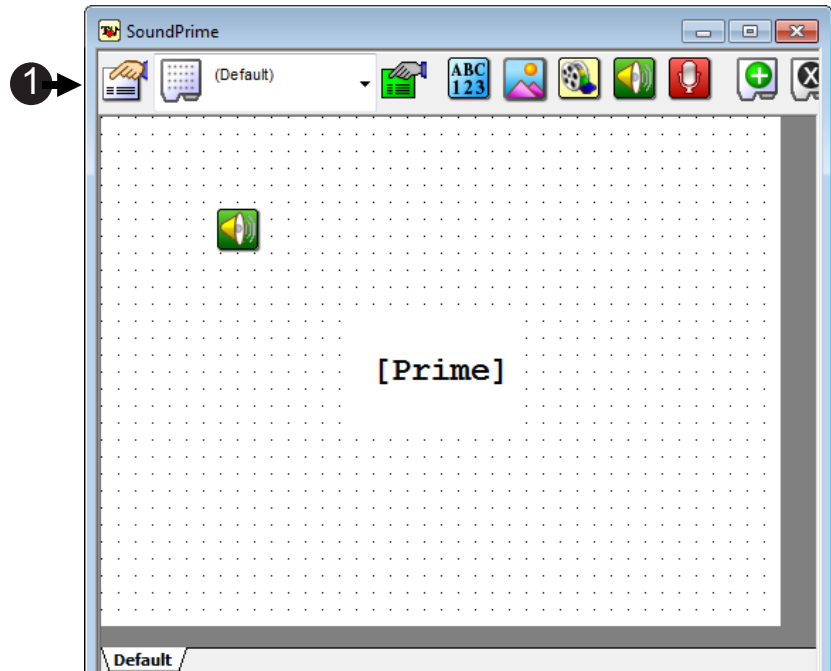
Task 7: Add SoundPrime to the trial procedure

Next we need to replace the Prime object with the new SoundPrime Slide object. When the Prime object is deleted, it will be listed in the Unreferenced E-Objects folder. Objects that are no longer referenced on any Procedure in the experiment structure are moved to the Unreferenced E-Objects folder, rather than being deleted. This allows those objects to be used at a later time without having to recreate them. The Prime object is no longer going to be used in this experiment. Deleting an object from the Unreferenced E-Objects folder removes it from the experiment completely. You will always receive a prompt asking you to verify this action before it occurs.

1) *Double click* the **TrialProc** to *open* it in the **Workspace**.

2) *Drag* the **SoundPrime** object from the **Unreferenced E-Objects** folder in the **Structure window**, 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.

5) Notice that **Prime object** is now listed in the **Unreferenced E-Objects** folder. *Delete* the **Prime object** from the **Unreferenced E-Objects** folder.
   ⚠️**NOTE:** *Deleting an object from the Unreferenced E-Objects folder removes it from the experiment completely. You will always receive a prompt asking you to verify this action before it occurs.*
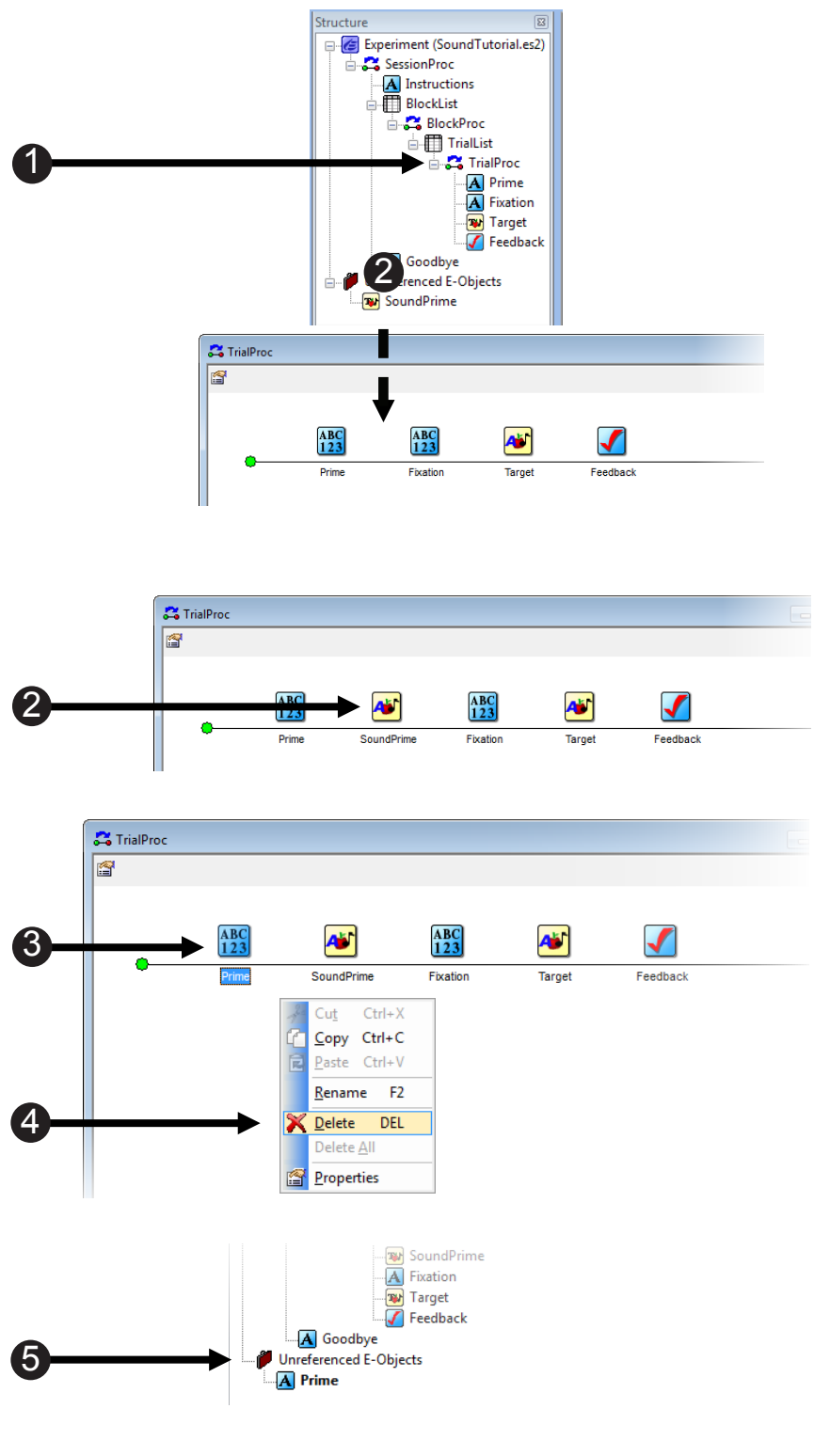
Task 8: Modify the List object

Now we will add the SoundFile Attribute to the TrialList. This Attribute will determine which sound file will be played in conjunction with a particular visual stimulus. In this example, the visual stimulus will be female.jpg or male.jpg.

1) Use Windows Explorer to **copy** the **...My Experiments\Tutorials\ sports.wav**, **laundry.wav**, **flowers.wav**, and **cigars.wav** files into the same folder you are currently saving your .es2 file.

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

3) *Use* the **Add Attribute** tool button to *add* an **Attribute** called **SoundFile**. *Click* **Add** to accept.

4) *Enter* the names of the .**wav files** 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 working folder.

5) *Remember* to *save* periodically.

③

ID	Weight	Procedure	PrimeGender	PrimeType	NameGend...	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

Add Attribute

③ → Name SoundFile **③** → Add

Default Value ? Cancel

④

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

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⑤

Task 9: Edit the Instructions

Finally, we will edit the Instructions to explain that a word will be spoken through the speakers at the same time that the [Prime] word appears.

1) ***Double click*** the **Instructions object** in **Structure window** to open it in the **Workspace**.
   ⚠️**NOTE:** *You can edit the text by typing directly into the Instructions object.*

2) ***Edit*** the **Instructions** to be relevant to the **modified program**.
   Use the text from image on the right as a guide.

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

1 A Instructions

Welcome to the experiment.
You will see and hear a priming word
followed by a fixation.
A picture will follow the fixation.

Your task is to determine if the
picture was a male or female image.

Press the "1" key for a male image and
"2" for a female image.

PRESS THE SPACEBAR TO BEGIN!

Structure

- Experiment (SoundTutorial.es2) STANDARD
  - SessionProc
    - A Instructions
    - BlockList
      - BlockProc
        - TrialList
          - TrialProc
            - SoundPrime
            - A Fixation
            - Target
            - ✓ Feedback
    - A Goodbye
  - Unreferenced E-Objects

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

This tutorial is designed to walk you through the necessary steps to set up your SoundTutorial.es2 experiment to include a movie with the Prime object. We will show you how to alter the Prime and TrialList objects to present text, sound and movie files simultaneously. Then we will edit the Instructions to reflect the changes. When you have completed this tutorial you will have an experiment that uses the changes we have made to the Slide object to prime the participant with text, sound, and movie stimuli before the Target object presents the stimulus.

Task 1: Open SoundTutorial.es2 and save as MovieTutorial.es2

The MovieTutorial experiment that we will create is based on the SoundTutorial experiment. It is a good idea to preserve the original SoundTutorial.es2. In order to do this we will open the SoundTutorial.es2 experiment and save it as MovieTutorial.es2 in the folder you are currently working in. This way we don't have to start an experiment from the beginning; we can simply modify the new file without altering the contents of the original SoundTutorial.es2 file.

⚠ **NOTE:** *If you have not gone through the entire Getting Started Guide and would like to complete this tutorial go to ...My Experiments\Tutorials\Data\Originals folder, and open the SoundTutorial.es2 file.*

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

    For instructions on how to open an experiment refer to Advanced Tutorial 1, Task 1 in this manual.

2) In the **File** menu, *select* the **Save As** command.

3) In the **Save As dialog**, *change* the **File name** field to '**MovieTutorial**' and then *click* **Save**.
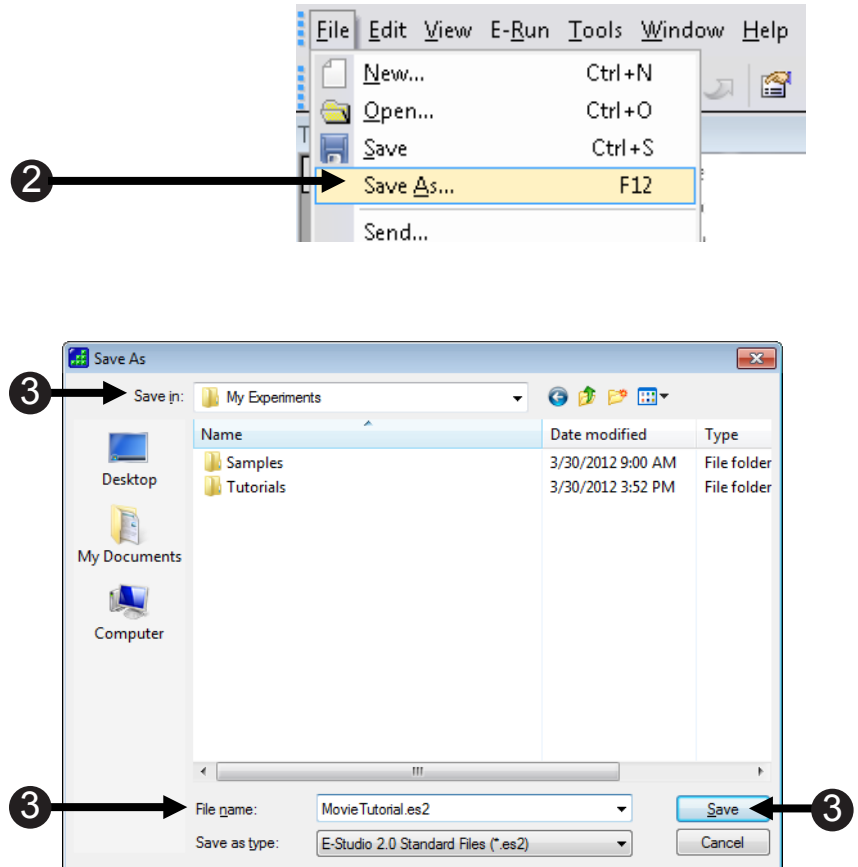
Task 2: Change the position of the text on the Slide object

Next we will move the text sub-object so that it can be displayed above the movie sub-object when the movie is added to the Slide in the next step.

1) *Double click* the **SoundPrime object** in **Structure window** to open it in the **Workspace**.

2) *Select* the **text sub-object** and *click* the **green Sub-Object Property Pages** button on the **Slide** toolbar.

3) *Select* the **Frame** tab, *set* the **Width** to **25**%, **Height** to **25**%, **X** to **center** and the **Y** to **25**%.

4) *Click* **OK** to *accept* the **settings**.
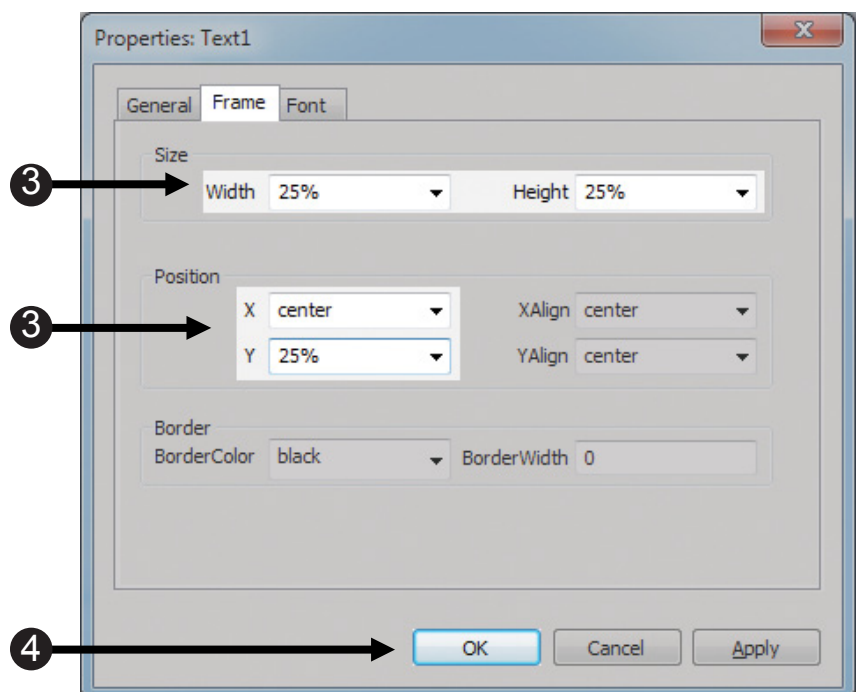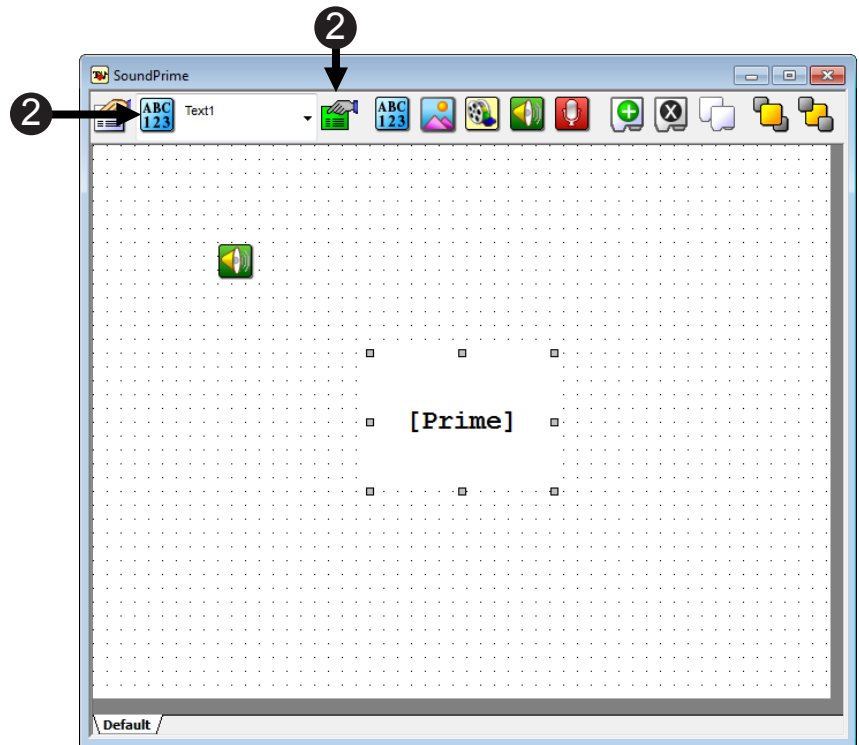
Task 3: Add a movie to the Slide object

Now we will rename the SoundPrime object to MoviePrime. Then we will add a movie sub-object to the MoviePrime object. This will allow a movie to be presented along with text and sound.

1) **Click** the **SoundPrime** object in the Structure window, then **press F2** to rename the object 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.

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

5) On the **Frame** tab, **set** the **Width** and **Height** to **50%**.
   Set the **X- Position** to **center**, and the **Y- Position** to **55%**.

6) **Click OK** to *accept* the **settings**.
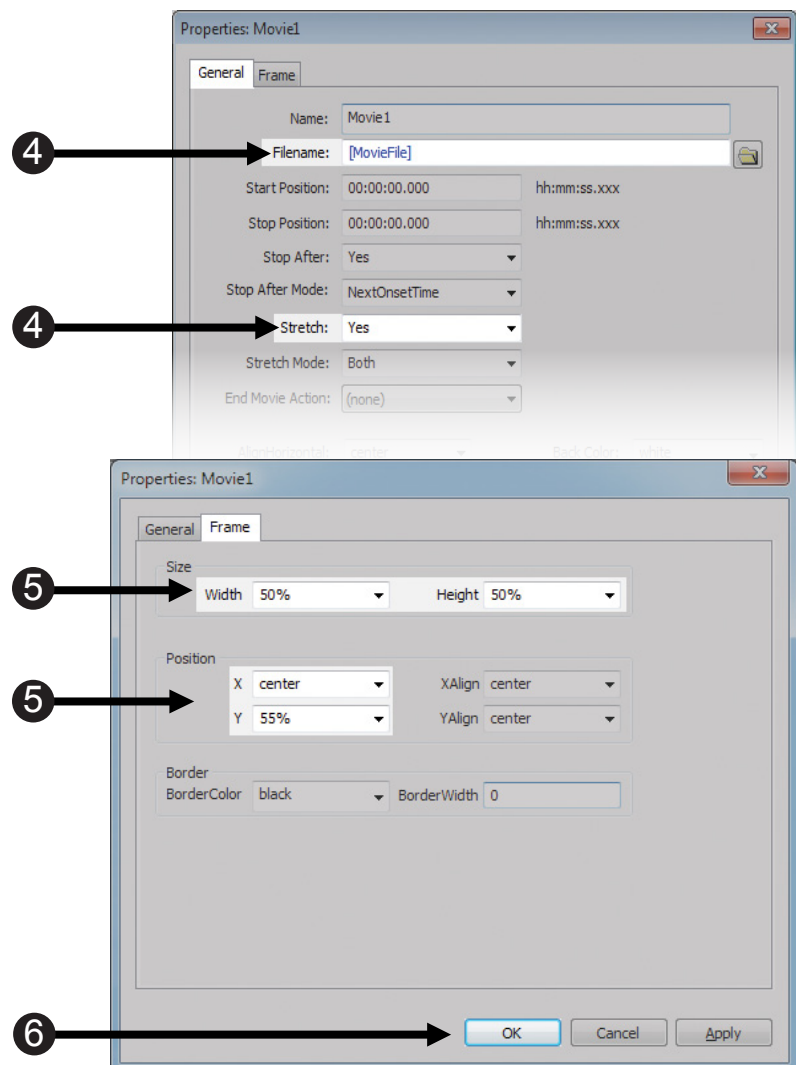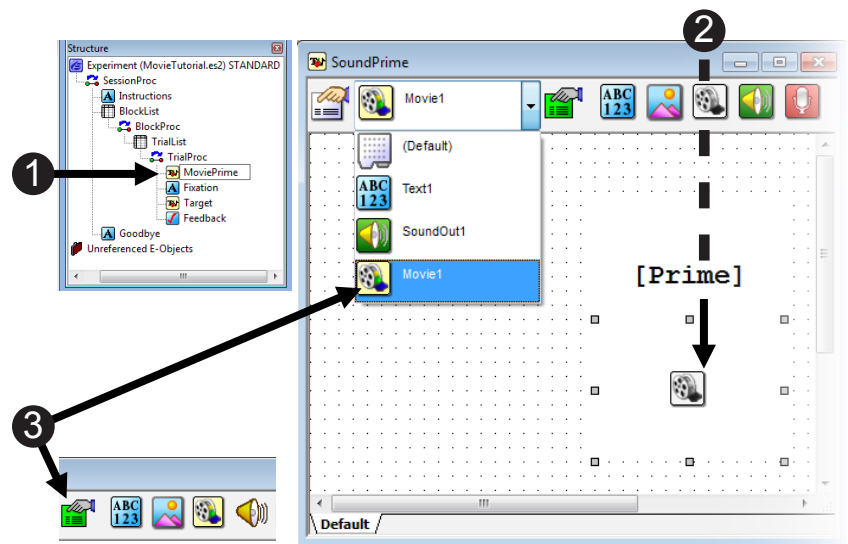
Task 4: Specify the properties of MoviePrime

Now we will configure the MoviePrime object properties.

1) ***Click*** the **white Property Pages** button to set the **properties** of the **MoviePrime object**.
   ⚠ **NOTE:** *The sound icon may disappear behind the slide movie, this will not effect the experiment's functioning.*

2) On the **Duration/Input tab**, *set* the **Duration** to **3000**ms.

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

4) ***Press*** **Ctrl+S** to **save** your experiment.
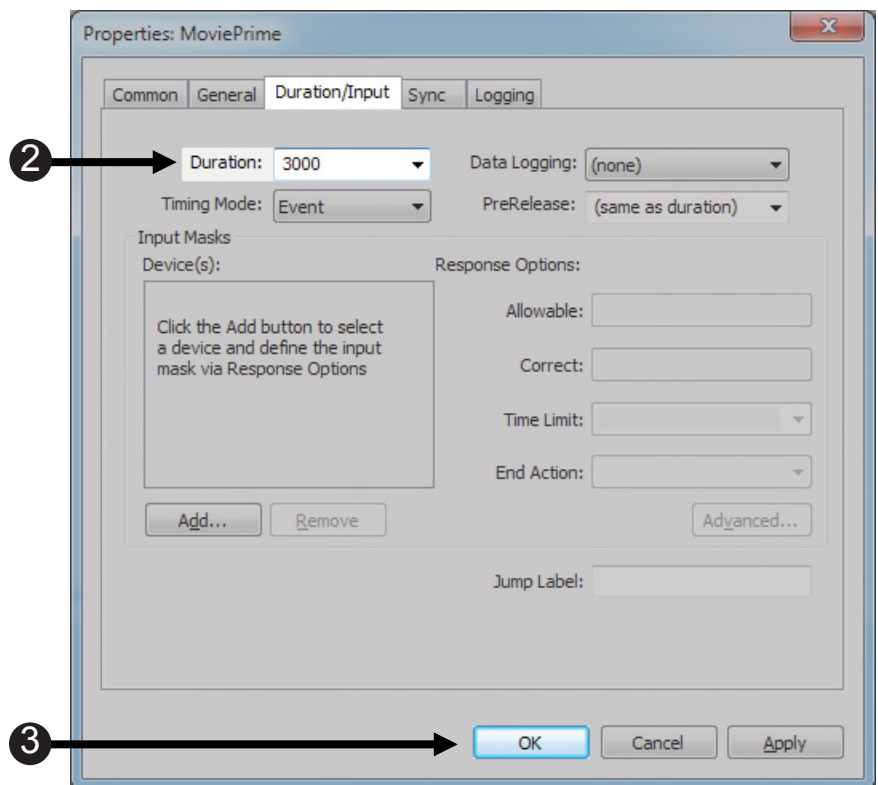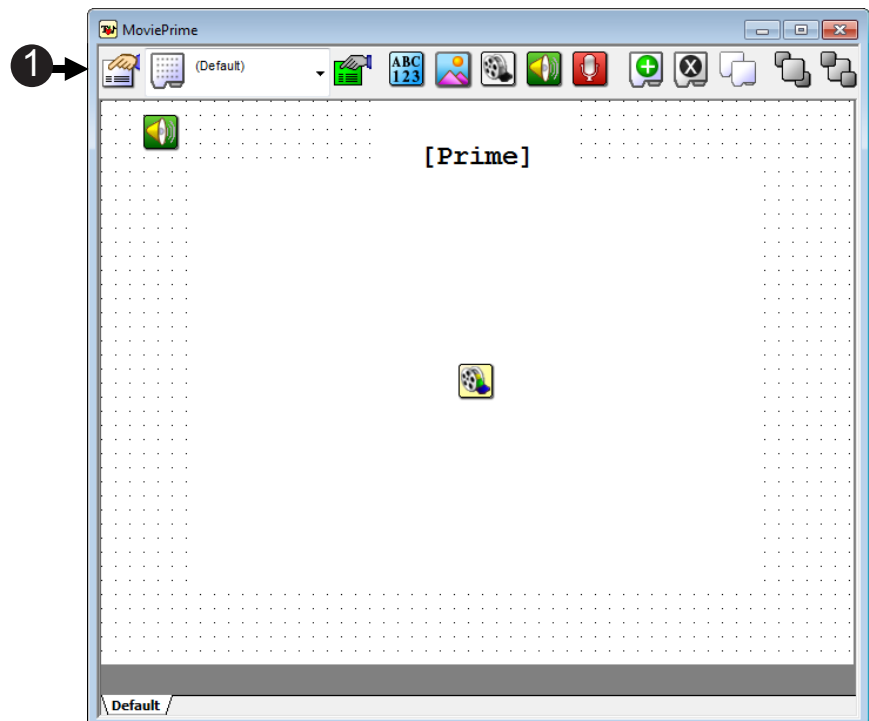
Task 5: Modify the List object

We will now modify the TrialList to display movies by adding the MovieFile Attribute. The first thing you should do is copy the ...My Experiments\Tutorials\sports.mpg, laundry.mpg, flowers.mpg, and cigars.mpg files into the same folder you are currently saving your .es2 file. E-Prime 2.0 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.

1) Use **Windows Explorer** to *copy* the **...My Experiments\Tutorials\ sports.mpg**, **laundry.mpg**, **flowers.mpg**, and **cigars.mpg** files into the same folder you are currently saving your .es2 file.

2) *Double click* the **TrialList** to open it in the **Workspace**.

3) *Click* the **Add Attribute** button. In the **Name** text box *type* **MovieFile.** Then *click* the **Add** button to add the Attribute to the TrialList object.

4) *Enter* the **names** of the **movie files** to present as values for the **MovieFile Attribute** as shown in the **TrialList** to the *right*.
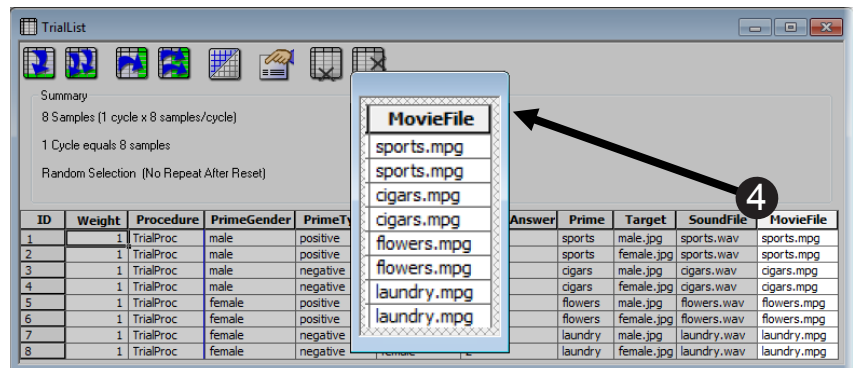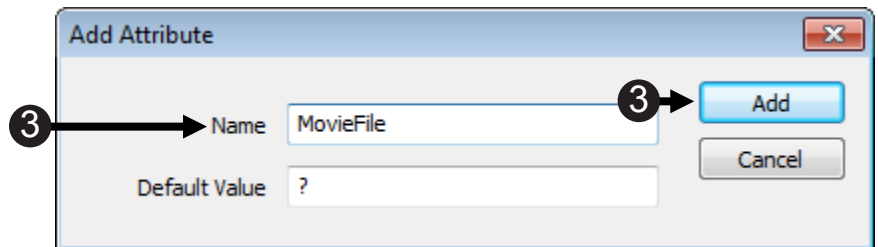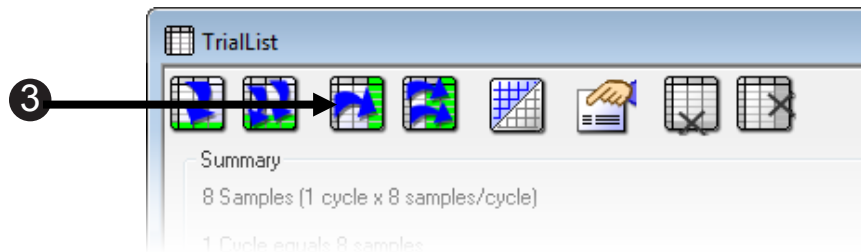
Task 6: Edit the Instructions

Finally, we will edit the Instructions to explain that a movie will play simultaneously with the Prime text and audio file.

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

2) **Edit** the **Instructions** to be relevant to the **modified program** by typing directly into the Instructions object.
   Use the text from image on the right as a guide.

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

Instructions

```
           Welcome to the experiment.
   You will see and hear a priming word
  along with a movie.  The prime will be
           followed by a fixation.
    A picture will follow the fixation.

 Your task is to determine if the picture
         was a male or female image.

  Press the "1" key for a male image and
          "2" for a female image.

          PRESS THE SPACEBAR TO BEGIN!
```

Structure

- Experiment (MovieTutorial.es2) STANDARD
  - SessionProc
    - Instructions
    - BlockList
      - BlockProc
        - TrialList
          - TrialProc
            - MoviePrime
            - Fixation
            - Target
            - Feedback
    - Goodbye
  - Unreferenced E-Objects

MovieTutorial.es2 - E-Studio Professional

File   Edit   View   E-Run   Tools   Window   Help

Advanced Tutorial 4: Modify MovieTutorial.es2 to use E-Basic script

This tutorial will introduce you to writing script. You will enter script into an InLine object in E-Studio which will introduce a delay between the Prime and the Target objects. During the delay we will present 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.

This is NOT a complete tutorial on how to write script. If you would like more help with scripting in your own experiments, see E-Basic Help or refer to the chapter titled, **Using E-Basic** in the E-Prime 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.
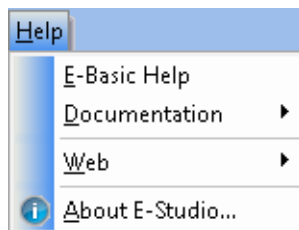
- ■ The E-Basic Help Welcome screen provides quick links to topics frequently referenced by technical support in response to user's requests, instructions for using E-Basic Help, and other helpful information. Use the Contents, Index, and Search tabs to locate specific Help topics.
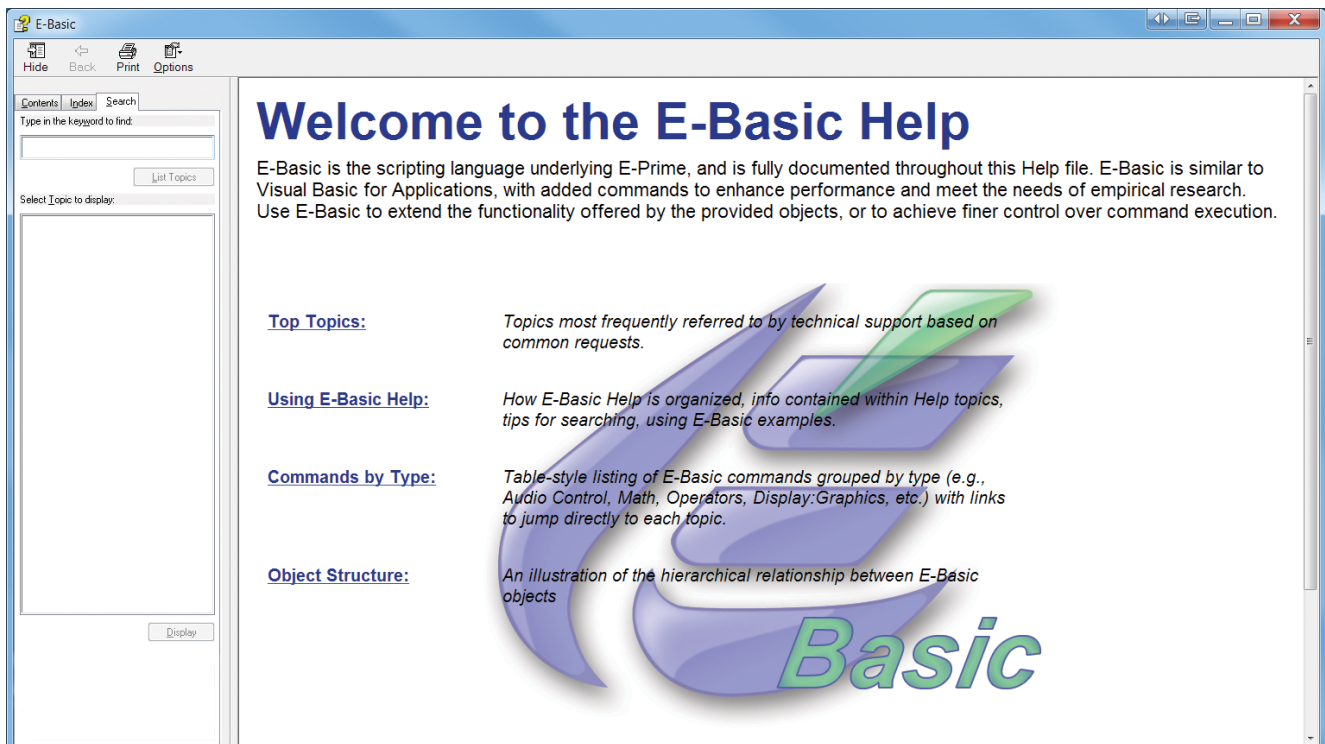
Task 1: Open MovieTutorial.es2 and save as ScriptTutorial.es2

The ScriptTutorial that we will create is based on the MovieTutorial experiment. It is a good idea to preserve the original MovieTutorial.es2 file. In order to do this we will open the MovieTutorial.es2 experiment and save it as ScriptTutorial.es2 in the folder you are currently working in. This way we don't have to start an experiment from the beginning; we can simply modify the new file without altering the contents of the original MovieTutorial.es2 file.

⚠️**NOTE:** *If you have not gone through the entire Getting Started Guide and would like to complete this tutorial go to ...My Experiments\Tutorials\Data\Originals folder, and open the MovieTutorial.es2 file.*

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

    For instructions on how to open an experiment refer to Advanced Tutorial 1, Task 1 in this manual.

2) From the **File** menu, *select* the **Save As** command.

3) In the **Save As dialog**, *change* the **File name** field to '**ScriptTutorial**' and then *click* **Save**.
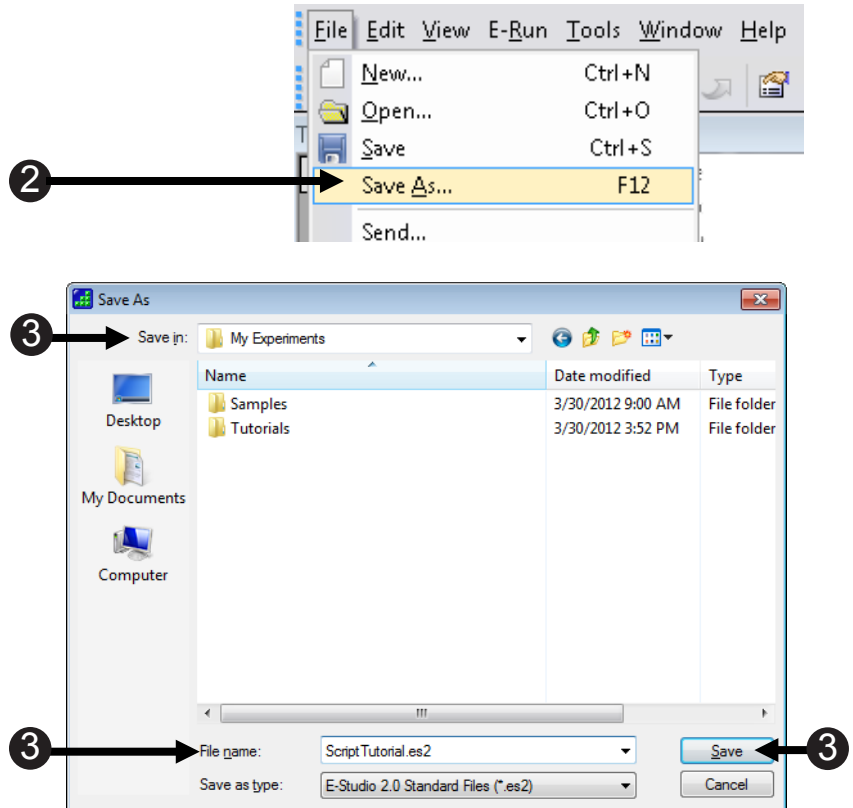
Task 2: Create an InLine object

In this task we will create an InLine object and name it CountdownClock. The purpose of the CountdownClock InLine object is to create a delay between the Prime object and the Target object. We will also replace the Fixation with the CountdownClock InLine object.

1) **Open** the **TrialProc** in the **Workspace**.

2) **Click** the **InLine object** in the **Toolbox** and *drag* it to the **right** of the **Fixation** object on the **TrialProc**.

3) **Click** on the **InLine1** object and *press* **F2** to *rename* **InLine1** as **CountdownClock**.

4) **Select** the **Fixation** object, *right click*, and *select* **Delete** to remove the object from the **TrialProc**.

5) **Notice** that **Fixation** is now listed in the **Unreferenced E-Objects** folder.

   Objects that are no longer referenced on any Procedure in the experiment structure are moved to the Unreferenced E-Objects folder rather than being deleted. This allows those objects to be used at a later time without having to recreate them.

6) **Delete Fixation** from the **Unreferenced E-Objects** folder.

   The Fixation object is no longer going to be used in this experiment. Deleting an object from the Unreferenced E-Objects folder removes it from the experiment completely. You will always receive a prompt asking you to verify this action before it occurs.

7) **Save** the experiment.

82
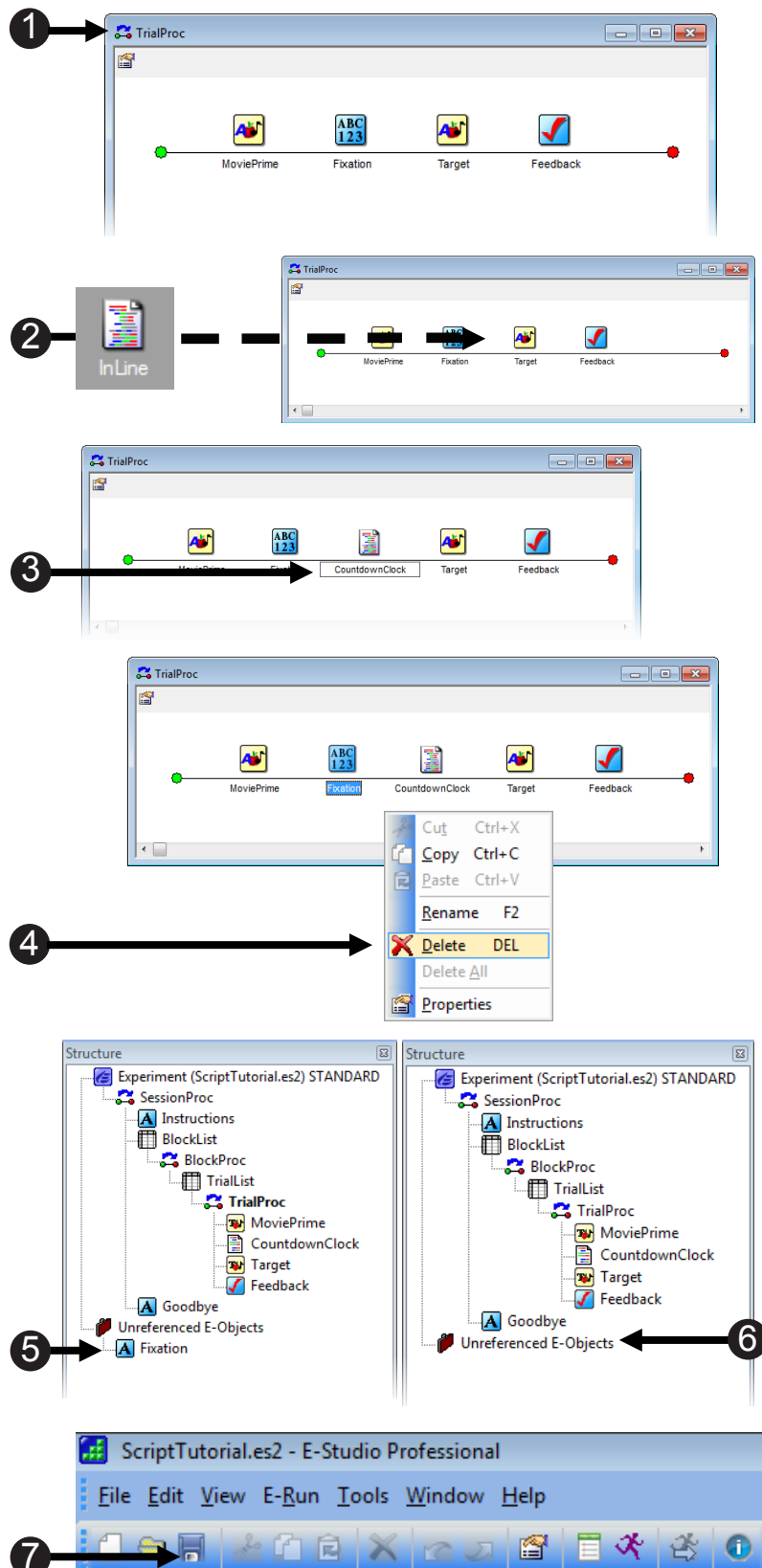
Task 3: Add script to the CountdownClock InLine

Now we will copy some script from E-Basic Help and paste it into the CountdownClock InLine to introduce a visual delay between the Prime and the Target.

1) From the **Help** menu, *select* **E-Basic Help** to view the **E-Basic Help Welcome Screen**.

2) *Click* the **Search** tab located in the **Help** window.
   The Search tab allows you to search for specific words or phrases within the Help topics.

3) *Type* "**Script Tutorial**" in the **search box** and *click* the **List Topics** button.

4) *Find* and *select* "**Script Tutorial**" in the list of topics and *click* the **Display** button.
   Help topics are composed of various sections, usually including the title of the topic, a description, comments, and a working example.

5) *Under* the "**Example**" heading, *select* **all of the text** and *right-click* to *copy*.
   ⚠ **NOTE:** *Do not include the See Also section when copying and pasting the script.*

6) In **E-Studio**, *double click* the **CountdownClock InLine** object, *right click* and *select* **Paste** to copy the script into the InLine.

7) *Save* the experiment.
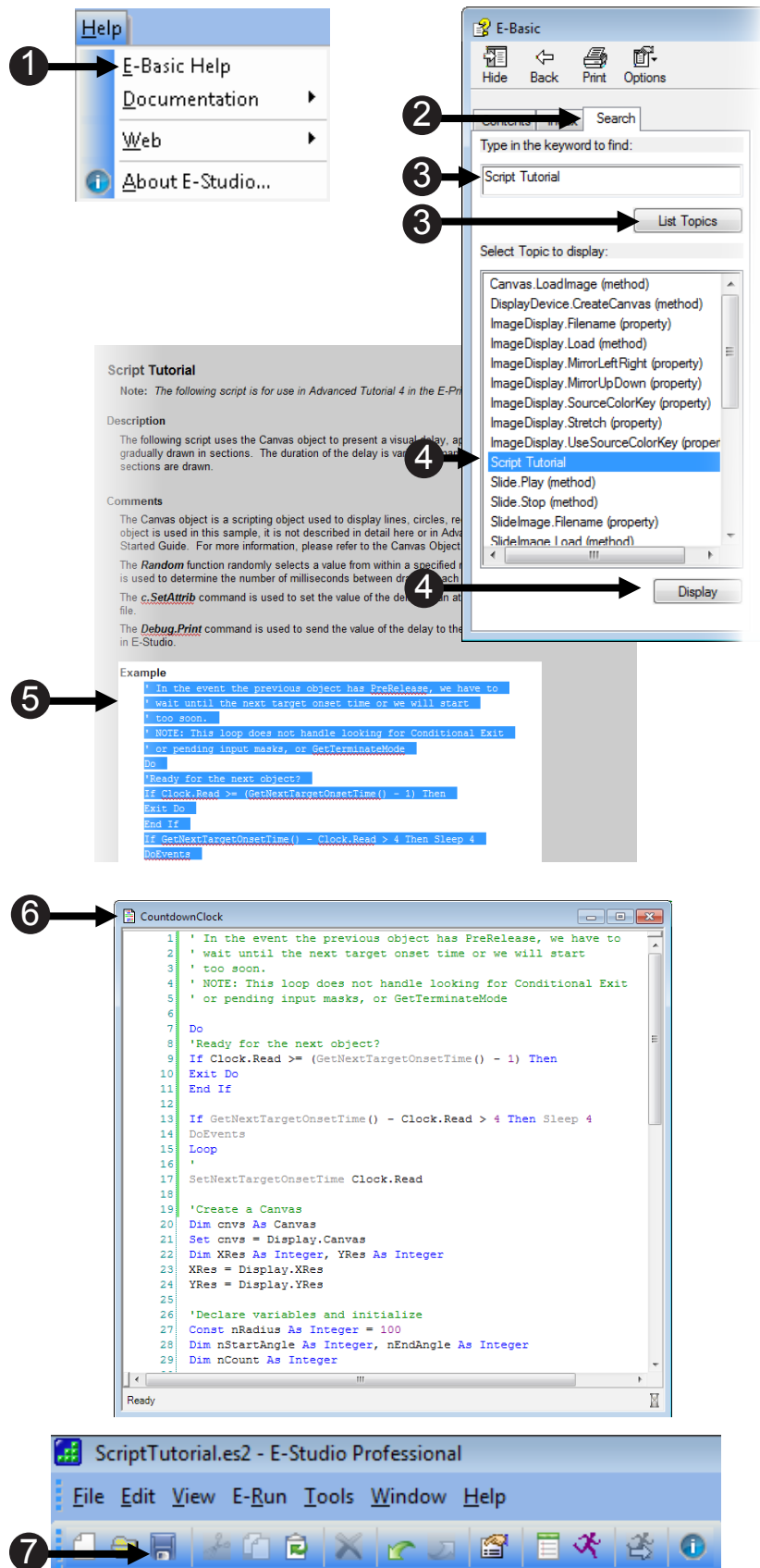
Task 4: Examine the script in the CountdownClock InLine

This task will explain the script used to display the delay between the Prime and the Target.

⚠️ **NOTE:** *The Canvas object is a scripting object used in this tutorial to display the delay, but is not explained in detail here. Refer to the Canvas topic in the E-Basic Help for further information.*

1) ***Examine*** the **script** in the **CountdownClock InLine** object.

2) ***Locate*** the **Random** function in the **CountdownClock InLine**.

   The Random function and subsequent 'If...Then' conditional is used to randomly select a value, then use that value to assign the duration of the delay (either 500ms or 1000ms). The delay value determines the speed at which the clock sections are drawn, thus determining the total delay duration.

① CountdownClock

```
31    Dim nRandom As Integer
32    Dim nDelay As Integer
33
34    nRandom = Random (1, 2)      ②
35
36    If nRandom = 1 Then
37          nDelay = 500
38    Else
39          nDelay = 1000
40    End If
41
42    'Set color of pen for pie slice
43    cnvs.PenColor = Color.Red
44    cnvs.FillColor = Color.Red
45
```

3) ***Locate*** the **c.SetAttrib** command in the **script**.

   The c.SetAttrib command is used to log the value of the delay (i.e., the entire delay between the prime and the target) as an Attribute in the data file. Script variables are not automatically logged in the data file unless they are set as Attributes.

CountdownClock

```
56    Next nCount
57
58    'Set fill color to white before clearing canvas
59    cnvs.FillColor = CColor("white")
60    cnvs.clear
61
62    'Set the value of the delay as an Attribute in the data fil
63    c.SetAttrib "Delay", nDelay      ③
64
65    'Print the value of teh entire delay to the output window
66    Debug.Print "Delay = " & nDelay
67
68    ' Update the next target onset time for next object
69    SetNextTargetOnsetTime Clock.Read
```

4) ***Locate*** the **Debug.Print** command in the **script**.

   The Debug.Print command is used to send a string to the Debug tab in the Output window. In this example we are sending the value of the delay, nDelay.

CountdownClock

```
56    Next nCount
57
58    'Set fill color to white before clearing canvas
59    cnvs.FillColor = CColor("white")
60    cnvs.clear
61
62    'Set the value of the delay as an Attribute in t
63    c.SetAttrib "Delay", nDelay
64
65    'Print the value of teh entire delay to the outp
66    Debug.Print "Delay = " & nDelay      ④
67
68    ' Update the next target onset time for next obj
69    SetNextTargetOnsetTime Clock.Read
```

Task 5: View the results of the script in the Output window

Next we will examine the information sent to the Output window by the Debug command.

1) *Run* the **experiment**.

    With the script that was introduced in Task 3, a circle is gradually drawn in sections, introducing a delay between the prime and the target.

2) In the **View Menu**, *verify* that the **Output tab** has a **check** next to it.

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

3) *Select* the **Debug tab** to *View* the **output**.

    The Debug.Print command prints the value of the delay occurring on each trial to the Output window (i.e., random selection of 500ms or 1000ms).
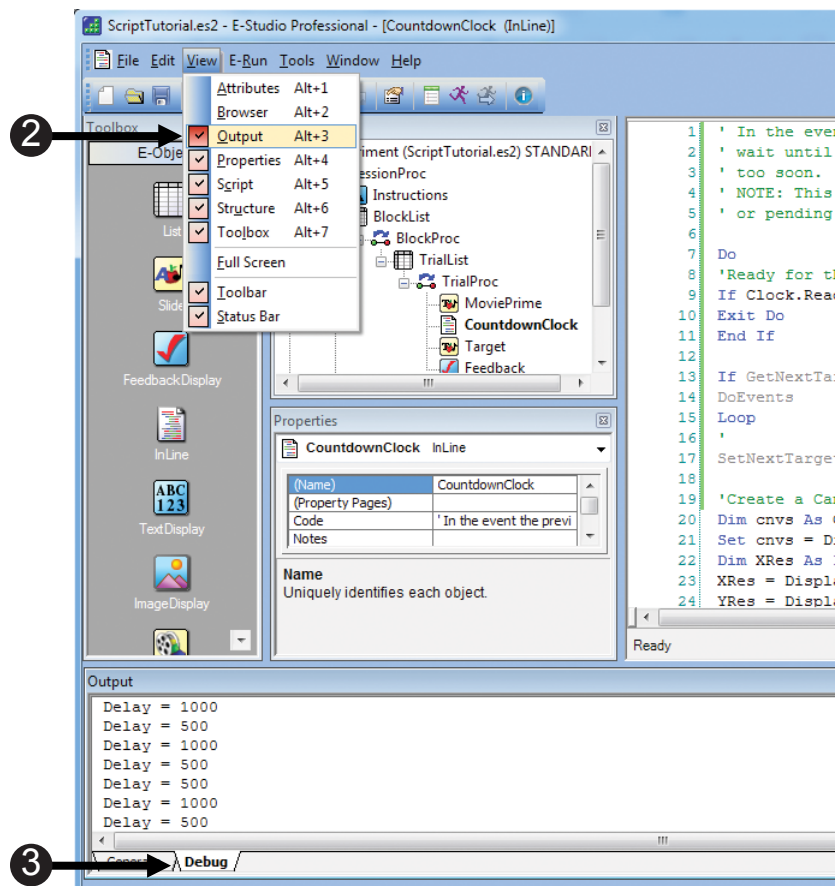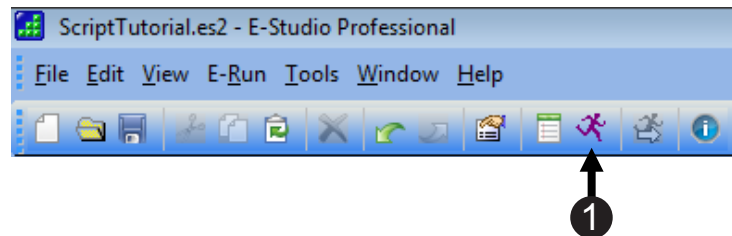
Task 6: Examine the logging of the Delay Attribute in the data file

Next we will open the data file in E-DataAid and view how the Delay Attribute was logged.

1) **Select Tools > E-DataAid** to **open E-DataAid**. **Press Ctrl+O** to activate the open file dialog.
   Chapter 4: E-DataAid in this manual provides additional information about the E-DataAid application.

2) **Select** the **ScriptTutorial-1-1.edat2** data file and **click Open**.
   Assuming that the default participant and session number are used, the data is collected in a file named ScriptTutorial-1-1.edat2.

3) **Scroll** to the **right** in the **spreadsheet** to find the **Delay** column.
   This column shows the value of the Delay Attribute on each trial. While the Debug.Print command is useful as a quick reference when developing an experiment in E-Studio, the c.SetAttrib command logs the value in the data file, which of course is useful as a record of the experimental run and in later data analysis.

4) **Close E-DataAid**.

5) **Close E-Studio**.

Chapter 6: 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.
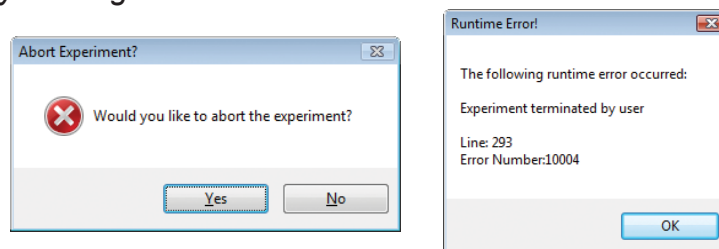
Design the experiment
- Be able to specify the design of the experiment and list all of the conditions, stimuli, and expected responses.
- Use the storyboard to translate each event into an object in E-Studio.
- Start with the basic design, implement it, and then elaborate on it.
- Design the experiment 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 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 second dialog by clicking OK.

⚠️ **NOTE:** *When an experiment is terminated early, no .edat2 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 New Features/Reference Guide are included in the E-Prime installation and are installed as PDF files.
- The PDF files may be accessed from the Windows Start Menu > All Programs > E-Prime 2.0 > Documentation, or Help > Documentation menus. They are also available for download via the PST Product Service and Support site (see PST Product Service and 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, some working examples, and a listing of direct links to related topics.
- E-Basic Help may be accessed from the E-Prime folder via the Start menu through the Help menu within E-Studio.

E-Prime Professional Feature: ScriptSense™
E-Prime Professional includes a script completion and editing tool, which provides:
- Automatic completion of commands and context-sensitive information
- An extensive set of short-cut keys to access a variety of useful editing functions
- Automatic support when creating or editing E-Basic script

E-Prime web site
The E-Prime product web site includes product information, as well as links to FAQs, PST Product Service and Support, and the PST User Forum. Visit www.pstnet.com/eprime.cfm.

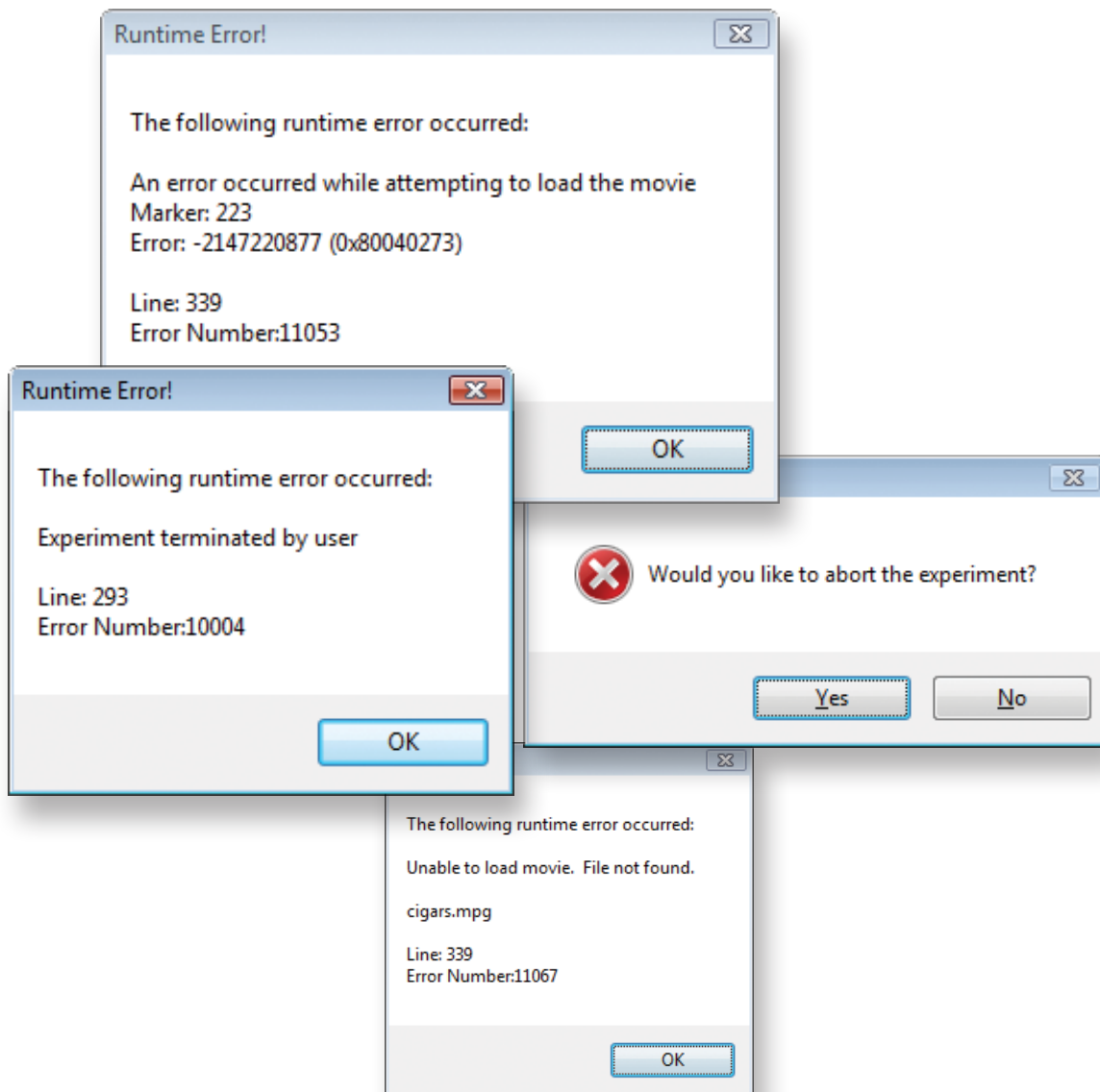**PST Product Service and Support site**
- The Product Service and Support site provides the latest updates, a Knowledge Base section, samples, downloads, and a personal support interface to communicate with PST support representatives.
- Installation support for E-Prime can be obtained through PST Product Service and Support by visiting www.pstnet.com/support, or by calling PST at 412-449-0078.
- General 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.

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/forum. Registration is required to post to the forum and download attachments, but not to view topics.

Chapter 7: 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 PST Product Service and Support at www.pstnet.com/support and through the PST User Forum at www.pstnet.com/forum. Please keep in mind the screen captures and exact line numbers will vary depending on if you are using E-Prime 2.0 Standard or E-Prime 2.0 Professional. All illustrations were created with E-Prime 2.0 Professional using a Standard .es2 file.

Runtime Error!

The following runtime error occurred:

An error occurred while attempting to load the movie
Marker: 223
Error: -2147220877 (0x80040273)

Line: 339
Error Number:11053

OK

Runtime Error!

The following runtime error occurred:

Experiment terminated by user

Line: 293
Error Number:10004

OK

Would you like to abort the experiment?

Yes   No

The following runtime error occurred:

Unable to load movie. File not found.

cigars.mpg

Line: 339
Error Number:11067

OK

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 capable of 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 **white Property 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) **Click OK** to **dismiss** the **dialog**.

7) **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, the BlockList object is not capable of collecting responses from input devices so feedback on responses (accuracy or response time) cannot be provided. The line numbers may differ based on the version of E-Prime you are using.
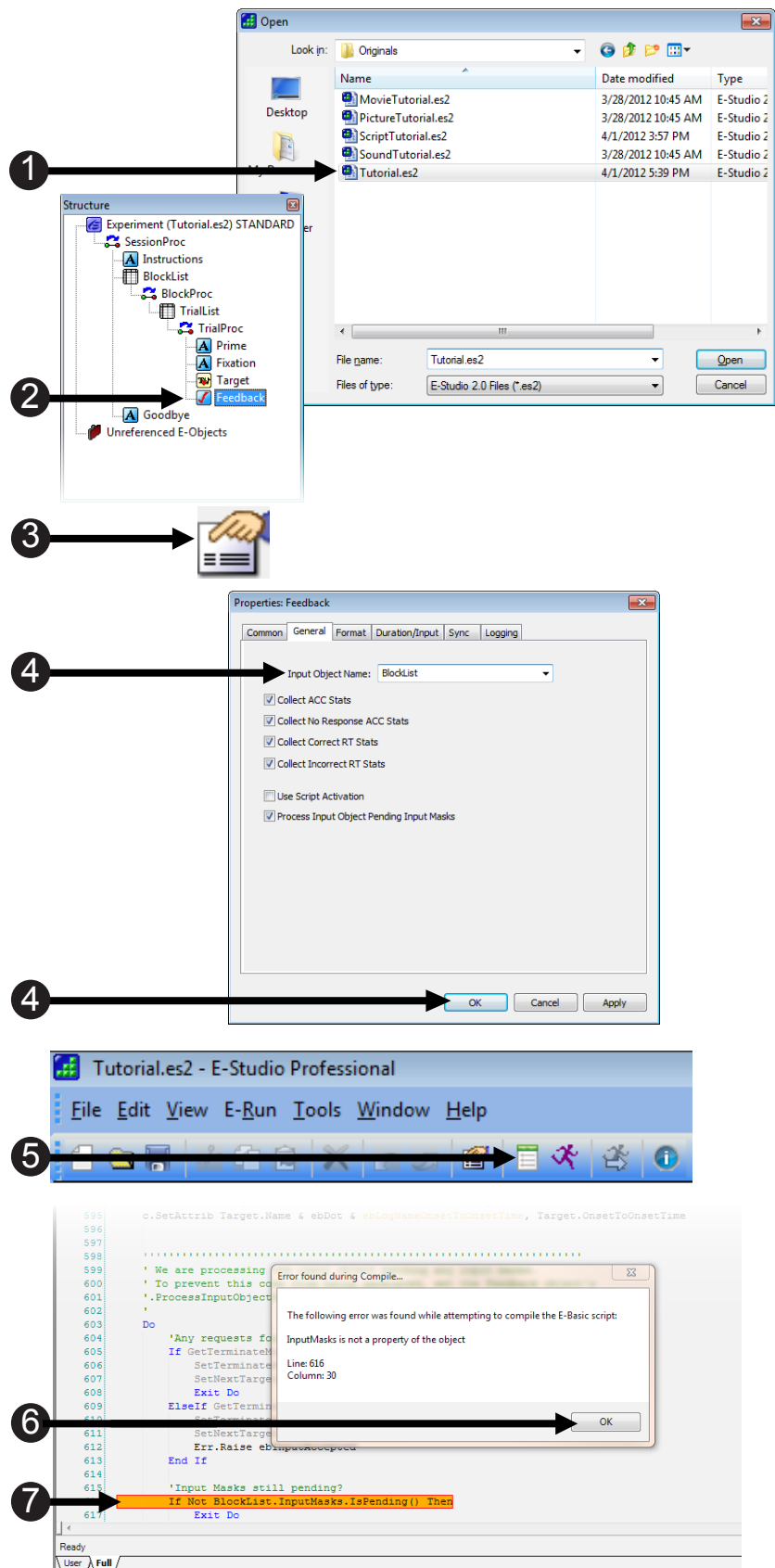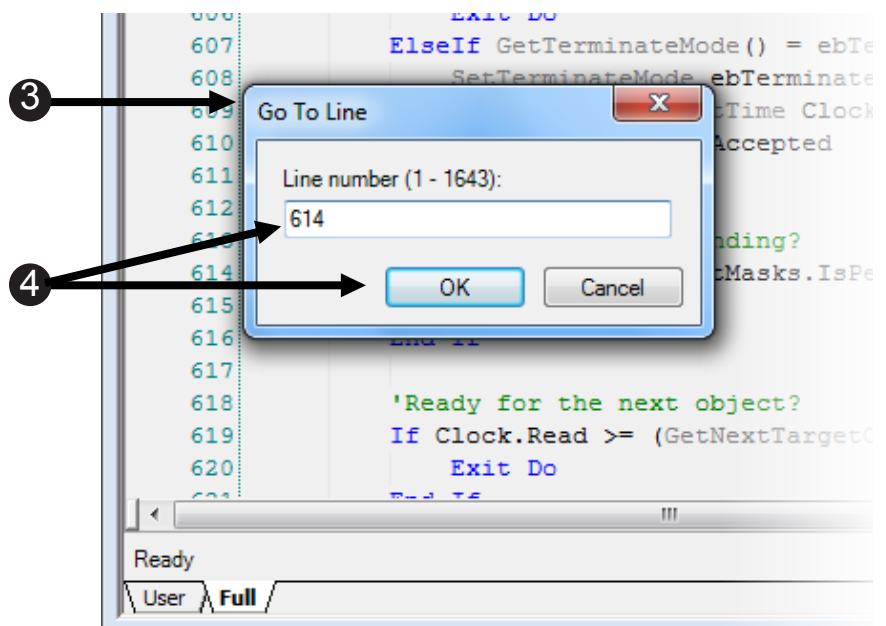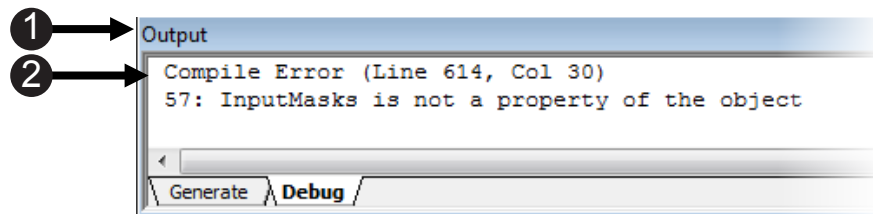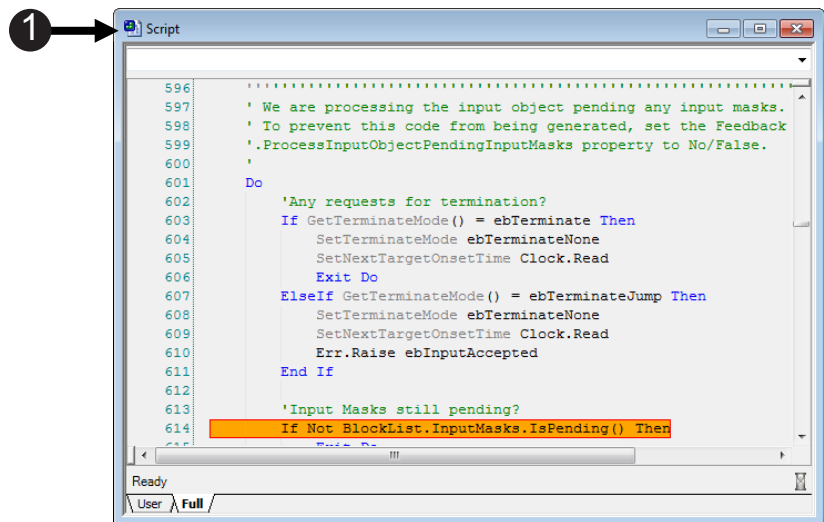
Task 2: View the compile error

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 Line dialog will appear.*

4) ***Enter*** the **line number** listed in the **error message** and ***click* OK**.
   The line number you see may differ from the one shown on the right. 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) *Double 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**.
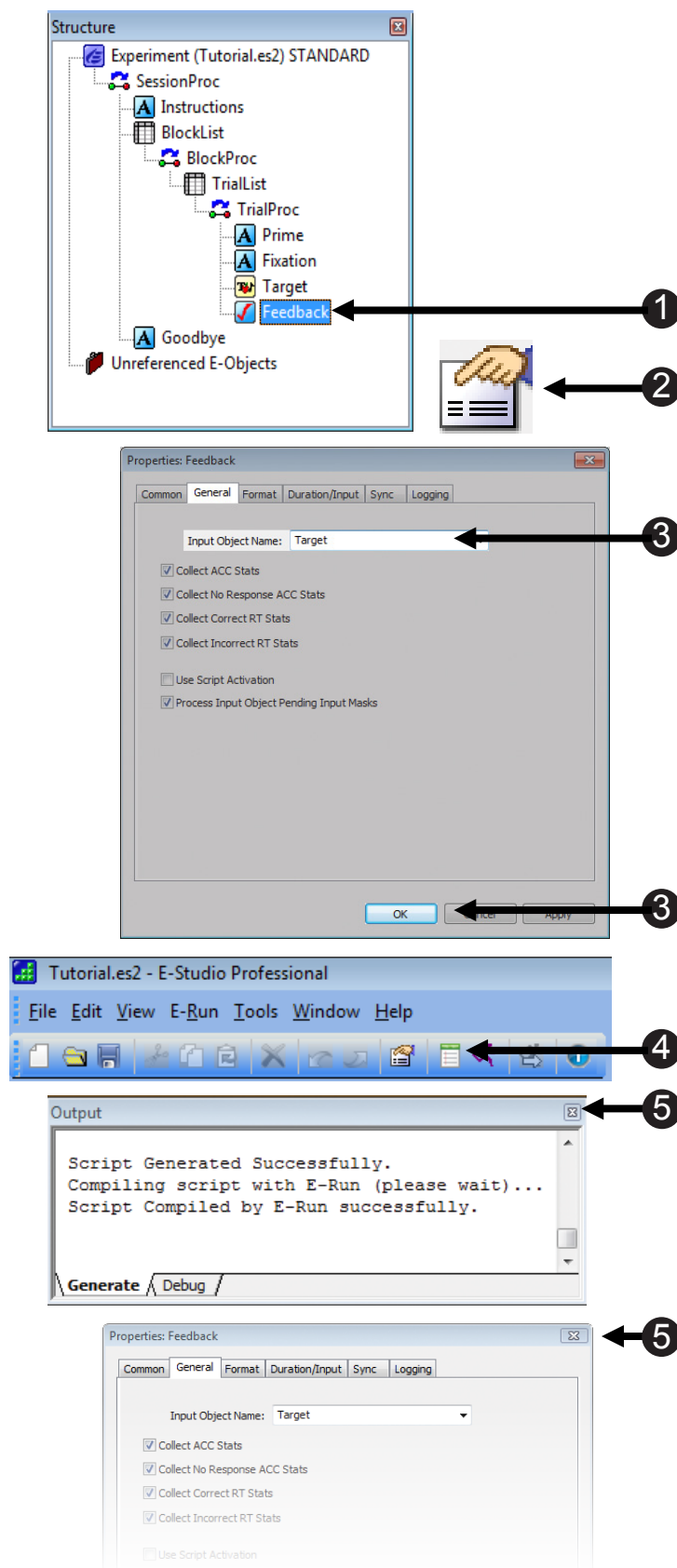
Task 4: Generate a Runtime error

This task will introduce a Runtime 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 runtime error does not occur during generation. The runtime error will occur when the affected script is encountered at runtime.*

5) ***Examine*** the **Runtime** 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***.

8) ***Congratulations!*** You have completed all the tutorials in the Getting Started Guide.
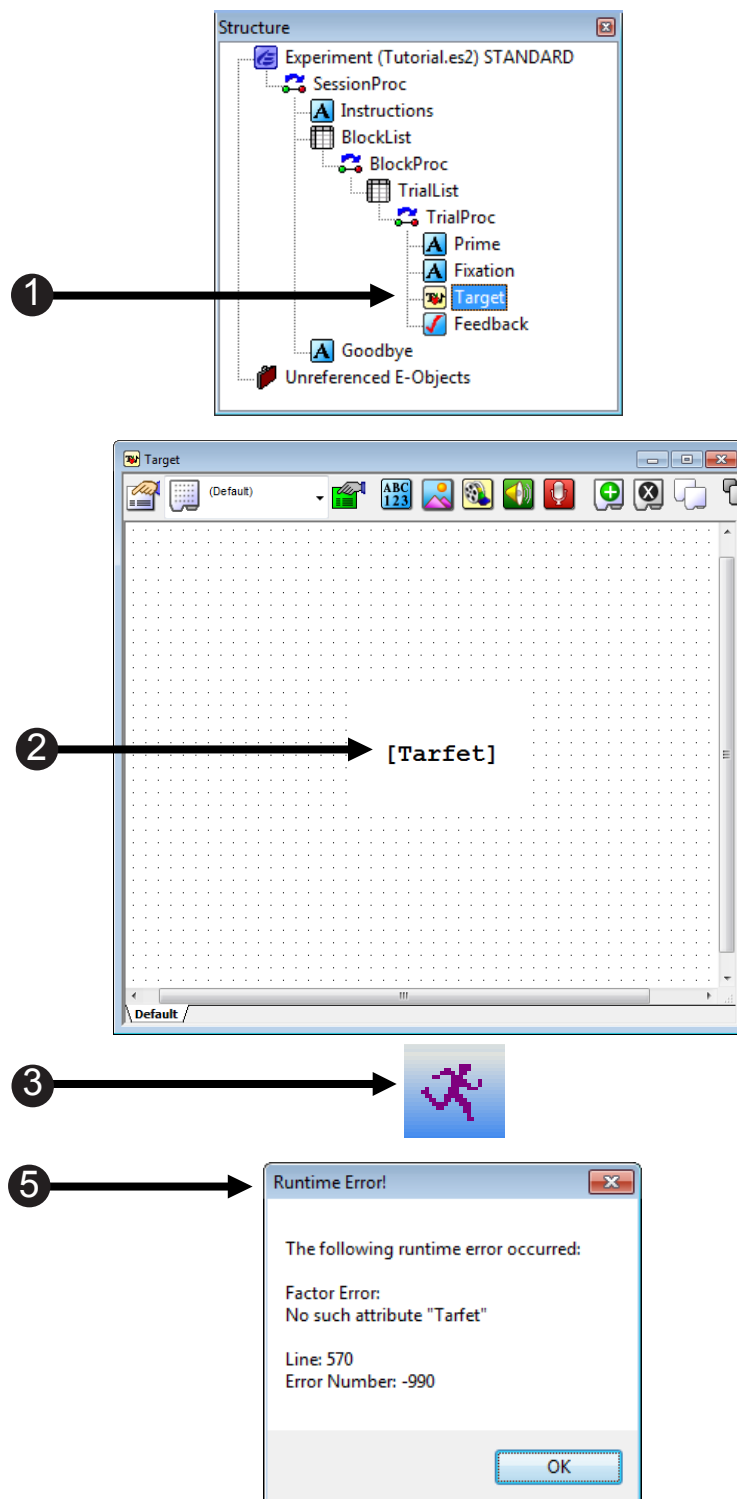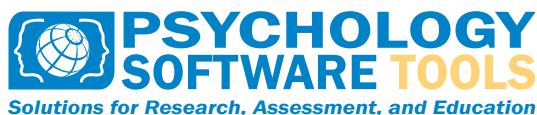
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E-Prime 2

Psychology Software Tools, Inc. was founded with the vision of creating innovative and affordable technologies and solutions which improve the efficacy of human behavioral research, assessment, and education. For more than two decades, Psychology Software Tools has worked to meet the needs of researchers and educators, and has acquired the experience necessary to provide the best possible tools and highest quality product support to our loyal users. The ongoing success of E-Prime® has been essential in helping us to realize our corporate mission. E-Prime® is a leader in the field of behavioral research and education, with systems in use in over 50 countries. We are certain that E-Prime® will benefit you in your research, and we welcome you to the E-Prime® user community!

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